

Digital Bank Holidays

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The March 2023 run on Silicon Valley Bank spurred renewed debate about how to structure deposit insurance to best eliminate future bank runs. This Article argues, however, that deposit insurance cannot be relied upon to eliminate all bank runs, especially if technological developments create potential new bank run triggers that deposit insurance may not be responsive to. We may be expecting too much of deposit insurance, and so it is worth considering other tools that might be useful in responding to future bank runs and broader banking panics. One such tool is the “bank holiday,” last deployed in the United States by FDR in 1933. This Article considers how a digital bank holiday could be implemented in this day and age. A digital bank holiday would be a drastic response that should only ever be used as a last resort—but in case such a drastic response becomes necessary, it is worth thinking through the legal and operational mechanics needed to deploy one. This Article embarks upon such an effort, and it also recommends planning for less drastic kinds of interventions that limit (without preventing) digital transactions, as another potential response to bank runs.

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I. Introduction

In March of 2023, the run on Silicon Valley Bank (“SVB”) shook our complacency about deposit insurance’s ability to prevent commercial bank runs. In the wake of SVB’s failure, there has been significant discussion about reforming deposit insurance and improving prudential regulation to create more protections against bank runs. However, as this Article will explore, these kinds of *ex ante* measures may not always be able to prevent runs. Nothing in this Article should be taken as a dismissal of the importance of deposit insurance or prudential regulation, but in extreme circumstances *ex post* measures may be necessary to reduce the fallout from runs when they occur. This Article identifies one *ex post* measure that has not been used in the United States since 1933—the bank holiday. In 1933, banks simply closed their doors, but implementing a bank holiday in today’s world of digital transactions would be much more complicated. This Article therefore explores what it would mean to implement a “digital bank holiday.”

Because banks use short-term liabilities (like deposits) to fund their longer-term, less liquid investments, a bank can suffer a liquidity crunch and ultimately fail if an unusual number of its depositors seek to withdraw their deposits at the same time.¹ Depositors have incentives to withdraw as quickly as possible if panic strikes, and so one way of preventing runs is to prevent panics—that is what deposit insurance is intended to do.² Deposit insurance has indeed been very effective in limiting runs on traditional banks, but it comes at the cost of moral hazard: if a bank’s depositors are largely ambivalent as to how the bank manages its risks, then the bank’s managers may become cavalier about risk-taking.³ Prudential regulation seeks to fill this void, supplying rules and subjecting banks to supervision to ensure that banks manage their risks appropriately. But prudential regulation and supervision are not perfect, and not all deposits are insured. A confluence of bank management failures, regulatory and supervisory failures, and unusually high levels of uninsured deposits culminated in the run on SVB.⁴

1. Douglas W. Diamond & Philip H. Dybvig, *Bank Runs, Deposit Insurance, and Liquidity*, 91 J. POL. ECON. 401, 401 (1983).

2. *See id.* at 404 (“Deposit insurance is shown to be able to rule out runs without reducing the ability of banks to transform assets. What is crucial is that deposit insurance frees the asset liquidation policy from strict dependence on the volume of withdrawals.”).

3. FDIC, OPTIONS FOR DEPOSIT INSURANCE REFORM 29 (May 1, 2023), <https://www.fdic.gov/analysis/options-deposit-insurance-reforms/report/options-deposit-insurance-reform-full.pdf> [<https://perma.cc/SR4N-BHGQ>].

4. BD. OF GOVERNORS OF THE FED. RSRV. SYS., REVIEW OF THE FEDERAL RESERVE’S SUPERVISION AND REGULATION OF SILICON VALLEY BANK, at i-iii (Apr. 2023), <https://www.federalreserve.gov/publications/files/svb-review-20230428.pdf> [<https://perma.cc/3H34-VLAK>]; MICHAEL E. CLEMENTS, U.S. GOV’T ACCOUNTABILITY OFF., GAO-23-106736, BANK REGULATION: PRELIMINARY REVIEW OF AGENCY ACTIONS RELATED TO MARCH 2023 BANK FAILURES (Apr. 2023).

This run on SVB was notable for its unprecedented velocity.⁵ Many have attributed this velocity, at least in part, to technological developments.⁶ As this Article will explore, however, the role that technology played in facilitating SVB’s run has likely been overstated—in many ways, it was just a good old-fashioned bank run (albeit one that occurred at a bank with an extraordinarily tight-knit uninsured deposit base). Even though the role technology played in SVB’s run has likely been overstated, it *is* possible that future bank runs may transpire in rapid and unfamiliar ways as a result of technological change. For example, it has been plausibly suggested that social media channels helped stoke concerns regarding *other* regional banks following the run on SVB.⁷ In an era of social media misinformation and generative artificial intelligence, the possibility of bad actors manufacturing future bank runs cannot be discounted. Furthermore, it’s possible that a cyberattack at a bank could undermine that bank’s ability to process transactions even when its financial condition is sound, which might scare customers of similarly situated banks into quickly withdrawing their funds. Even if deposit insurance were unlimited, it might not be responsive to these kinds of unfamiliar bank run triggers. In the future, it is possible that a fast-moving run or broader bank panic will only be able to be stopped by buying time to develop and implement confidence-restoring policies that are tailored to the circumstances at hand. One way of buying that time is to implement a bank holiday.

During a bank holiday, banks cease to process transactions, and a run cannot proceed when withdrawals and transfers cannot be processed. To be clear, bank holidays should never be deployed lightly. Bank holidays harm consumers in the short-term by limiting their ability to transact, and bank holidays will almost certainly have unintended consequences (perhaps impacting economic growth, or damaging the long-term credibility of central banks).⁸ Instead, bank holidays should be viewed as the “nuclear option,” though there may be circumstances in which the option is nevertheless necessary in order to buy time to deploy other confidence-inducing measures. No bank holiday has been deployed in the United States since 1933, but other countries have occasionally needed to implement bank holidays—ten of these have been put in place around the world since 2008.⁹ Looking to the experience of other countries could be instructive for developing a plan for a digital bank holiday in the United States.

5. BD. OF GOVERNORS OF THE FED. RSRV. SYS., *supra* note 4, at 24.

6. *See infra* Section II.B.

7. *Id.*; *see also* Steven Kelly, *Have Banking Apps and Twitter Really Changed Bank Runs?*, WITHOUT WARNING (May 11, 2023), <https://www.withoutwarningresearch.com/p/have-banking-apps-and-twitter-really> [<https://perma.cc/QGY9-LZWZ>].

8. For a flavor of the possible unintended consequences of transaction interruptions, *see* THOMAS M. EISENBACH ET AL., FED. RSRV. BANK OF N.Y., STAFF REP. NO. 909, CYBER RISK AND THE US FINANCIAL SYSTEM: A PRE-MORTEM ANALYSIS (May 2021).

9. MOODY’S INV. SERVS., SOVEREIGN DEFAULTS SERIES: SOVEREIGN DEFAULTS, DEPOSIT FREEZES AND PRIVATE-SECTOR EXTERNAL DEBT MORATORIUMS 1 (2020).

In less dire circumstances, the full “nuclear option” may not be necessary, and more tailored restrictions on bank transactions may be enough to slow down a run or stop a panic from metastasizing. This Article draws lessons, particularly from the experience of Cyprus and Greece during the Eurozone crisis, about how to stop some banking activity while allowing basic, time-critical transactions to proceed. Unfortunately, some of these lessons are becoming less helpful as we shift to an increasingly cashless society. Cyprus and Greece allowed individuals to continue to withdraw cash from ATMs while suspending other banking services.¹⁰ But as the United States becomes increasingly “cashless”, we might need to think through how smaller, time-critical *digital* transactions might be permitted.

Restrictions on digital transactions could be organized in many ways, and many of these permutations and combinations of permitted and prohibited transactions could only be operationalized with the participation of banks, The Clearing House, and potentially non-bank payments providers too. This would take time to coordinate, and so this Article argues that it is better to start planning for such an eventuality. Like most contingency plans, we can hope that these will never be used, but it is better to make advance plans so that decisions do not have to be made in “the fog of war.” It will also be necessary to maintain and adapt these plans over time to keep up with changes like the implementation of real-time payments processing. Ultimately, though, if time is really of the essence during a future panic, the quickest, bluntest, last resort may be to implement a digital bank holiday by temporarily suspending banks’ access to their Federal Reserve master accounts. This would prevent the affected banks from processing *any* digital transfers to other financial institutions. This Article therefore considers the legality of the Federal Reserve taking such an action.

The remainder of this Article will proceed as follows: Part II will provide some background on why bank runs occur, highlighting the limitations on deposit insurance’s ability to eliminate runs. Part II includes a case study of the recent bank run at SVB, and also offers some thoughts on how banks’ vulnerabilities to runs could evolve in the future. If deposit insurance alone cannot reliably prevent runs, then authorities may someday need to deploy a bank holiday or at least transaction restrictions. Therefore, Part III surveys some of the history of bank holidays and transaction restrictions in the United States and abroad. Because implementation in this day and age will require changes to how *digital* transactions are processed, Part IV works through some of the operational and legal aspects of implementing a digital bank holiday, as well as more limited restrictions on

10. See MARC DOBLER, MARINA MORETTI & ALVARO PIRIS, IMF MONETARY AND CAPITAL MARKETS DEPARTMENT, MANAGING SYSTEMIC BANKING CRISES: NEW LESSONS AND LESSONS RELEARNED 45 (2020) (“Although bank branches were closed for several days, the availability of cash machines (subject to withdrawal limits), enabled individuals to access funds to cover everyday transactions, allowing the continuation of basic economic activities.”).

digital transactions. Part V concludes by considering what this all means for regulators.

II. Bank Runs: Past, Present, and Future

A. Explaining Bank Runs

The seminal academic work on bank runs is Diamond & Dybvig’s paper *Bank Runs, Deposit Insurance, and Liquidity*.¹¹ As Diamond & Dybvig explain, in a bank run, depositors rush to withdraw their funds because the maturity transformation that banks perform—using short-term liabilities to fund longer-term, less liquid investments—creates an early mover advantage such that in a panic, “everyone rushes in to withdraw their deposits before the bank gives out all of its assets.”¹² This early mover advantage arises because depositors cannot guarantee that other depositors will refrain from withdrawing all of their funds during a panic, and if others *do* withdraw, the bank will sell its best and most liquid assets to satisfy early withdrawals, leaving the bank with fewer liquid assets should a depositor seek to withdraw later.¹³ Therefore, if panic strikes, depositors have incentives to withdraw as quickly as possible. The panic can be sparked by almost anything—confidence in banks can be very fragile.¹⁴ Of course, this dynamic can threaten banks with preexisting balance sheet problems, but if a general banking panic develops, it can also threaten healthy banks, creating an initially undeserved but ultimately self-fulfilling expectation that those banks will fail.¹⁵

Diamond & Dybvig’s model explains the kinds of banking panics that were relatively frequent in the United States in the 1800s and early 1900s.¹⁶ It also explains the banking panics associated with the beginning of the Great Depression (thousands of banks failed in the three years leading up to the Bank Holiday of 1933, which will be discussed in detail in Part III).¹⁷ An Emergency Banking Act was enacted during the 1933 Bank Holiday, and then Congress passed the Glass-Steagall Act several months later. The Glass-Steagall Act created explicit deposit insurance and established the

11. Diamond & Dybvig, *supra* note 1, at 401.

12. *Id.* at 403.

13. BANK FOR INT’L SETTLEMENTS, ANNUAL ECONOMIC REPORT 2023, at 101 (June 25, 2023), <https://www.bis.org/publ/arpdf/ar2023e3.pdf> [<https://perma.cc/5BDU-8G54>].

14. Diamond & Dybvig, *supra* note 1, at 404.

15. *Id.* at 402.

16. There were regular bank panics in the United States during the 19th and early 20th centuries. Gary B. Gorton & Jeffery Y. Zhang, *Taming Wildcat Stablecoins*, 90 U. CHI. L. REV. 909, 946-47 (2023).

17. See Peter Conti-Brown & Sean H. Vanatta, *The Logic and Legitimacy of Bank Supervision: The Case of the Bank Holiday of 1933*, 95 BUS. HIST. REV. 87, 88 (2021) (“Between January 1930 and March 1933, 5,722 distressed U.S. banks had merged or permanently closed.”).

Federal Deposit Insurance Corporation (“FDIC”); both were made permanent in 1935.¹⁸

Diamond & Dybvig’s paper demonstrates how deposit insurance can prevent bank runs by maintaining confidence while still allowing banks to perform their socially useful maturity transformation functions.¹⁹ But deposit insurance was very controversial at the time it was adopted, in part because of the moral hazard associated with its implementation.²⁰ Moral hazard is “the incentive to take on greater risk as a result of being protected from the consequences of risk-taking”²¹; bank managers are insulated from any discipline from insured depositors because such depositors, knowing they cannot lose money, are relieved of the need to pay any attention to how the bank manages its risks.²² President Roosevelt himself feared that deposit insurance “would lead to laxity in bank management and carelessness on the part of both banker and depositor.”²³ Deposit insurance-induced moral hazard remains a problem today, but many view it as something that can be managed through prudential regulation of banks,²⁴ and as something that is more than compensated for by deposit insurance’s success in preventing runs.²⁵

However, more recent history has demonstrated that deposit insurance does not always succeed in preventing runs. In 1984, for example, Continental Illinois (which was one of the largest banks in the US at the time) experienced an electronic run by its largely uninsured deposit base.²⁶ Public assistance from the FDIC, OCC, and Federal Reserve (including a blanket guarantee of Continental’s uninsured depositors) was deployed on May 17 to stem the panic—it succeeded for a few months, only for the run

18. FDIC, *supra* note 3, at 14.

19. See Diamond & Dybvig, *supra* note 1, at 404 (“Deposit insurance is shown to be able to rule out runs without reducing the ability of banks to transform assets.”).

20. See FDIC, A BRIEF HISTORY OF DEPOSIT INSURANCE IN THE UNITED STATES 1 (Sept. 1998), <https://www.fdic.gov/bank/historical/brief/brhist.pdf> [<https://perma.cc/AN4N-2F89>] (“Opposition to [implementing deposit insurance] had been voiced earlier by President Roosevelt, the Secretary of the Treasury and the Chairman of the Senate Banking Committee. They believed a system of deposit insurance would be unduly expensive and would unfairly subsidize poorly managed banks.”).

21. FDIC, *supra* note 3, at 1; RICHARD SCOTT CARNELL ET AL., THE LAW OF FINANCIAL INSTITUTIONS 197-98 (7th ed. 2021).

22. CARNELL ET AL., *supra* note 21, at 29.

23. Todd Baker, *Unpicking the US Deposit Insurance Debate*, FIN. TIMES (May 17, 2023), <https://www.ft.com/content/e303e43e-272c-4138-9f6e-4e0981269c44> [<https://perma.cc/8WKA-24LB>].

24. See FDIC, *supra* note 3, at 1 (“Tools such as capital requirements and supervision of bank growth can reduce moral hazard that arises from deposit insurance.”).

25. See *id.* at 2 (“Bank runs are a costly form of market discipline to mitigate moral hazard.”).

26. See *Continental Illinois: A Bank That Was Too Big to Fail*, FED. RSRV. HIST. (May 15, 2023), <https://www.federalreservehistory.org/essays/continental-illinois> [<https://perma.cc/6USG-RK32>] (“A large-scale run by depositors on Continental began around May 7, 1984, amid rumors that the bank was in danger of failing. Over the next ten days, the bank lost about 30 percent of its funding. The run was generally electronic and spearheaded by depositors with large uninsured deposits and other bank creditors.”).

to restart in the summer of 1984.²⁷ More public support was then announced to stave off Continental’s failure, with the FDIC incurring a loss of about \$1.1 billion.²⁸ Ten years later, Continental was acquired by Bank of America.²⁹

In September 2008, we saw several variations on the bank run theme. There was a run on Washington Mutual, where \$16.7 billion was withdrawn over ten days. Although WaMu was technically a thrift and not a bank, its deposits were covered by deposit insurance, and the run on WaMu very much resembled the traditional kind of bank run described by Diamond & Dybvig.³⁰ On September 25, WaMu was placed into FDIC receivership, from which it was purchased by JPMorgan Chase Bank.³¹ WaMu’s failure intensified concerns about Wachovia bank, the fourth largest commercial bank in the United States, which was already experiencing deposit outflows.³² The Financial Crisis Inquiry Commission described this as a “‘silent run’ by uninsured depositors and unsecured creditors sitting in front of their computers, rather than by depositors standing in lines outside bank doors.”³³ On the morning of Monday, September 29, it was announced that Citigroup would acquire Wachovia, with the acquisition supported by federal funds under the same systemic risk exemption that would later be invoked in the SVB run.³⁴ However, by Friday, October 3, Wachovia had walked away from the Citigroup deal in favor of an acquisition by Wells Fargo that was not supported by government funds.³⁵

September 2008 also saw runs in what has come to be known as the “shadow banking” sector.³⁶ During the week ending Friday, September 12, the investment bank Lehman Brothers started to experience a sharp run on the wholesale funding it received through the triparty repo market, and it ended up filing for bankruptcy on September 15, 2008.³⁷ The

27. *Id.*

28. *Id.*

29. *Id.*

30. Felix Salmon, *The Largest Bank Run in History*, AXIOS (Mar. 11, 2023), <https://www.axios.com/2023/03/11/the-largest-bank-run-in-history> [<https://perma.cc/6QVC-B4SX>].

31. FDIC, STATUS OF WASHINGTON MUTUAL BANK RECEIVERSHIP (Oct. 23, 2020), <https://www.fdic.gov/resources/resolutions/bank-failures/failed-bank-list/wamu-settlement.html> [<https://perma.cc/6BQC-4W7T>].

32. FIN. CRISIS INQUIRY COMM’N, THE FINANCIAL CRISIS INQUIRY REPORT 366-67 (2011) [hereinafter FCIC REPORT].

33. *Id.* at 367.

34. *Id.* at 369.

35. *Id.* at 370.

36. See generally Gary Gorton & Andrew Metrick, *Securitized Banking and the Run on Repo*, 104 J. FIN. ECON. 425, 425 (2012).

37. See ADAM COPELAND, ANTOINE MARTIN & MICHAEL WALKER, FED. RSRV. BANK N.Y., STAFF REPORTS NO. 506, REPO RUNS: EVIDENCE FROM THE TRI-PARTY REPO MARKET (2014), https://www.newyorkfed.org/medialibrary/media/research/staff_reports/sr506.pdf [<https://perma.cc/D7TQ-ZTZG>] (“[W]e document a large and precipitous decline in the tri-party repo book of Lehman Brothers in the days preceding the bankruptcy of its holding company. This

announcement of Lehman’s failure on September 14 caused a run on the Reserve Primary money market mutual fund, (which had invested in Lehman Brothers), with institutional investors redeeming approximately \$40 billion of shares in the fund over two days.³⁸ On September 16, the fund “broke the buck,” and the fund’s board suspended redemptions and then liquidated the fund.³⁹ The panic leapt to other prime money market mutual funds, and the Federal Reserve and Treasury Department rushed to implement emergency measures to calm the panic.⁴⁰

Since 2008, the possibility of runs outside of the traditional banking system has very much been on policymakers’ minds. Vulnerabilities in the repo markets continue to be scrutinized,⁴¹ for example, and there was another run on money market mutual funds at the onset of the Covid pandemic in 2020⁴² (unprecedented levels of emergency government support were given to banks during this period, and there were no commercial bank runs in the United States in 2020).⁴³ In the last few years, concerns have also been expressed about the possibility of runs on the non-bank crypto assets known as “stablecoins.”⁴⁴ Policymakers had, however, largely

evidence suggests that when facing a crisis, a dealer should not expect to see higher margins in the tri-party repo market. Rather, a dealer’s cash investors are more likely to simply pull their funding.”). *See also id.* at 28.

38. FCIC REPORT, *supra* note 32, at 356-57.

39. *Id.*

40. *See* Hilary J. Allen, *Money Market Fund Reform Viewed Through a Systemic Risk Lens*, 11 J. BUS. & SEC. L. 87, 98 (2010) (“A week after the Reserve Primary Fund broke the buck, the Federal Reserve created the Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility, under which the Federal Reserve made loans to banks to be used for purchasing high quality commercial paper from MMFs. A month later, in October 2008, the Federal Reserve created the Money Market Investor Funding Facility, under which the Federal Reserve made loans to special purpose vehicles to facilitate the purchase of treasuries and highly rated commercial paper from MMFs The Treasury Department created a temporary guaranty program for money market funds, which covered all investments in MMFs made on or before September 19, 2008.”). *See also* *Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility* BD. OF GOVERNORS OF THE FED. RSRV. SYS. (Mar. 18, 2020), <https://www.federalreserve.gov/monetarypolicy/abcpmmmf.htm> [<https://perma.cc/QW5H-75DU>]; *Money Market Investor Funding Facility*, BD. OF GOVERNORS OF THE FED. RSRV. SYS. (Feb. 5, 2010), <https://www.federalreserve.gov/monetarypolicy/mmiff.htm> [<https://perma.cc/TAF5-JV8D>].

41. *See, e.g.*, FIN. STABILITY OVERSIGHT COUNCIL, ANNUAL REPORT 28-31 (2022).

42. EGEMEN EREN, ANDREAS SCHRIMPF & VLADYSLAV SUSHKO, BIS BULL., US DOLLAR FUNDING MARKETS DURING THE COVID-19 CRISIS—THE MONEY MARKET FUND TURMOIL NO. 14 (May 12, 2020), <https://www.bis.org/publ/bisbull14.pdf> [<https://perma.cc/6QSY-YP68>].

43. For a discussion of government support during this period, see Tobias Adrian, Fabio M. Natalucci & Mahvash S. Qureshi, *Macro-Financial Stability in the COVID-19 Crisis: Some Reflections* 6-7, 14 (IMF Working Paper No. 22/251, 2022).

44. *See, e.g.*, Gorton & Zhang, *supra* note 16, at 916-17; Hilary J. Allen, *DeFi: Shadow Banking 2.0?*, 64 WM. & MARY L. REV. 919, 943-47 (2023); Arthur E. Wilmarth, Jr., *We Must Protect Our Investors and Our Banking System from the Crypto Industry*, 101 WASH. U. L. REV. 235, 249-53 (2023). Wilmarth has also posited that the USDC stablecoin was a primary beneficiary of the guarantee of SVB’s uninsured depositors. *Id.* at 292. During the run on SVB, there were concerns about a run on the USDC stablecoin, which kept \$3.3 billion of its reserves as uninsured deposits with Silicon Valley Bank. USDC de-pegged from the USD \$1 price while there was uncertainty about whether SVB’s uninsured depositors would suffer losses. BANK FOR INT’L SETTLEMENTS, *supra* note 13, at 93.

become complacent about the possibility of runs on traditional banks. These were in many ways treated as a “solved problem” (notwithstanding experience with runs on banks and thrifts like Continental Illinois, Wachovia, and WaMu) until the events of March 2023 forced the realization that the existence of deposit insurance had not rendered traditional bank runs obsolete.

Silvergate Bank (which was significantly exposed to the crypto industry) experienced deposit outflows in the period after the failure of crypto exchange FTX, and put itself into voluntary liquidation on March 8, 2023.⁴⁵ That same week, Silicon Valley Bank experienced an extremely rapid run and was placed in FDIC receivership the morning of March 10.⁴⁶ Over the weekend that followed, Signature Bank (which was also significantly exposed to the crypto industry) was placed into FDIC receivership, following its own run.⁴⁷ The reverberations of this episode were still being felt on May 1, when First Republic Bank was placed into FDIC receivership and then sold to JPMorgan.⁴⁸

These bank runs were clearly problematic for the relevant banks, their depositors and other customers, and their shareholders. Bank runs can also have systemic consequences, however, spilling over to other banks and potentially harming the economy more broadly. This is why there is such a keen public policy interest in preventing bank runs. In the early 1930s, for example, panic caused bank runs to jump from bank to bank, from state to state, helping to turn what had been a more run-of-the-mill recession into the Great Depression.⁴⁹ As banks failed and confidence soured, cash was hoarded and access to credit became limited, exacerbating and prolonging the worst economic downturn ever experienced in the United States.⁵⁰ That economic downturn translated into deleterious social costs that persisted until World War II: “Unemployment soared. Families suffered. Marriage rates fell.”⁵¹ The financial crisis of 2008 was also precipitated by runs, and that crisis resulted in damage to American society that was of a similar

45. FDIC, *supra* note 3, at 6. For further discussion of Silvergate and Signature Banks’ engagement with crypto, and the regulatory environment that permitted that engagement, see Wilmarth, *supra* note 44, at 268-78.

46. FDIC, *supra* note 3, at 6.

47. *Id.* at 7.

48. Maureen Farrell, Jeanna Smialek & Lauren Hirsch, *First Republic Bank is Seized by Regulators and Sold to JPMorgan Chase*, N.Y. TIMES (May 1, 2023), <https://www.nytimes.com/2023/05/01/business/first-republic-bank-jpmorgan.html> [<https://perma.cc/5YHB-M32E>].

49. William L. Silber, *Why Did FDR’s Bank Holiday Succeed?*, FED. RSRV. BANK N.Y. ECON. POL’Y REV., 21-22 (2009); Ben Bernanke, *Nonmonetary Effects of the Financial Crisis in the Propagation of the Great Depression*, 73 AM. ECON. REV. 257, 257 (1983).

50. See Bernanke, *supra* note 49, at 257 (“As the real costs of intermediation increased, some borrowers (especially households, farmers, and small firms) found credit to be expensive and difficult to obtain. The effects of this credit squeeze on aggregate demand helped convert the severe but not unprecedented downturn of 1929-30 into a protracted depression.”).

51. *The Great Depression*, FED. RSRV. HIST. (Nov. 22, 2013), <https://www.federalreserve-history.org/essays/great-depression> [<https://perma.cc/9XMR-VPYD>].

kind—although not as dire—as that experienced during the Great Depression.⁵²

This potted history of runs draws only on the United States' experience. Traditional bank runs have been a more persistent concern in some other countries, even where deposit insurance has been adopted (indeed, some evidence suggests that deposit insurance-induced moral hazard has made some banking systems *more* vulnerable to bank runs).⁵³ All of this is to say that traditional bank runs are of more than historical interest. Deposit insurance certainly does nothing to stop runs in the shadow banking system, but even within the traditional banking system, deposit insurance may not always be enough to preserve confidence and prevent runs (particularly if a bank is funded by a lot of uninsured deposits or other “hot money”).⁵⁴ The next Part will delve in more detail into the run on Silicon Valley Bank to provide a more fulsome picture of potential vulnerabilities.

B. Silicon Valley Bank

SVB was founded in Santa Clara, California in 1983, and its business model focused on providing financial services to VC firms as well as the startups funded by those VC firms.⁵⁵ In the wake of the 2008 financial crisis, and accelerating in the early 2020s, money rushed into VC funds as investors went looking for yield in a prolonged period of accommodative monetary policy.⁵⁶ Many of those VC funds deposited their own money with SVB, as well as encouraging (and sometimes even requiring) the ventures they funded to do so.⁵⁷ SVB's business model resulted in significant growth,

52. See HILARY J. ALLEN, DRIVERLESS FINANCE: FINTECH'S IMPACT ON FINANCIAL STABILITY 23-24 (2022); FCIC REPORT, *supra* note 32, at 390-91; Janet L. Yellen, BD. OF GOVERNORS OF THE FED. RESRV. SYS., *A Painfully Slow Recovery for America's Workers: Causes, Implications, and the Federal Reserve's Response* (Feb. 11, 2013), <https://www.federalreserve.gov/newsevents/speech/yellen20130211a.htm> [<https://perma.cc/M9K7-E3BM>]; Ronald A. Wilson, *The View from South Tucson: How the Economic Crisis Affects Defendants in My Courtroom*, 48 JUDGES' J. 14, 14; 34 (2009).

53. See Enrico Perotti, *Learning from Silicon Valley Bank's Uninsured Deposit Run*, VOXEU CEPR (May 5, 2023), <https://cepr.org/voxeu/columns/learning-silicon-valley-banks-uninsured-deposit-run> [<https://perma.cc/TV63-UFAP>] (“For some decades we believed that deposit insurance had eliminated runs, until we discovered that it stimulated more risk taking than what was anticipated or priced. The early evidence came from more frequent banking crises in developing countries that adopted deposit insurance.”).

54. See FDIC, *supra* note 3, at 1 (“Large concentrations of uninsured deposits, or other short-term demandable liabilities, increase the potential for bank runs and can threaten financial stability.”).

55. Ben Foldy, Rachel Louise Ensign & Justin Baer, *How Silicon Valley Turned on Silicon Valley Bank*, WALL ST. J. (Mar. 12, 2023), <https://www.wsj.com/articles/how-silicon-valley-turned-on-silicon-valley-bank-ee293ac9> [<https://perma.cc/U3RM-AEVU>].

56. Richard Waters, *Venture Capital's Silent Crash: When the Tech Boom Met Reality*, FIN. TIMES (Aug. 1, 2022), <https://www.ft.com/content/6395df7e-1bab-4ea1-a7ea-afaa71354fa0> [<https://perma.cc/K2KA-XCCB>].

57. Edward Ongweso Jr., *The Incredible Temper Tantrum Venture Capitalists Threw Over Silicon Valley Bank*, SLATE (Mar. 13, 2023), <https://slate.com/technology/2023/03/silicon-valley->

increasing “from \$71 billion to over \$211 billion in assets from 2019 to 2021.”⁵⁸

Flush with deposits, SVB made large investments in treasuries and asset-backed securities with longer-term maturities.⁵⁹ From a credit risk perspective, these were high quality investments, but they bore interest rate risk in the sense that their market value would fall if interest rates increased.⁶⁰ In the face of growing inflation, the Federal Reserve began to steadily raise interest rates in the Spring of 2022, but SVB “terminated or let expire rate hedges on more than \$14 billion of securities” during 2022.⁶¹ This was essentially a bet that the Federal Reserve would not continue to raise interest rates, but the Federal Reserve continued to do so through 2022 and into 2023. Those rising interest rates also negatively impacted venture capital funds and the tech and crypto startups they funded, which made up a significant proportion of SVB’s customer base.⁶²

Behind the scenes, SVB started to experience increased deposit withdrawals, with deposits dropping to “about \$160 billion at the end of February 2023, primarily due to withdrawals by business clients that were struggling with declining revenues during the tech and crypto slumps.”⁶³ In order to service these withdrawals, SVB sold \$21 billion securities at a loss of \$1.8 billion and then needed to engage in an emergency capital raise.⁶⁴ SVB’s parent, the publicly traded SVB Financial Group, filed an 8-K report with the SEC to announce this loss and subsequent capital raising on Wednesday, March 8, 2023, and this public announcement sparked panic in the VC community.⁶⁵ More than \$40 billion of deposits were withdrawn from SVB on Thursday, March 9.⁶⁶ SVB’s management anticipated that

bank-rescue-venture-capital-calacanis-sacks-ackman-tantrum.html [https://perma.cc/QP7H-UY3X].

58. BD. OF GOVERNORS OF THE FED. RSRV. SYS., *supra* note 4, at i.

59. *Id.* at 2; Foldy et al., *supra* note 55.

60. As the Federal Reserve raised interest rates in 2022 and 2023, the market value of these fixed interest rate securities declined as higher interest paying alternatives were issued. “For banks holding long-duration securities, this large rise in long-term yields meant a plunge in the market value of their assets.” Viral V. Acharya et al., *Underlying Macroeconomic Causes of Recent Banking Stress*, in SVB AND BEYOND: THE BANKING STRESS OF 2023, at 25 (2023).

61. Eliot Brown, *Silicon Valley Bank Dropped a Hedge Against Rising Rates in 2022*, WALL ST. J. (Mar. 13, 2023, 1:45 PM), <https://www.wsj.com/livecoverage/stock-market-news-today-03-13-2023/card/silicon-valley-bank-dropped-a-hedge-against-rising-rates-in-2022> [https://perma.cc/QZX7-JMX5].

62. See PITCHBOOK & NVCA, VENTURE MONITOR 3 (2022), https://nvca.org/wp-content/uploads/2023/01/Q4_2022_PitchBook-NVCA_Venture_Monitor.pdf [https://perma.cc/BX8F-5Y7F] (“As interest rates rise, allocators are diversifying, and this is likely to involve moving some assets away from VC.”); Waters, *supra* note 56.

63. Wilmarth, *supra* note 44, at 284.

64. Anat Admati, Martin Hellwig & Richard Portes, *When Will They Ever Learn? The US Banking Crisis of 2023*, VOXEU CEPR (May 18, 2023), <https://cepr.org/voxeu/columns/when-will-they-ever-learn-us-banking-crisis-2023> [https://perma.cc/3HEH-9M6Z].

65. SVB Financial Group, Form 8-K (Mar. 8, 2023), <https://www.sec.gov/Archives/edgar/data/719739/000119312523064680/d430920d8k.htm> [https://perma.cc/68T2-BTYG].

66. BD. OF GOVERNORS OF THE FED. RSRV. SYS., *supra* note 4, at i.

another \$100 billion would run on Friday, March 10, and so SVB was put into FDIC receivership shortly before noon on that day.⁶⁷

Many news reports stated that mobile and online banking access had allowed SVB depositors to withdraw more quickly than would have been possible in the past,⁶⁸ but it is worth interrogating those claims. After all, online banking was already prevalent during the 2008 bank runs, and even the 1984 run on Continental was affected through digital transactions⁶⁹ (mobile banking, however, was concededly not prominent during these earlier episodes). It is therefore hard to conclude that the existence of online banking was a distinguishing factor in the run on SVB. Furthermore, mobile and online withdrawals typically have a dollar cap in the United States.⁷⁰ If a depositor wanted to withdraw *all* of their money, they would need to wire it—and large wires still take time to process.⁷¹ In fact, several news outlets reported that during the SVB run, SVB depositors had struggled to initiate wires or their wires had taken an unusually long time to process.⁷²

There was also a prominent narrative that social media had exacerbated the speed of the run on SVB,⁷³ and once again, we should resist being too credulous of narratives about technology's ability to alter the

67. *Id.*; Wilmarth, *supra* note 44, at 285.

68. *See, e.g.*, Max Zahn, *Silicon Valley Bank: How a Digital Bank Run Accelerated the Collapse*, ABC NEWS, (Mar. 14, 2023), <https://abcnews.go.com/Business/silicon-valley-bank-digital-bank-run-accelerated-collapse/story?id=97846569> [<https://perma.cc/39EU-F5SX>]; Jim Puzanghera, *Silicon Valley Bank Collapsed at Unprecedented Speed. Can Washington Prevent Another Viral Bank Run?*, BOS. GLOBE (Apr. 2, 2023, 3:53 PM), <https://www.bostonglobe.com/2023/04/02/nation/silicon-valley-bank-collapsed-unprecedented-speed-can-washington-prevent-another-viral-bank-run> [<https://perma.cc/3E8P-6RXX>]. These claims have also been advanced by government agencies. *See, e.g.*, FDIC, *supra* note 3, at 8 (“The ubiquity of social media and mobile banking may mean that bank runs, when they happen, happen faster.”); BD. OF GOVERNORS OF THE FED. RESRV. SYS., *supra* note 4, at 2 (“the combination of social media, a highly networked and concentrated depositor base, and technology may have fundamentally changed the speed of bank runs . . . technology enabled immediate withdrawals of funding.”).

69. *See supra* notes 26-33 and accompanying text.

70. *See supra* notes 167-168 and accompanying text.

71. *Silicon Valley Bank and Signature Bank's Receiverships: Frequently Asked Questions*, COVINGTON (Mar. 15, 2023), <https://www.cov.com/en/news-and-insights/insights/2023/03/silicon-valley-bank-and-signature-banks-receiverships-frequently-asked-questions> [<https://perma.cc/Y6FR-568T>].

72. Natasha Mascarenhas, *Some SVB Customers Are Struggling to Wire Funds Out of the Bank*, TECHCRUNCH (Mar. 9, 2023), <https://techcrunch.com/2023/03/09/silicon-valley-bank-withdrawal-issues> [<https://perma.cc/X39V-BFWA>]. *See also* Dan Primack, *Silicon Valley's Burning Bank*, AXIOS (Mar. 10, 2023), <https://www.axios.com/2023/03/10/silicon-valley-bank-run-svb-stock> [<https://perma.cc/8MR8-DTRW>] (“[SVB] emboldened liquidity concerns by being very slow in processing certain wire requests.”).

73. *See, e.g.*, Gillian Tett, *Wake Up to the Dangers of Digital Bank Runs*, FIN. TIMES (Apr. 20, 2023), <https://www.ft.com/content/a60e543d-c950-4ebb-8da9-d6b0b359ad7b> [<https://perma.cc/Z7ZZ-KWU7>]; Ben Cohen, *The Surprising Risk that Turbocharged a \$142 Billion Bank Run*, WALL ST. J. (Apr. 28, 2023, 11:26 AM ET), <https://www.wsj.com/articles/silicon-valley-bank-run-twitter-59061759> [<https://perma.cc/D2MM-BC9H>]. *See also* FDIC, *supra* note 3, at 7, (“[S]everal developments suggest that the banking system has evolved in ways that could increase its exposure to deposit runs. These developments include the amplification of concerns through social media.”).

underlying dynamics of bank runs.⁷⁴ Because of the “early mover” advantage in runs, the smart depositor is incentivized to keep their concerns quiet—at least until all of their deposits have been successfully withdrawn.⁷⁵ Contemporaneous reports suggested that some VC firms indeed debated whether they should get their own deposits out of SVB first before advising their portfolio companies to do so, in order to maximize the chance that they (the VC firms) would be able to withdraw all of their funds.⁷⁶ Furthermore, given the special place that SVB held in the VC and startup communities, withdrawing funds from SVB during the run had some moral implications: members of those communities knew that their withdrawals could spell the end of SVB, and many of them were reportedly conflicted about it.⁷⁷ These moral conflicts may not have been enough to stop depositors from withdrawing, but it is quite plausible that they provided an additional imperative to keep quiet. In fact, there was contemporaneous reporting that some VCs and startups not only eschewed social media, but also email and slack channels, instead picking up the phone (and avoiding a paper trail) to discuss whether to withdraw their funds from SVB or not.⁷⁸

Of course, there certainly was plenty of email, slack, and social media activity during the SVB run, but the speed of the run seems very well explained by the bank’s unusually high amount of uninsured deposits, and its highly concentrated deposit base (portfolio companies often moved in lockstep on the advice of their VC funders,⁷⁹ and the venture capital and startup community is highly interconnected from a social perspective).⁸⁰ However, social media activity during the period from March 10-12 (immediately *after* SVB was put into receivership) may have contributed to the broader regional banking panic.

74. For a discussion of our overestimation of technology’s ability to change underlying economic forces and structural dynamics, see Hilary J. Allen, *Fintech and Techno-Solutionism* (manuscript on file with author).

75. Kelly, *supra* note 7. See *supra* notes 12-13 and accompanying text on the early mover advantage.

76. Foldy et al., *supra* note 55.

77. Saritha Rai et al., *SVB’s Demise Swirled on Private VC, Founder Networks Before Hitting Twitter*, BLOOMBERG (Mar. 29, 2023, 7:00 AM EDT), <https://www.bloomberg.com/news/articles/2023-03-29/svb-bank-run-fears-swirled-on-vc-founder-networks-before-hitting-twitter> [<https://perma.cc/Z6YE-NDMT>].

78. See *id.* (“In an email thread of more than 1,000 founders backed by Andreessen Horowitz, many entrepreneurs were encouraging each other to pull cash from the bank. David George, a general partner at the firm, weighed in somewhat cryptically: ‘Hi all, We know you have questions about how to handle the SVB situation,’ he wrote. ‘We encourage you to pick up the phone and call your GP.’ In many cases, investors stayed off social media during these critical hours. One venture investor with dozens of investments in common with both Sequoia Capital and Andreessen Horowitz said some of their founders received personal phone calls from the two venture giants early Thursday morning. ‘I’ve never seen phone calls be as popular as they were for those 48 hours.’”).

79. Ongweso, *supra* note 57.

80. Peter Lee, *Enhancing the Innovative Capacity of Venture Capital*, 24 YALE J. L. & TECH. 611, 638 (2022).

During that weekend, SVB had already failed but the fate of SVB's uninsured depositors remained uncertain. Uninsured SVB depositors (as well as related members of the venture capital and startup communities) therefore had incentives to try to convince the authorities that the situation was dire enough to warrant a blanket government guarantee of SVB's uninsured deposits. This would require authorities to be convinced that the run on SVB could become a systemic banking panic.⁸¹ One paper found that social media regarding SVB started spiking around 11am Eastern time (8am Pacific time) on March 10.⁸² The run on SVB was already in full swing by that time—SVB was placed into receivership at 11:15am (Pacific time) on March 10.⁸³ After SVB had been placed in receivership, prominent members of the VC community like Bill Ackman and David Sacks tweeted about the need for government intervention to protect SVB's uninsured depositors in order to stave off a broader regional banking panic.⁸⁴ Federal authorities were ultimately convinced of the risk of contagion and a broader banking crisis, and they invoked the systemic risk exemption to the FDIC's least cost resolution requirement.⁸⁵ On March 12, it was announced that all uninsured depositors at SVB (and at Signature Bank) would be made whole, and the Federal Reserve also announced a special Bank Term Funding Program.⁸⁶

If, as seems plausible, social media activity helped undermine confidence in other regional banks after SVB's failure, it is worth considering the relative social media reach of the players involved. As one point of reference, as of June 2024, the FDIC's official Twitter account had 45.9K followers⁸⁷ and the San Francisco Federal Reserve had 66.7K followers,⁸⁸ while Bill Ackman had 1.2M followers⁸⁹ and David Sacks had 857.8K followers.⁹⁰ Leading venture capitalists have formidable reputations, and their tweets will be highly persuasive for many members of the public (and

81. A departure from the FDIC's least-cost resolution requirement can be authorized in order to mitigate systemic risk pursuant to 12 U.S.C. § 1823(c)(4)(G).

82. J. Anthony Cookson et al., *Social Media as a Bank Run Catalyst* 33 figs.1 & 2 (Univ. Paris-Dauphine, Research Paper No. 4422754, July 13, 2023), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4422754 [<https://perma.cc/RXR4-VAYT>].

83. Clements, *supra* note 4, at 38.

84. Michael Hiltzik, *Column: With Demands for a Bank Bailout, Silicon Valley Shows Its 'Small Government' Mantra Was Just a Pose*, L.A. TIMES (Mar. 12, 2023); Bill Ackman (@BillAckman), TWITTER (Mar. 11, 9:38 AM), <https://twitter.com/BillAckman/status/1634564398919368704> [<https://perma.cc/6FJF-N4HS>]; David Sacks (@DavidSacks), TWITTER (Mar. 10, 2023, 3:36 PM), <https://twitter.com/DavidSacks/status/1634292056821764099> [<https://perma.cc/G85X-XACZ>].

85. FDIC, *supra* note 3, at 5.

86. *Id.* For further detail, see Wilmarth, *supra* note 44, at 288-89.

87. FDIC (@FDICgov), TWITTER (last visited June 3, 2024), <https://twitter.com/FDICgov> [<https://perma.cc/GG8J-L5PD>].

88. San Francisco Fed (@sffed), TWITTER (last visited June 3, 2024), <https://twitter.com/sffed> [<https://perma.cc/Z4VH-WP86>].

89. Bill Ackman (@BillAckman), TWITTER (last visited June 3, 2024), <https://twitter.com/BillAckman> [<https://perma.cc/J6A7-YKGA>].

90. David Sacks (@DavidSacks), TWITTER (last visited June 3, 2024), <https://twitter.com/DavidSacks> [<https://perma.cc/9GEY-BPZX>].

even many US officials).⁹¹ Government communications outlets are not only outgunned in terms of number of followers and reputation, though: they are also likely to be outgunned in the sense that information that is incorrect or salacious will probably be shared more rapidly than staid government messages encouraging calm. One empirical study on the spread of disinformation generally found that untrue statements spread much more quickly than true statements on social media, because their falsity makes them novel and that novelty is often viewed as a value-add or indicative of status on social media.⁹² That same study found that it is not the bots, but rather humans, who are more likely to retweet false information.⁹³ These findings support the statement made by one commentator in the wake of SVB: “the way in which an opinion spread on social media can become a ‘fact’ that no amount of actual fact or calm analysis can debunk.”⁹⁴

To reiterate, even without factoring in any technological explanations, SVB’s dependence on a very homogenous, tightly connected, highly uninsured depositor base offers a compelling explanation for the speed and severity of the run. Still, the study discussed above does suggest that social media activity may have been successful in fanning the broader regional banking panic once SVB’s failure became inevitable. This may not be the last time social media is weaponized to spread misinformation to generate or exacerbate bank runs, and so we may need new tools to sustain confidence in the context of deliberate misinformation campaigns.

Putting aside the debate over what caused the SVB run, it is clear that deposit insurance was unable to generate the calm to which we have become accustomed during the weekend of March 10-12, 2023. As a result, perhaps the most vibrant policy discussion in the wake of SVB’s failure has focused on what to do about deposit insurance.⁹⁵ Some favor removing the \$250,000 per account per bank cap on deposit insurance, arguing that doing so will improve confidence and prevent future runs—and arguing that there is little cost to doing so because caps have effectively been rendered meaningless now that everyone expects repeats of the blanket *ex post*

91. See Lee, *supra* note 80, at 620 (“The VC-startup nexus, particularly based in Silicon Valley, enjoys an almost mythic reputation for meritocracy, innovation, and long-term value creation. Such popular perception has political valence.”).

92. Soroush Vosoughi, Deb Roy & Sinan Aral, *The Spread of True and False News Online*, 359 *SCI* 1146, 1146 (2018).

93. *Id.*

94. Frances Coppola, *Pecked to Death*, MINT MAG. (Mar. 31, 2023), <https://www.the-mintmagazine.com/pecked-to-death> [<https://perma.cc/7HAN-9ZXF>].

95. See Baker, *supra* note 23 (“Mainstream pundits have proposed things like expanding insurance to cover all deposits; adding layers of regulation to control the risk du jour; creating specialised money-market funds with loss-absorbing capacity instead of deposits; privatising parts of the insurance system. Fringe commentators have even espoused solutions involving crypto and stablecoins (sigh), narrow banking and even a return to the good old days of wildcat banks.”). For a summary of the advantages and disadvantages of different approaches, see FDIC, *supra* note 3, at 4.

guarantee of SVB's uninsured depositors.⁹⁶ Others worry acutely about the moral hazard and funding advantages that would come from insuring *all* of a bank's deposits—not to mention the cost of a blanket guarantee (which would be prohibitive in many countries), or the optics of providing government support to back the deposits of multi-millionaires.⁹⁷

Both sides make extremely good points, and if both sides are correct, perhaps that indicates that we are simply asking deposit insurance to do too much work. Since the 1930s, deposit insurance has been our bulwark against bank runs in the traditional banking system, and we have become accustomed to viewing it as a silver bullet. But bank runs have still occurred over the years, and where deposit insurance has succeeded in preventing runs, it has only succeeded because it has been effective in maintaining confidence in banks. Confidence, however, is a fickle thing, and the current debate around deposit insurance suggests that we should also explore other potential responses to bank runs. Sometimes the only way to calm a panic may be to pause, or at least to slow things down, to allow time for devising and implementing other emergency measures that can restore confidence.⁹⁸ To that end, it behooves us to revisit the concept of bank holidays. This will be the focus of Parts III and IV. Before doing so, however, the next Section will consider how bank runs might evolve in the future, which should also be considered in formulating plans for any future bank holiday or any transaction restrictions.

C. Future Bank Runs

This Part will consider how commercial bank runs might transpire in the future. The FDIC has highlighted banks' increasing dependence on uninsured deposits as a vulnerability,⁹⁹ and this Article has also foreshadowed another concern—the possibility that misinformation could be used to intentionally cause a run, perhaps even unsettling insured depositors.¹⁰⁰

96. Lev Menand & Morgan Ricks, *Scrap the Bank Deposit Insurance Limit*, WASH. POST (Mar. 15, 2023, 7:15 AM EDT), <https://www.washingtonpost.com/opinions/2023/03/15/silicon-valley-bank-deposit-bailout/> [https://perma.cc/6FRQ-3FCQ]; Prasad Krishnamurthy, *How Congress Can Prevent Another Banking Crisis*, THE HILL (Mar. 21, 2023, 4:30 PM ET), <https://thehill.com/opinion/finance/3910629-how-congress-can-prevent-another-banking-crisis/> [https://perma.cc/38LF-JPM7].

97. Peter Conti-Brown, *This Bank Proposal Will Damage Our Economy and Make Voters Even More Resentful*, N.Y. TIMES (Apr. 5, 2023), <https://www.nytimes.com/2023/04/05/opinion/banking-reforms-deposit-insurance-guarantee.html> [https://perma.cc/7LWY-ZG8B]; Aaron Klein, *Why FDR Limited FDIC Coverage*, WALL ST. J. (Apr. 9, 2023, 3:14 PM ET), <https://www.wsj.com/articles/why-fdr-limited-fdic-coverage-silicon-valley-bank-deposit-insurance-risk-small-business-8cee7518> [https://perma.cc/5APV-R7JE].

98. See Perotti, *supra* note 53 (“To avoid triggering an escalation of run incentives, it is critical to slow down and discourage rapid outflows.”). As an aside, if people are aware that there is a blueprint for a bank holiday, that might even make deposit insurance caps more credible because the public would then be aware that regulators have an alternative way of stemming runs. This could help address moral hazard.

99. FDIC, *supra* note 3, at 1.

100. See *supra* notes 83-94 and accompanying text.

Bank runs arise when multiple depositors behave in a coordinated manner, and “social media aggregates information from many sources, making it potentially a much stronger communication and coordination device in the context of communication about bank runs.”¹⁰¹ With SVB, it is at least possible that these mechanisms were used disingenuously, once SVB had been placed into FDIC receivership, to stoke fear of a broader run on regional banks and so induce authorities to guarantee uninsured deposits.¹⁰² There are many different kinds of people with a large social media presence who seek to use their influence for profit, and we should not discount the possibility that bad actors may try to engineer bank runs in the future.¹⁰³ The literature on social media misinformation can be instructive for proactively formulating plans for addressing these kinds of bank runs, in case they do eventuate.

The Treasury Department, Federal Reserve, and FDIC (among others) should certainly rethink their communications strategies in the wake of SVB’s failure, to figure out how messages that engender confidence and refute false rumors can be disseminated quickly and widely. But if, as some research indicates, false news indeed spreads “farther, faster, deeper, and more broadly than the truth in all categories of information,” then it could prove impossible for governmental authorities to win a communications battle on a social media platform.¹⁰⁴ As the next Section will explore, President Roosevelt’s first “Fireside Chat,” delivered over the radio on March 12, 1933, played an important role in assuring the American public that the banking system deserved their confidence.¹⁰⁵ Today, authorities’ attempts at calming messages may be drowned out in the cacophonous social media environment, potentially by bad actors.

Authorities may therefore be tempted to consider punishing or censoring undesirable speech pertaining to the health of banks, but either of these options can conflict with Constitutional freedoms¹⁰⁶—and in any event, the damage will probably have been done by the time authorities intervene. The social media platforms themselves can intervene more nimbly than authorities can, and there is a vibrant debate about the extent to which social media platforms can and should intervene to prevent the spread of misinformation. At present, though, these platforms have broad immunity with regard to what appears on their platform pursuant to

101. Cookson et al., *supra* note 82, at 7.

102. *See supra* notes 83-94 and accompanying text.

103. For a related discussion of the various types of “influencers” and their motivations for impacting the stock market, see generally Sue Guan, *The Rise of the Finfluencer*, 19 N.Y.U. J. L. & BUS. 489 (2023).

104. Vosoughi, Roy & Aral, *supra* note 92.

105. *See infra* notes 126-129 and accompanying text.

106. Susan Benesch, *Countering Dangerous Speech: New Ideas for Genocide Prevention* 9 (U.S. Holocaust Mem’l Museum Working Paper), <https://www.ushmm.org/m/pdfs/20140212-benesch-countering-dangerous-speech.pdf> [<https://perma.cc/N5QW-3E8U>].

Section 230 of the Communications Decency Act.¹⁰⁷ Even if Section 230 were to be amended (or if the platform were simply willing to accede to requests from the authorities to remove certain content), the content can jump to other platforms and the removal of the content from the first platform might inadvertently draw more attention to it and give the speaker more credibility in the eyes of the public.¹⁰⁸ Given the challenges inherent in stemming the tide of misinformation, policymakers should consider, in advance, other ways that we might pause a bank run.

In addition, we tend to think of bank runs as originating with concerns (whether well-founded or not) about a bank's financial condition. But a run could also originate for other reasons. For example, Rory Van Loo has raised the possibility that if most people come to "rely on sophisticated digital assistants for almost all spending and financial decisions," a prompt from such a digital assistant to, say, transfer funds to a bank with a better interest rate could inspire a bank run "motivated by opportunity rather than panic" that is therefore "impervious" to deposit insurance.¹⁰⁹

Bank runs could also be motivated by new types of panics that are not tied to a bank's financial condition and are therefore also impervious to deposit insurance. The most plausible trigger of this kind would be a significant cyberattack on a bank. If that cyberattack affected some of that bank's systems but left its deposit withdrawal infrastructure functioning, news of the cyberattack could spark a run.¹¹⁰ If the first bank were entirely disabled by the cyberattack, then a run *on it* would be impossible because customers wouldn't be able to withdraw their deposits. Panic could, however, spread to depositors in banks that were perceived to have similar security vulnerabilities, causing a run on those other banks.

Operational problems arising from the increasing prevalence of natural disasters and technological glitches might also change the landscape in terms of depositor confidence.¹¹¹ A run could result from a public acknowledgement of an operational problem at a bank,¹¹² if news that a bank is suffering from severe technical difficulties damages depositors' confidence in the ability of that bank to keep processing their transactions in a timely fashion. The bank's transaction processing systems might be unaffected by the outage, but depositors might still be scared enough by the news to

107. For background and discussion of Section 230, see JULIE COHEN, *BETWEEN TRUTH AND POWER: THE LEGAL CONSTRUCTIONS OF INFORMATIONAL CAPITALISM* 97-101 (2019).

108. Benesch, *supra* note 106, at 10.

109. Rory Van Loo, *Stress Testing Governance*, 75 *VAND. L. REV.* 553, 607 (2022).

110. Eisenbach et al. have commented that during a cyberattack, "uncertainty regarding the nature and extent of the attack could prompt runs to occur in segments of banks' operations that are otherwise unaffected." EISENBACH ET AL., *supra* note 8, at 1.

111. For a discussion of these operational threats, see Hilary J. Allen, *Reinventing Operational Risk Regulation for a World of Climate Change, Cyberattacks, and Tech Glitches*, 49 *J. CORP. L.* 727 (2024).

112. For further discussion of this possibility, see Hilary J. Allen, *Payments Failure*, 62 *B.C. L. REV.* 453, 475, 484 (2021).

withdraw their funds and move them elsewhere. Panic may also leap to unaffected banks if narratives start to percolate that, say, the unaffected banks rely on similar technological systems to the affected bank.

The potential for these kinds of panics serves as a good justification for not publicizing that banks have suffered cyberattacks or other operational problems.¹¹³ But when customers are experiencing problems with their accounts, they may take to social media to announce those problems and banks and authorities may once again lose control of the narrative, with bank runs resulting as a consequence. As with the “digital assistant” example, even unlimited deposit insurance coverage would not protect against these kinds of runs.¹¹⁴ Once significant deposit outflows start, a bank (even one in excellent financial condition with fully insured deposits) will be forced to sell its best and most liquid assets, which could ultimately undermine the solvency of that bank.

III. Bank Holidays

Regardless of what needs to be fixed—whether it be resolving an operational problem, taking steps to restore confidence, some combination of the two, or something entirely unanticipated—time may be needed. In addition to exploring deposit insurance, Diamond & Dybvig also observe that suspension of convertibility can control bank runs.¹¹⁵ In other words, restrictions on deposit withdrawals can be used, as a last resort, to buy time while other policy measures are worked out.¹¹⁶ When bank branches are forced to close entirely, these kinds of restrictions are described somewhat euphemistically as “bank holidays.”¹¹⁷

The rationale for bank holidays bears some resemblance to the rationale for stock market circuit breakers, which can “slow, pause, or halt trading during periods of extreme volatility or order imbalances—with a view both to protecting investors against executions at unrepresentative prices and to give market participants an opportunity to manually

113. Christina Parajon Skinner, *Bank Disclosure of Cyber Exposure*, 105 IOWA L. REV. 239, 272 (2019).

114. As Van Loo notes, “events can cause financial instruments and institutions to act in ways that have never happened in prior downturns with different causes.” Van Loo, *supra* note 109, at 553.

115. Diamond & Dybvig, *supra* note 1, at 410.

116. In the wake of SVB, some academic research has supported preventing certain kinds of uninsured deposit withdrawals (while allowing others). See, e.g., Perotti, *supra* note 53; Marco Cipriani, Michael Holscher, Patrick McCabe, Antoine Martin & Richard Berner, *Mitigating the Risk of Runs on Uninsured Deposits: The Minimum Balance at Risk*, LIBERTY ST. ECON. (Apr. 14, 2023), <https://libertystreeteconomics.newyorkfed.org/2023/04/mitigating-the-risk-of-runs-on-uninsured-deposits-the-minimum-balance-at-risk> [<https://perma.cc/EL7V-YPSM>].

117. Dobler et al., *supra* note 10, at 42-43. There has sometimes been disagreement regarding what qualifies as a bank holiday—a bank holiday may certainly entail “an unqualified shutdown of banking transactions” by a governmental authority, but lesser restrictions are also sometimes described as bank holidays as well. Silber, *supra* note 49, at 22.

intervene in automated trading that might otherwise trigger a feedback loop.”¹¹⁸ Like circuit breakers (and deposit insurance, for that matter),¹¹⁹ bank holidays can be used to protect customers from losing funds, and/or prevent harmful feedback loops that could damage the broader financial system (often by buying time to implement other confidence-restoring measures). Also as with circuit breakers, bank holidays aren’t a silver bullet: they can help “contain crises of market faith,” but not “predict and prevent them.”¹²⁰ They can also be hard to implement uniformly, and have unintended consequences.¹²¹ For example, consumers may engage in systemically damaging behaviors in advance of an anticipated halt in transacting, or they may engage in unanticipated kinds of transactions to cope with the fact that their ability to transact has been restricted elsewhere.¹²² These kinds of collateral consequences should be thought through and planned for in advance, but they will never be entirely anticipated or eliminated. Bank holidays are therefore best thought of as a last resort, and as one of several arrows in the quiver available to deal with banking panics. Still, if nothing else is working, authorities may need to deploy a bank holiday in order to buy time to develop other strategies to regain calm.

Most famously in the United States, Franklin D. Roosevelt implemented a bank holiday as one of his first acts as President of the United States. On Sunday March 5, 1933, Roosevelt ordered the suspension of all banking transactions in the United States, including withdrawals and transfers, effective the following day.¹²³ As one account put it, “People had no way of knowing when, or if, they would ever see their money again. Yet, for the most part, there was surprisingly little panic.”¹²⁴ It is an open question whether this stoicism would be repeated in a future bank holiday, but a future bank holiday *could* replicate the 1933 holiday’s ability to buy time to develop other emergency responses.

The Bank Holiday of 1933 is widely regarded as the turning point in restoring confidence in the United States banking system during the Great Depression;¹²⁵ there is less consensus on which emergency responses implemented during the bank holiday explain its success. Some historians have focused on Roosevelt’s oratorical prowess, lauding his first “Fireside Chat” for its accessible and persuasive explanation of the bank holiday as an opportunity to shut down troubled banks, such that the banks that did

118. ONNIG H. DOMBALAGIAN, CHASING THE TAPE: INFORMATION LAW AND POLICY IN CAPITAL MARKETS 173 (2015).

119. See FDIC, *supra* note 3, at 25 (“Financial stability and depositor protection are the two leading public policy objectives of deposit insurance.”).

120. DOMBALAGIAN, *supra* note 118, at 173.

121. *Id.*

122. *Id.*

123. Silber, *supra* note 49, at 19.

124. *Bank Holiday of 1933*, FED. RSRV. HIST. (Nov. 22, 2013), <https://www.federalreservehistory.org/essays/bank-holiday-of-1933> [<https://perma.cc/B335-2XNF>].

125. Conti-Brown & Vanatta, *supra* note 17, at 87.

reopen should be considered safe places to deposit one's money.¹²⁶ Others have pointed out that, excellent as that first Fireside Chat was, a speech needs something to back it up if it is to restore confidence. Silber, for example, has argued that the speech's implicit guarantee of deposits (which was made credible by the passage of the Emergency Banking Act on March 9) was the critical factor in restoring confidence.¹²⁷ Conti-Brown and Vanatta have emphasized that the Emergency Banking Act gave bank supervisors the authority they had been lacking to close down troubled banking institutions—which they promptly used, informed by the supervisory materials that they had been compiling about banks in the preceding months and years.¹²⁸ Banks that were deemed sound began to be reopened starting March 13, and “[m]uch to everyone's relief . . . depositors stood in line to return their hoarded cash to neighborhood banks. Within two weeks, Americans had redeposited more than half of the currency that they had squirreled away before the suspension.”¹²⁹

There has been no bank holiday in the United States since 1933, but some other countries *have* needed to implement bank holidays or lesser deposit restrictions over the years, and their experience can be instructive. One thing to note is that such deployment is costly—one IMF report concluded that:

Although they may be needed to protect the banking system at times of severe stress, deposit restrictions interfere with payments and economic activity, and cause significant disruption, loss of depositor/investor confidence, and economic damage. They should be used only when absolutely necessary.¹³⁰

Still, if such a bank holiday were to become necessary, intuition and past experience suggest that it will be better to implement it sooner rather than later (if rumors start to circulate about an impending bank holiday, depositors will certainly try to withdraw their deposits before it starts, worsening the situation).¹³¹ To ensure expedited implementation, it would

126. Silber, *supra* note 49, at 20.

127. *Id.*

128. Conti-Brown & Vanatta, *supra* note 17, at 90.

129. Silber, *supra* note 49, at 19.

130. Dobler et al., *supra* note 10, at 43.

131. See Diamond & Dybvig, *supra* note 1, at 410 (“It is illuminating to begin the analysis of optimal bank contracts by demonstrating that there is a simple variation on the demand deposit contract which gives banks a defense against runs: suspension of allowing withdrawal of deposits, referred to as suspension of convertibility (of deposits to cash). Our results are consistent with the claim by Friedman and Schwartz (1963) that the newly organized Federal Reserve Board may have made runs in the 1930s worse by preventing banks from suspending convertibility: the total week-long banking ‘holiday’ that followed was more severe than any of the previous suspensions.”).

be helpful to develop a plan in advance—as former Treasury Secretary Timothy Geithner liked to say, “plan beats no plan.”¹³²

This Section will therefore begin the process of thinking through what a plan for a bank holiday might look like. As a starting point, policymakers should strive to ensure that any bank holiday is applied as narrowly as possible, lasts as short a period as possible, and results in as little loss to depositors as possible. The implementation of longer widespread deposit freezes abroad has sometimes impacted sovereign creditworthiness,¹³³ and even a short bank holiday can undermine credibility at home if it prevents depositors from making time-critical transactions. Even a short bank holiday could also put a dent in economic growth.¹³⁴

Given the desirability of limiting the impact of any bank holiday, it might be tempting to apply a bank holiday just to the bank(s) that appear to be in trouble. It is theoretically possible, for example, that if SVB depositors had been subjected to a bank holiday on March 9 to allow authorities time to develop an individualized emergency response for the bank, the run could have been stopped dead in its tracks. It is perhaps more likely, though, that the implementation of a bank holiday at SVB might have fueled concerns about other similarly situated regional banks. Because the implementation of a targeted bank holiday could erode confidence in banks more broadly, all banks in a jurisdiction may need to be covered in order for the bank holiday to be effective.¹³⁵ This is how Roosevelt’s national bank holiday proceeded in 1933;¹³⁶ bank holidays that

132. Zachary A. Goldfarb, *Treasury’s Timothy Geithner Finds His Footing*, WASH. POST (June 7, 2011, 11:17 PM EDT), https://www.washingtonpost.com/business/economy/geithner-finds-his-footing/2011/05/24/AGY0CSLH_story.html [<https://perma.cc/A4KE-56UM>].

133. Moody’s has indicated that it may be concerned by “government-imposed restrictions on foreign- or local-currency bank deposits, which include: prolonged deposit withdrawal restrictions, forced deposit conversions into local currency or into government bonds, partial deposit withdrawal restrictions, or other deposit controls that lead to a significant erosion in the value of deposits. We do not include cases of bank holidays that last only a few days and do not impose a significant loss on depositors.” MOODY’S INV. SERVS., *supra* note 9, at 3.

134. Kenya’s experience with M-PESA is an instructive example here: “In recent years, there have been noticeable economic consequences for Kenya when the hugely popular M-Pesa mobile wallet suffers outages—even when those outages only last about two hours. The Kenyan Treasury Department has therefore recognized that Kenya’s tax revenues would be impacted if M-Pesa were compromised by operational risks for a longer period of time, and has designated the possibility of a ‘technological disaster’ as a ‘plausible fiscal risk.’” Allen, *supra* note 52, at 110. See also NAT’L TREASURY, REPUBLIC OF KENYA, MEDIUM TERM 2017 BUDGET POLICY STATEMENT: CONSOLIDATING ECONOMIC GAINS IN AN ENVIRONMENT OF SUBDUED GLOBAL DEMAND 83 (2016), <https://www.treasury.go.ke/wp-content/uploads/2021/03/2017-Budget-Policy-Statement.pdf> [<https://perma.cc/G5ZQ-QW9F>].

135. See Dobler et al., *supra* note 10, at 43 (“[I]n cases where a subset of banks is perceived as weak, depositors may have the incentive to move funds to safer banks aggravating liquidity stress in parts of the financial system.”).

136. Prior to the announcement of Roosevelt’s bank holiday, many individual states had implemented their own versions of bank holidays. Contagion spread from state to state until “Roosevelt’s initiative turned a maze of state restrictions into a uniform national policy.” Silber, *supra* note 49, at 22.

have been applied more recently (such as in Cyprus and Greece) were also applied to all banks in the country.¹³⁷

Although it will probably be necessary to apply emergency measures to every bank in a jurisdiction, in some circumstances it may be sufficient to stop short of a full bank holiday, applying lesser restrictions to those banks to ensure that depositors don't lose access to banking services entirely. All depositors *did* lose access to all banking services during the 1933 bank holiday, with the result that there were many practical adaptations that people needed to make on the ground in order to carry out necessary day-to-day transactions:

The average citizen's chief trouble appeared to lie in difficulty of cashing paychecks. Stores generally extended credit more liberally for household necessities. . . . Money orders were generally limited to \$100. One company paid 25 percent for incoming money orders and gave checks for the balances. Railroad companies took emergency action, announcing broadened credit and stating that travelers would not be left stranded anywhere because of banking difficulties.¹³⁸

It is not clear how feasible these kinds of workarounds would be in a modern economy, though, and the IMF has recommended that if restrictions on access to deposits are deployed, they should be tailored to allow day-to-day transactions to the extent possible.¹³⁹

The experiences of Cyprus and Greece, both during their initial bank holidays and during subsequent periods where banks were reopened but some deposit restrictions remained, suggest some ways of allowing time-critical transactions to proceed. One option that both countries deployed during their bank holidays was to leave ATMs open (subject to withdrawal limits) while closing bank branches.¹⁴⁰ ATMs in the United States already have withdrawal limits, and these could certainly be used to maintain limited access to cash during a bank holiday when other banking services are suspended. However, as society becomes increasingly "cashless," this kind of approach becomes less viable.¹⁴¹ Instead, policymakers might wish to

137. Dobler et al., *supra* note 10, at 45.

138. *Bank Holiday of 1933*, *supra* note 124.

139. Dobler et al., *supra* note 10, at 43.

140. *See id.* at 45 ("Multi-day bank holidays were declared in Cyprus and Greece . . . while the authorities decided on broader stabilization measures. Although bank branches were closed for several days, the availability of cash machines (subject to withdrawal limits), enabled individuals to access funds to cover everyday transactions, allowing the continuation of basic economic activities.")

141. This is yet another reason to think critically about our seemingly inexorable march towards a cashless society – in addition to concerns that have been raised about financial inclusion, the importance of anonymity for some small-value transactions, and the need to ensure a transaction mechanism that works when power and internet service have been knocked out. For further discussion of these issues, see BRETT SCOTT, *CLOUDBANKING: CASH, CARDS, CRYPTO, AND THE WAR FOR OUR WALLETS* (2022); Allen, *supra* note 112, at 513.

allow digital transactions below a certain amount, or only for a specified period of time, or to differentiate between withdrawals by individuals versus businesses, or to suspend deposit transfers while continuing to allow debit and credit card payments, or to allow all transaction types but require pre-approval for large withdrawals.¹⁴² This Article is not intended to advocate for any one of these approaches over another—the best response will inevitably be contextual. Rather, this Article recognizes that there would be an operational element to the implementation of *any* policy that impacts digital transactions, and advocates for thinking through the necessary operational measures (and legal foundations for those measures) in advance.

Rory Van Loo has argued for administrative agencies to use stress tests to help them prepare for disaster scenarios, including financial crises.¹⁴³ In addition to working through seemingly mundane but important issues like a phone tree for coordinating key decision-makers if a crisis erupts,¹⁴⁴ such simulations can help banking agencies preemptively think through the distributional consequences of how a bank holiday or other deposit restrictions will be implemented. For example, will everyone have their transaction accounts suspended, or will some types of transactions be favored over others?¹⁴⁵ The more complicated the rules get for which transactions are allowed and which are not, the more opportunities there will be for individuals to game those rules.¹⁴⁶

IV. Digital Bank Holidays

In today's day and age, depositors running on a bank will not typically seek their funds in cash. Instead, as with the SVB depositors seeking to wire their funds to other banks, a modern bank run will typically take the form of a payment or transfer to another financial institution. Crafting a modern bank holiday—or even implementing lesser restrictions—therefore requires thinking not only about which transactions to restrict, but also about how to do so as an operational and legal matter. Processing (or not processing) financial transactions “requires an extraordinary amount of

142. Dobler et al., *supra* note 10, at 43. Recent discussions about targeting deposit insurance coverage to those who need it most could generate some insight into who might need to most be exempt from a digital bank holiday. For an overview of the different proposals, see FDIC, *supra* note 3. Peter Conti-Brown, for example, recently drew a distinction between personal deposit accounts, and business accounts needed for payroll, arguing that the latter should have a higher insurance cap than the former. Conti-Brown, *supra* note 97. In the same way, policymakers might decide that small business accounts should be exempt from a bank holiday in a way that individual accounts are not.

143. Van Loo, *supra* note 109, at 560.

144. *Id.* at 609.

145. Dobler et al., *supra* note 10, at 44.

146. Andrew G. Haldane & Vasileios Madouros, The Dog and the Frisbee, Speech at the Federal Reserve Bank of Kansas City's 366th Economic Policy Symposium, “The Changing Policy Landscape” (Aug. 31, 2012), <https://www.bis.org/review/r120905a.pdf> [<https://perma.cc/9LAU-URCM>].

coordination, technology, and law,”¹⁴⁷ and this Section will focus on these latter operational and legal issues.

A. A Primer on the Players in Digital Transaction Processing

Digital transactions are ultimately accounting transactions recorded in computer databases. A bank will record a debit in their records of the payer’s account, and the payee’s bank’s records will be updated to show that the payee has been credited with the same amount.¹⁴⁸ However, before these accounting transactions can be finalized, (a process known as “settlement”), someone at the payer’s bank needs to receive the payer’s initial request to begin the transaction and determine whether it is valid and whether funds are available to complete the transaction.¹⁴⁹ Then, someone at the payer’s bank needs to send a payment order to commence the transaction.¹⁵⁰ While much of this process is automated, it nonetheless offers multiple points for possible intervention by back-office staff at the relevant bank, and these staff could be involved in the implementation of any digital bank holiday or other transaction restrictions.

While it is possible that both the payer and the payee will have accounts with the same bank, it is more often the case that they will bank with different institutions. In that case, another set of accounting changes are needed, this time in the “wholesale” or “interbank” payment system¹⁵¹—in addition to the debit made to the payer’s account and the credit made to the payee’s account, a transfer will need to be made between the payer’s bank and the payee’s bank.¹⁵² This is typically carried out by debiting and crediting the accounts that the banks hold with a central bank (in the United States, this is the Federal Reserve system).¹⁵³ The Federal Reserve therefore has the practical ability to intervene in payment processing—as we will discuss shortly, the Federal Reserve is the most obvious actor to coordinate the implementation of a digital bank holiday.

But the Federal Reserve is not the only behind-the-scenes actor involved in processing interbank payments. Often, banks will rely on clearinghouses to collect and net out all of the debit and credit instructions between banks, so that only a single payment between two banks is needed

147. Peter Conti-Brown & David Wishnick, *Private Markets, Public Options, and the Payment System*, 37 YALE J. ON REGUL. 380, 392 (2020).

148. CARNELL ET AL., *supra* note 21, at 69.

149. DAVID MILLS ET AL., *DISTRIBUTED LEDGER TECHNOLOGY IN PAYMENTS, CLEARING, AND SETTLEMENT* 5 (2016).

150. See Adam Hayes, *What is the Clearing House Interbank Payments System (CHIPS)?*, INVESTOPEDIA (Feb. 24, 2021), <https://www.investopedia.com/terms/clearing-house-interbank-payments-system-chips.asp> [<https://perma.cc/ECH3-ZY4C>] (“An institution transmits a payment order (a message that requests the transfer of funds to the payee) to initiate a funds transfer.”).

151. Conti-Brown & Wishnick, *supra* note 147, at 387.

152. JOHN ARMOUR ET AL., *PRINCIPLES OF FINANCIAL REGULATION* 393-97 (2016).

153. CARNELL ET AL., *supra* note 21, at 70.

to settle a day's worth of transactions. Clearinghouses will also provide banks with details of the credits and debits that need to be made to individual customer accounts.¹⁵⁴ Clearinghouses are therefore another possible locus of intervention.

The Federal Reserve operates clearinghouses of its own (like Fed-ACH for smaller value transactions, and Fedwire for larger value payments), but it has a private sector competitor in the form of The Clearing House. The Clearing House operates the Electronic Payments Network ("EPN"), an ACH network, as well as the Clearing House Interbank Payments System ("CHIPS") which competes with Fedwire.¹⁵⁵ The Clearing House may therefore need to be involved in any discussions regarding digital bank holidays or transaction restrictions, particularly as some banks choose to rely on *both* the clearing services of the Federal Reserve and The Clearing House in order to achieve a degree of redundancy and resilience for their payments processing.¹⁵⁶

In recent years, an increasing number of non-banks have become prominent in the payments space. To assist us in determining whether they might need to be involved in implementation discussions, we should also consider their role in payment processing. Some peer-to-peer payment services, like Apple Pay, can be used to initiate payment instructions from one bank account to another.¹⁵⁷ Other peer-to-peer platforms, like PayPal and Venmo, allow customers to maintain a balance with them and transact without involving the bank.¹⁵⁸ It is important to recognize that because these new payments providers ultimately piggyback off of existing bank payments infrastructure, they do not fundamentally alter the "plumbing" of transaction processing. Still, these platforms often use banks as on- and off-ramps for payments, and so they can also be used to initiate bank transactions.¹⁵⁹ As with back-office personnel at banks, the operators of these platforms may be able to provide useful insights on implementing a bank holiday or other transaction restrictions.

B. Implementation: Practical Considerations

With that background on digital transaction processing, we can start to consider some of the practicalities of implementing a digital bank

154. This explanation of interbank payments and clearing is drawn from Armour et al., *supra* note 152, at 393-97, and MICHAEL S. BARR ET AL., FINANCIAL REGULATION: LAW AND POLICY 773-76 (2016).

155. Conti-Brown & Wishnick, *supra* note 147, at 388.

156. *Id.* at 419.

157. Dan Awrey & Kristin Van Zwieten, *Mapping the Shadow Payment System* 13 (Cornell Legal Stud. Rsch. Paper No. 19-44, 2019), <https://ssrn.com/abstract=3462351> [<https://perma.cc/HB6V-4HLY>].

158. Of course, maintaining such a balance exposes the customer to the risk of being an unsecured, uninsured creditor should the platform fail. *Id.* at 14.

159. *Id.*

holiday or other, more limited transaction restrictions. Any of these would need to be implemented swiftly, as once rumors start swirling, people will most likely try to withdraw their deposits before the restrictions bite, exacerbating the run. Forethought should therefore be given to the operational aspects of implementation.

After reviewing the implementation of bank holidays in other countries, IMF researchers observed that:

To be effective, the compliance framework may require significant human resources, both for the authorities and banks, with staff having to be trained at short notice. Ineffective processes can lead to delays for legitimate transactions, further encouraging liquidity outflows from the financial system through loopholes, reducing the effectiveness of the measures, and exacerbating economic damage. Residents and nonresidents will “test” the limits imposed, which may result in a temporary surge of certain types of transactions (for example, depositors withdrawing cash up to the daily limit).¹⁶⁰

Implementation would ideally involve the combined efforts of technologists and back-office staff at banks and non-bank payment providers, personnel from The Clearing House, and of course the Federal Reserve. But all of this will take time. It will take less time if some advanced planning has been done, but still, if time is of the essence, the Federal Reserve System could implement a digital bank holiday unilaterally (although, as this Section will explore, doing so will be expeditious but costly).

The Fed is inextricably bound with payments processing in the United States; it is not only “a payment system operator, but also [] a user of payment systems, and the principal regulator and supervisor of those systems.”¹⁶¹ In particular, Federal Reserve Banks maintain the master accounts through which all transactions (even those processed using services provided by The Clearing House) are settled. A depository institution needs a master account with a Federal Reserve Bank to access the Federal Reserve’s transaction processing services; without such an account, the depository institution must have a relationship with another depository institution that *does* have such an account.¹⁶²

The practical implication of this is that the Federal Reserve could suspend payment processing by temporarily disabling the necessary master account(s). If all banks’ master accounts were temporarily disabled, digital transactions would come to a screeching halt—although people could still withdraw cash from their own accounts via ATMs and bank branches (and, perhaps, make transfers to counterparties who banked with the same bank). As discussed above, cash withdrawals could be an effective way of

160. Dobler et al., *supra* note 10, at 44.

161. Conti-Brown & Wishnick, *supra* note 147, at 385.

162. Julie Andersen Hill, *Opening a Federal Reserve Account*, 40 YALE J. ON REGUL. 453, 460 (2024).

ensuring that people can still make time-critical payments during a bank holiday, but the efficacy of this approach will depend on whether the United States still has sufficient cash transaction infrastructure to make it work.¹⁶³

If more tailored transaction restrictions are desired—for example, to allow some kinds of small value digital transactions for individuals (and maybe some larger value digital transactions, like payroll, for businesses)—then The Clearing House and individual banks (and possibly non-bank payments providers) will likely need to be part of the implementation. Unlike the Federal Reserve, these entities are for-profit entities without public mandates,¹⁶⁴ and so they may have economic incentives to refrain from implementing such restrictions. Again, this is something that should be explored (through public-private conversations) in advance of needing to implement any such measures.

If willing to cooperate, private sector entities could—as was done in Cyprus—be enlisted in refusing to process certain transactions without prior authorization¹⁶⁵ (this of course begs the question of which entities and individuals will be entrusted with authorization, and what criteria they will use to judge authorization requests—something else that should be worked out in advance). Implementing an authorization process at scale could be challenging, however, and so it may prove more tractable to apply any requirement for prior authorization exclusively to large wires. As we saw with SVB, large wires processed through CHIPS or Fedwire are likely to be how a bank run transpires in this day and age,¹⁶⁶ smaller transactions may pose less of a concern.

With large wires suspended, banks might allow digital transactions up to the transaction limits that are already in place as a matter of contract between banks and their customers. These limits reflect individual banks' judgments about the costs and risks associated with certain kinds of transactions in normal times,¹⁶⁷ but they could also act to limit the drain on funds from a bank during a run. There is, however, significant inequality baked into this approach as different banks have significantly different limits that may be applied per transaction or per day (or both). For example, one online survey found that Bank of America typically limits individual ACH transactions to \$1000, Wells Fargo typically has a per day limit of \$5000,

163. See *supra* note 141 and accompanying text regarding the desirability of moving towards a cashless society.

164. For a discussion of the different motivations of the Federal Reserve and The Clearing House, see Conti-Brown & Wishnick, *supra* note 147, at 415 (“While the Clearing House only operates with innovation and standards-coordination incentives that align with its owner-operators’ advantage, the Fed can import policy goals into its decision-making.”).

165. Dobler et al., *supra* note 10, at 43.

166. See *supra* notes 71-72 and accompanying text.

167. For a discussion of the costs and risks that go into Zelle limits, see, for example, Conti-Brown & Wishnick, *supra* note 147, at 396.

while Chase allows \$10,000 per transaction or \$25,000 per day.¹⁶⁸ Limits may vary even within a bank depending on the type of customer involved, and private banking customers (who tend to be wealthy or well-connected individuals) may have higher transaction limits than other customers. But if banks already have the infrastructure in place to impose transaction limits, perhaps those limits could be varied and standardized in times of exigency. Yet again, this is something that should be explored in advance.

All of this assumes, however, that banks' technological systems are in good enough working order to implement such measures—implementing transaction restrictions may not be possible with compromised technological infrastructure. If a bank run were triggered by a cyberattack or some other operational failure at the bank, or if the stress of increased withdrawals somehow compromised the relevant technological plumbing, implementing these kinds of tailored transaction restrictions might not be feasible.¹⁶⁹ Preparing for the possibility of a digital bank holiday therefore requires a focus on operational resilience. While there are steps that banking regulators can and should take to improve operational risk management at banks, some cyberattacks, natural disasters, and “normal accidents” may be unavoidable.¹⁷⁰ Ultimately, some redundancy may prove necessary, in the form of alternative means for transacting.¹⁷¹ Fortunately, such an alternative already exists in the form of cash. As I have argued previously, it would be prudent to require businesses to continue to accept cash payments and maintain the infrastructure for doing so.¹⁷² This “would inject inefficiencies into the retail payments ecosystem, but the redundancy would improve the robustness of the overall system.”¹⁷³ As this Article has already alluded to, the continuing utility of cash would also give authorities more flexibility, allowing them to follow the playbook of Greece and Cyprus by permitting limited ATM cash withdrawals to facilitate time sensitive transactions¹⁷⁴ (this would, of course, require the Federal Reserve to be prepared to get sufficient cash to ATMs, as they did in the wake of 9-11).¹⁷⁵

168. Marina Shifrin, *ACH Transfer Limits at the Top U.S. Banks*, MYBANKTRACKER (Aug. 1, 2023), <https://www.mybanktracker.com/news/ach-transfer-limits> [https://perma.cc/8ZQC-KXM6].

169. For further discussion of these kinds of challenges, see Allen, *supra* note 111, at 745-52.

170. *Id.* On “normal accidents” more generally, see Charles Perrow, *NORMAL ACCIDENTS: LIVING WITH HIGH-RISK TECHNOLOGIES* (1999).

171. Allen, *supra* note 112, at 512.

172. *Id.* at 513.

173. *Id.*

174. See Dobler et al., *supra* note 10, at 140 and accompanying text.

175. See Jeffrey M. Lacker, *Payment System Disruptions and the Federal Reserve Following September 11, 2001*, at 11 (FED. RSRV. BANK OF RICHMOND, Working Paper No. 03-16, 2003), https://www.richmondfed.org/-/media/RichmondFedOrg/publications/research/working_papers/2003/pdf/wp03-16.pdf [https://perma.cc/XHK4-P8J2] (“Federal Reserve Bank staff contacted

This Part has only begun to scratch the surface of the practical aspects of implementing a digital bank holiday or digital transaction restrictions. Conversations with many people performing different roles and with interdisciplinary expertise will be needed to flesh out a more comprehensive plan (people involved with stock market circuit breakers might also be a useful resource in these conversations).¹⁷⁶ This Part has already begun to show, however, the complexity of the practical steps needed to implement measures that allow some digital transactions to proceed while pausing others. Not only will these steps be complex, they will also be very much tied to how bank transactions are processed at a given moment in time. Transaction processing will continue to evolve, and so plans cannot be static, but must be updated to keep pace.

The simpler, nuclear option would entail temporarily disabling Federal Reserve master accounts for one or more banks. Such a drastic step would require legal authority, however.

C. Implementation: Legal Authority

It is largely undisputed that the Federal Reserve is authorized to play an operational role in the interbank payments system,¹⁷⁷ and it views its role as “to promote the integrity and efficiency of the payments mechanism and to ensure the provision of payment services to all depository institutions on an equitable basis, and to do so in an atmosphere of competitive fairness.”¹⁷⁸ However, if the Federal Reserve—or anyone else—is to take unusual and exigent operational steps to *prevent* people from transacting, that practice should be grounded in legal authority.¹⁷⁹

Many of the Federal Reserve’s most important emergency interventions have been predicated upon the authority in Section 10B of the Federal Reserve Act, but that Section only allows the Federal Reserve to

banks and armored carriers to reassure them that ample currency was available for withdrawal, hours of operation were being extended, and special deliveries could be arranged. In addition, banks were notified that the Fed would waive the fees that applied to certain banks accessing Fed cash services and would suspend ‘cross-shipping’ rules aimed at preventing banks from depositing and then quickly withdrawing the same currency. The availability of currency supplies was never seriously in question.”).

176. See *supra* notes 118-121 for a discussion of the similarities between circuit breakers and digital bank holidays.

177. Conti-Brown & Wishnick, *supra* note 147, at 422.

178. BD. OF GOVERNORS OF THE FED. RSRV. SYS., POLICIES: THE FEDERAL RESERVE IN THE PAYMENTS SYSTEM (2001), https://www.federalreserve.gov/paymentsystems/pfs_frpay-sys.htm [<https://perma.cc/PN4H-M72D>].

179. Commenting on transaction suspensions prior to the introduction of deposit insurance, Friedman and Schwartz noted that they stopped runs but were “regarded as anything but a satisfactory solution by those who experienced them, which is why they produced so much strong pressure for monetary and banking reform.” MILTON FRIEDMAN & ANNA J. SCHWARTZ, A MONETARY HISTORY OF THE UNITED STATES, 1867-1960, at 329 (1963).

provide discount window loans to banks.¹⁸⁰ Section 10B does not address how the Federal Reserve should process payments in an emergency. Section 13(3) of the Federal Reserve Act, which served as the basis for some of the Fed’s most creative emergency interventions in 2008 and 2009, also only contemplates making loans or purchasing assets (albeit to/from a larger group of non-bank institutions).¹⁸¹ We therefore need to look elsewhere to determine the legality of a digital bank holiday—although these lender of last resort and emergency powers may be very pertinent to *other* measures deployed by authorities during a bank holiday (or more limited transaction restrictions) in order to restore confidence.

The statutory basis for the initial proclamation of Roosevelt’s 1933 bank holiday was the executive power granted by 1917’s Trading with the Enemy Act, but some at the time considered that legal authority to be tenuous.¹⁸² Several days after the bank holiday started, it was retroactively authorized by the Emergency Banking Act of 1933 (which also gave the executive power to regulate all banking functions during the emergency).¹⁸³ Ideally, if a future bank holiday were to become necessary, Congress would similarly support it with emergency legislation that orders all banks to cease processing transactions (or, if more tailored transaction restrictions are desired, to only process authorized transactions) until the emergency is over. In the spirit of “plan beats no plan,” it might be wise to devote some advanced thought to what such legislation should look like, using the pertinent parts of the Emergency Banking Act of 1933 as a starting point. For example, Section 4 of that Act provided that “during such emergency period as the President of the United States by proclamation may prescribe, no member bank of the Federal Reserve System shall transact any banking business except to such extent and to such regulations, limitations and restrictions as may be prescribed by the Secretary of the Treasury, with the approval of the President.”¹⁸⁴

It is worth noting, though, that the Emergency Banking Act was a hard sell for some 1933 lawmakers. Republican Senator Arthur Vandenberg, for example, considered the Act a “shocking expansion of federal

180. See Federal Reserve Act § 10(b), 12 U.S.C. § 226 (1913) (“Any Federal Reserve bank, under rules and regulations prescribed by the Board of Governors of the Federal Reserve System, may make advances to any member bank on its time or demand notes having maturities of not more than four months and which are secured to the satisfaction of such Federal Reserve bank.”).

181. See Federal Reserve Act § 13(3), 12 U.S.C. § 226 (1913) (“In unusual and exigent circumstances, the Board of Governors of the Federal Reserve System, by the affirmative vote of not less than five members, may authorize any Federal reserve bank, during such periods as the said board may determine, at rates established in accordance with the provisions of section 14, subdivision (d), of this Act, to discount for any participant in any program or facility with broad-based eligibility, notes, drafts, and bills of exchange when such notes, drafts, and bills of exchange are indorsed or otherwise secured to the satisfaction of the Federal Reserve bank.”).

182. Conti-Brown & Vanatta, *supra* note 17, at 103; Silber, *supra* note 49, at 24.

183. Conti-Brown & Vanatta, *supra* note 17, at 107.

184. Emergency Banking Act § 4, 12 U.S.C. § 95(a) (1933)

power . . . but . . . also conceded that ‘the new administration is fresh from a popular mandate’ and ‘is entitled to an unhampered chance to save the crisis.’”¹⁸⁵ William L. Silber has described the Emergency Banking Act as “granting the President near dictatorial powers,”¹⁸⁶ and it is not clear that a modern Congress will always be responsive to Presidential requests for this kind of emergency power, especially in a time of divided government.

To avoid contentious Congressional debates in the midst of an emergency, it would be preferable for Congress to proactively pass legislation that creates an emergency framework within which the Federal Reserve could implement a digital bank holiday or lesser transaction restrictions. The process for invoking such emergency powers might be modeled to a certain degree on the systemic risk exception that was invoked following SVB’s failure, requiring the approval of two-thirds of the Federal Reserve’s Board of Governors, as well as the Treasury Secretary (following consultation with the President).¹⁸⁷ However, just as it is not clear that a modern Congress would act expeditiously to intervene once a crisis erupts, it is also by no means clear that a modern Congress would adopt a statutory framework that preemptively expands the emergency powers of the Federal Reserve. Political challenges may therefore end up exacerbating future crises in the financial system—which begs a very difficult legal question. In the absence of express Congressional authorization, could the Federal Reserve implement a digital bank holiday on its own by unilaterally disabling access to Federal Reserve master accounts?

The Federal Reserve considers three statutes to be relevant to its involvement in payments processing: the Federal Reserve Act of 1913; the Monetary Control Act of 1980; and the Expedited Funds Availability Act of 1987.¹⁸⁸ Nothing in this legislation explicitly contemplates restricting the Federal Reserve’s payment operations in order to address systemic risk concerns.¹⁸⁹ Section 13(1) of the Federal Reserve Act (which provides the general authorization for Federal Reserve Banks to provide interbank payment services to depository institutions) does state that such payment services may be provided to a depository institution so long as that institution:

maintains with the Federal reserve bank of its district a balance in such amount as the Board determines taking into account items in transit, services provided by the Federal Reserve Bank, and other factors as the Board may deem appropriate.

185. Conti-Brown & Vanatta, *supra* note 17, at 107-08.

186. Silber, *supra* note 49, at 24.

187. Regarding this systemic risk exception, *see supra* note 81 and accompanying text.

188. BD. OF GOVERNORS OF THE FED. RSRV. SYS., *supra* note 178.

189. Hill also notes that there is nothing explicit in any legislation that pertains to closing a master account. *See* Hill, *supra* note 162, at 464.

The term “such other factors as the Board may deem appropriate” confers discretion on the Federal Reserve. The Fed could perhaps use this provision as the basis for a policy stipulating that, in cases of systemic exigence, *no* amount of reserves in a Federal Reserve master account will be sufficient for the continuing provision of interbank payment services at that time. Regulations require Federal Reserve Banks to issue operating circulars governing their provision of payment services, and the Banks have done so jointly in the form of Operating Circular 1¹⁹⁰: Operating Circular 1 does not currently anticipate any kind of temporary suspension of services, though (although it does provide that a master account can be terminated “at any time by notice to the Account Holder”).¹⁹¹ The Federal Reserve Banks may therefore wish to consider preemptively updating their Operating Circular to expressly contemplate suspension in unusual and exigent circumstances.

Ultimately, however, even if these legal arguments are persuasive, the Federal Reserve may be unwilling to act unilaterally in this regard¹⁹²—particularly given the current political controversy and litigation surrounding the extent of the Federal Reserve’s discretion in dealing with master accounts.¹⁹³ More generally, the Supreme Court has signaled an increasing tendency to dispense with administrative deference in recent years.¹⁹⁴ While the Federal Reserve and other banking agencies have traditionally enjoyed significant deference from the courts (particularly during emergencies), the modern judicial climate may even discourage these agencies from implementing emergency restrictions that are less invasive than a full digital bank holiday.

Part of the solution here could involve private ordering: The Clearing House and individual banks might consider preemptively amending contracts with their customers to permit temporary suspension in exigent circumstances (if such contracts do not already have such a provision). As discussed in the previous Part, though, these entities may not necessarily be amenable to suspending services once an emergency hits, even if they have the legal authority to do so.¹⁹⁵ If regulatory agencies and other governmental authorities cannot convince these private entities to suspend services through persuasion, then we are right back where we started, exploring whether authorities can legally *compel* private sector entities like The Clearing House and banks—or third party vendors that banks may

190. *Id.* at 465 n.83 (referencing 12 C.F.R. §§ 201.3, 210.25(c), 201.40(c)).

191. FED. RSRV., OPERATING CIRCULAR 1, at 2.10 (2023).

192. For a discussion of the political taboos that can restrain regulatory agencies from using some of their most consequential powers, see Brigham Daniels, *Environmental Regulatory Nukes*, 2013 UTAH L. REV. 1506, 1511 (2013).

193. For a discussion of this political controversy, see generally Hill, *supra* note 162.

194. See Daniel T. Deacon & Leah M. Litman, *The New Major Questions Doctrine*, 109 VA. L. REV. 1009 (2023).

195. See *supra* note 164 and the accompanying text.

rely upon to process transactions—to implement restrictions on digital transactions.

The bank regulatory agencies have several sources of authority that they might be able to draw upon, most of which arise as a result of their supervisory discretion. Banking agencies have broad supervisory discretion to remedy any “unsafe and unsound practices” that a bank might engage in.¹⁹⁶ This term “unsafe and unsound practices” has never been defined in any legislation—it was purposely intended to be flexible in recognition of the fact that what constitutes “unsafe and unsound” will inevitably be contextual.¹⁹⁷ During a banking panic, supervisors might advise banks that they consider it unsafe or unsound for banks to continue to process certain kinds of transactions for their customers (unless some kind of prior authorization is obtained).

If banks rely upon third party service providers to help process payments, the Bank Services Company Act of 1962 “‘subject[s] to examination and regulation by the appropriate Federal banking agency’ any ‘bank service company,’ which includes the operators of payment systems.”¹⁹⁸ Conti-Brown & Wishnick observe that ‘the supervisor maintains significant supervisory authority to direct these systems as appropriate for their individual risk profile.’”¹⁹⁹ Such directions might include preparing for, or executing, restrictions on transaction processing in a time of exigency. The Clearing House itself is regulated pursuant to this Bank Services Company Act,²⁰⁰ and so banking regulators also have authority to give such directions directly to The Clearing House.

In addition, the CHIPS system provided by The Clearing House has been designated as a systemically important financial market utility pursuant to Section 804 of the Dodd-Frank Act.²⁰¹ As such, CHIPS is subject to Regulation HH promulgated by the Federal Reserve, which draws heavily on the internationally developed Principles for Financial Market Infrastructure (“PFMIs”). These principles were jointly promulgated by the Bank for International Settlement’s (“BIS”) Committee on Payment and Settlement Systems, and by the Technical Committee of the International Organization of Securities Commissions (“IOSCO”), and they do not expressly address the possibility of a digital bank holiday or transaction

196. CARNELL ET AL., *supra* note 21, at 337-38, 345-46, 350.

197. *Id.* at 337. *See also In re Seidman*, 37 F.3d 911, 926 (3rd Cir. 1994) (“Because the statute itself does not define an unsafe or unsound practice, courts have sought help in the legislative history. Thus courts have generally interpreted the phrase ‘unsafe or unsound practice’ as a flexible concept which gives the administering agency the ability to adapt to changing business problems and practices in the regulation of the banking industry.”).

198. Conti-Brown & Wishnick, *supra* note 147, at 428.

199. *Id.*

200. *Id.*

201. BD. OF GOVERNORS OF THE FED. RSRV. SYS., *Designated Financial Market Utilities*, https://www.federalreserve.gov/paymentsystems/designated_fm_u_about.htm [https://perma.cc/TNN9-9FHX].

suspension.²⁰² Instead of contemplating the cessation of services in extreme circumstances, they suggest consideration of “alternative arrangements . . . to *allow* for the processing of time-critical transactions in extreme circumstances.”²⁰³ That is not to say that the PFMIIs preclude the implementation of a digital bank holiday or transaction restrictions, only that they do not provide any guidance around preparing for such eventualities. The United States is by no means the only country that may need to deploy these kinds of emergency measures, and so the BIS and IOSCO may wish to consider revising the PFMIIs to contemplate more directly what such scenarios would mean for the providers of financial transaction infrastructure.

Ultimately, the best way to proceed would be for Congress to preemptively enact legislation that grants the Federal Reserve the power to implement a digital bank holiday or lesser restrictions in the event of an emergency. Failing that, if a digital bank holiday or lesser transaction restrictions were to become necessary, the next best way to proceed would be for Congress to pass legislation granting a blanket authorization for all of the operational steps needed to implement the holiday or restrictions. However, there is no guarantee that Congress will supply any of these authorities in a timely fashion. It would therefore serve the Federal Reserve and other banking agencies well to start thinking through these issues of legal authority in advance, and to consider whether any new rulemakings or revisions to Operating Circulars would be helpful in the event of a future emergency. As with the operational aspects of a digital bank holiday, plan beats no plan.

D. Future Developments

Given this Article’s focus on legal and practical considerations for implementing a digital bank holiday, it is—by necessity—very focused on how transactions are processed right now. As transaction processing changes, plans for digital bank holidays and other transaction restrictions may need to be updated. In the near term, this may be necessary as the United States increasingly embraces real-time payments through both the private sector RTP option, provided by The Clearing House, and the public sector option, FedNow. Because real-time payments settle immediately, 24/7, it is possible that they could make runs even faster in the future.²⁰⁴ However, if only small payments can be made in real-time, then they may

202. BANK FOR INT’L SETTLEMENTS, PRINCIPLES FOR FINANCIAL MARKET INFRASTRUCTURES (Apr. 2012), <https://www.bis.org/cpmi/publ/d101a.pdf> [<https://perma.cc/J5N7-RXJM>].

203. *Id.* at 98 (emphasis added).

204. Bryce Elder, *FedNow, Capital Kanban and the Art of Discouraging Bank Runs*, FIN. TIMES (July 28, 2023), <https://www.ft.com/content/50dd7e1b-941c-4b72-a602-a68146e21563> [<https://perma.cc/9ZMA-L8QH>].

not cause meaningful liquidity problems for banks. Furthermore, any size restrictions on real-time payments could perhaps be reduced in exigent circumstances, serving as another useful lever for creating tailored transaction restrictions during a time of stress.

In the longer term, efforts to tokenize deposits may also create a new avenue for implementing transaction restrictions. The BIS has defined tokenization as “the process of representing claims digitally on a *programmable* platform”²⁰⁵—it is this programmability that differentiates tokenized assets from the digital form that many financial assets already take. There is significant interest in tokenizing deposits, and if the banking system does indeed evolve into ledgers of tokenized deposits, then those tokens could be programmed in advance to accommodate the possibility of digital bank holidays or other transaction restrictions.²⁰⁶ In other words, tokenized deposits could be programmed to become non-transferable in some circumstances (the BIS has also suggested that tokenized deposits could be programmed to eliminate depositors’ early mover advantage in some situations, which, if effective, could prevent runs in some circumstances, and by doing so, reduce the need for emergency measures).²⁰⁷

It is, however, a fool’s errand to seek to preprogram *all* possible situations in which a digital bank holiday or other transaction restrictions might be needed—just like legal contracts, computer programs cannot anticipate all future states of the world, and so a tokenized deposit must be programmed to allow for some discretion and flexibility.²⁰⁸ This could be achieved by programming the tokenized deposit to receive instructions from a data source (known as an “oracle”) maintained by the Federal Reserve, and the Federal Reserve could use that oracle as a type of circuit breaker to stop transfers in exigent circumstances.²⁰⁹ Of course, just as with the processes explored in Section IV.B, this deployment of transaction restrictions through tokenized deposits will depend on technological infrastructure working as intended. The BIS anticipates tokenized deposits operating on a common platform, or multiple ledgers made interoperable through APIs,²¹⁰ which may exacerbate operational fragilities by increasing the speed and complexity of—and eliminating redundancies in—transaction processing.²¹¹ Once again, authorities should consider in advance how

205. BANK FOR INT’L SETTLEMENTS, *supra* note 13, at 85.

206. Tokens “integrate the records of the underlying asset normally found in a traditional database with the rules and logic governing the transfer process for that asset.” *Id.* at 88.

207. *Id.* at 101.

208. Allen, *supra* note 52, at 99. For an overview of the literature on incomplete contracts, see Cathy Hwang, *Collaborative Intent*, 108 VA. L. REV. 657, 665-67 (2022).

209. For further discussion of regulator-maintained oracles serving as circuit breakers (albeit in the context of public blockchains), see Allen, *supra* note 52, at 188.

210. BANK FOR INT’L SETTLEMENTS, *supra* note 13, at 94.

211. *See id.* at 108 (“The more comprehensive the ledger, the bigger the risks of a single point of failure and therefore the larger the potential associated costs.”).

to provide some redundancy to pick up the slack should the platform (or interlinked ledgers) be compromised.

V. Conclusion

Implementing a digital bank holiday should only ever be a last resort, and the technical and legal complications (not to mention the politics) of planning for one may discourage policymakers from making such plans. But the experience of the PG&E electrical utility during the California wildfires of 2019 serves as a cautionary tale. During those wildfires, PG&E shut off service to many Bay Area residents in order to avoid fires being sparked by its electricity lines—other residents continued to be served, and there did not seem to be much rhyme or reason as to what was switched off or kept on.²¹² PG&E’s decisions were freighted with operational complexity and distributional consequences, yet they were made on the fly, seemingly without much consultation or forethought. Backlash was swift, particularly because PG&E put the burden of coping with the power outages on its customers, rather than having developed plans in advance to help its customers to cope.²¹³ As one article put it, “[t]he Bay Area experienced a man-made crisis (a blackout) designed to avoid a far worse man-made crisis (a fire).”²¹⁴

A digital bank holiday (and even lesser restrictions on digital transactions) would also be a man-made crisis, designed to avoid the far worse man-made crisis of a banking panic. Some of the damage could be avoided, though, if restrictions were structured to ensure that people could continue to engage in time-critical transactions for essentials like food, gas, medicine, and housing. Banking regulators would be wise to preemptively think through how to structure and implement such restrictions, lest they find themselves—like PG&E—in the unenviable position of having to make such decisions against the backdrop of an unfolding, far worse crisis.

212. Annie Lowrey, *Alone in the Dark in the Bay Area*, THE ATLANTIC (Oct. 12, 2019), <https://www.theatlantic.com/ideas/archive/2019/10/californias-power-outage/599935> [https://perma.cc/A3MD-GS3K].

213. *Id.*

214. *Id.*