ENDING BAILOUTS, AT LAST[1]

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INTRODUCTION

In 2008, we had a financial crisis. Our government responded once again with bailouts. Bailouts keep existing business going, and most of all protect creditors from losses. The instruments vary, including direct creditor guarantees like deposit insurance, mergers of failing companies with sound ones sweetened with government money or government purchases of bad assets, or government purchases, guarantees, and other efforts to prop up security prices and thereby cover up losses. Since actual or promised (contingent) resources flow from taxpayers to financial market participants, we include all of these interventions as "bailouts."

Ex-post protection breeds ex-ante risk taking or moral hazard, however. If deposits are guaranteed, depositors have little incentive to seek out safe banks. If banks, financial institutions, and other companies will receive bailouts and are therefore unlikely to default on loans, creditors have little incentive to seek out safe companies, and companies have less incentive to make safe investments.

Recognizing this danger, and responding to public outrage over bailouts, our government promised during the 2008 financial crisis to address moral hazard once the storm had passed. It made good on that promise with a vast expansion of financial regulation under the Dodd-Frank act.[4] Similar approaches were followed internationally, under the Basel international regulatory umbrella.[5] Whether or not one approves of the outcome—we are mostly skeptics—at least one must grant the effort.

2008 was not the first time. For at least a century, we have experienced a regular cycle: Large financial institutions get in trouble, and may go under. Runs develop. The government bails out the creditors, directly or indirectly by bailing out the institutions, which stops runs. The government then adds regulations and institutions to try to constrain the consequent moral hazard

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[4] Dodd-Frank Wall Street Reform and Consumer Protection Act, 12 U.S.C. §§ 5301, 5481-5603.

[5] *See generally Overview of the Prudential Regulatory Framework for U.S. Banks: Basel III and the Dodd-Frank Act*, CONG. RSCH. SERV. (July 27, 2016), https://crsreports.congress.gov/product/pdf/R/R44573/3.

and prevent another crisis. Never again, we say, again and again. Then, people invent ways to get around the regulations, regulators get sleepy, another crisis develops, and the government bails out again. 1907 led to the creation of the Federal Reserve, which failed to stop a banking collapse in 1933. 1933 led to deposit insurance and heavy regulation, which fell apart in the 1970s. Then, from Continental Illinois to the Savings and Loan Crisis, Latin American debt, Long Term Capital Management, the East Asian debt crisis, and finally, the 2008 plunge, the story repeated, larger each time. Bailouts spread to industrial companies, also highly levered, including the auto bailout of 2009.[6]

It just happened again. Fearing another crisis due to the natural and policy-induced economic dislocations of the COVID-19 pandemic in 2020, our government bailed out, breaking many of the Dodd-Frank promises. And again. Silicon Valley Bank and First Republic suffered runs in 2023, triggered by old-fashioned interest rate risk that somehow the army of regulators had completely missed.[7] Credit Suisse failed, and its regulators threw out the resolution plans. These events laid bare that the basic architecture of current financial regulation—allow fragile financing, but count on regulators to contain risk—has failed.

Except, scandalously, this time neither government, nor Fed, nor other regulators have even acknowledged that anything was wrong with these bailouts. There are no "What went wrong?" inquests, no acknowledgement that bailouts induce moral hazard, there are not even promises to mop up moral hazard someday in the vague future. As unproductive as it would be, there is no concerted effort to reform the rule book once again to contain moral hazard or to pre-commit against ever larger bailouts. (The massive "Basel III endgame" rule expansion is not motivated by the failures of 2020-2023.) The main reaction is a self-congratulatory pat on the back for saving the world by spreading out immense amounts of bailout money. Bailouts are the new regime, the new norm, and expected by financial market participants in the next crisis. Perhaps the lack of another popular revolt at "bailing out the banks" led to the unusual quiet, but a technocracy which only reforms when the peasants are outside with pitchforks is not healthy.

Too big to fail is now enshrined. But small companies get bailed out too, and their creditors. Industrial companies, not just financial companies, are protected. Too leveraged to fail might be the summary of our new regime. But our authorities subsidize leverage, with tax deduction and regulatory preferences for debt. As a result, there is every incentive to take risk, to borrow and to lend, with confidence that the government will backstop debt, prop up prices, and keep companies afloat should any serious crisis develop. There is little incentive to issue equity rather than borrow, to keep cash

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[6] *See* the brief history of bailouts in the Appendix.

[7] *See generally* U.S. GOV'T ACCOUNTABILITY OFF., GAO 23-106736, PRELIMINARY REVIEW OF. AGENCY ACTIONS RELATED TO MARCH 2023 BANK FAILURES 11 (2023), https://www.gao.gov/assets/gao-23-106736.pdf.

around to provide liquidity or hunt for bargains and thereby prop up prices with private money in the next moment of stress. Why be ready to bargain-hunt when you know the government will front-run you and keep prices from falling?

Obviously, it is not healthy that investors get the benefits of risky lending in good times and taxpayers bear the risks in bad times. Worse, the system will sooner or later fall apart. Eventually, the government, even the US government, will run out of the ability or the will to cheaply borrow an immense amount in order to bail out indebted businesses and their creditors. Then we face the worst of all worlds. The ideal intervention comes when nobody expects a bailout: all the mopping up, none of the moral hazard. The worst outcome realizes when everyone expects a bailout but it cannot come. When a town builds a great firehouse, people can start to store gasoline in the basement and neglect their own fire extinguishers. When the firehouse burns down, so does the town.

The bailout-and-regulate spiral must end. The promise of Dodd Frank to finally regulate away risk and bailouts has failed. Inflation shows us that the government is near its limit to borrow and print money to fund bailouts. We have one last chance to construct a bailout-free financial system. Fortunately, plans for such a system are sitting on the shelf. They need only will to overcome the large private interests that benefit from the current system.

THE COVID BAILOUTS

Financial trouble started in March 2020 in the Treasury market, supposedly the safest of all asset markets.

Analysts had long warned of Treasury market fragility and pointed to the failings of Dodd-Frank rules behind that fragility. In September 2019, overnight money market rates suddenly doubled from 2.5% to 5%. Cash withdrawals related to corporate tax payment and treasury debt auction settlement have been named as sources of the sudden demand for cash, but big banks should jump on such an investment opportunity and provide needed funds. Under the post-2008 rules, they were constrained from this normal function. The Fed immediately responded by consecutive overnight repurchase operations of $75 billion to increase cash in the system. In October, the Fed announced the decision to purchase Treasury bills at a steady pace through the second quarter of 2020 and extended overnight and term repo operations.

The Fed intervention in Treasury markets starting in March 2020 was much larger. In previous crises such as 2008, large and foreign investors "flew to safety" and bought Treasurys. This time they flew to cash and sold Treasurys. All treasury trading funnels through a few broker-dealer banks, who allocate only so much regulatory liquidity and capital to treasury buying and selling. Despite attractive spreads, they could not handle the volume of

trading. Prices fell, interest rates rose, and times required to sell securities rose. The Fed deemed this outcome unacceptable, and stepped in.[8]
Duffie describes some of the market turbulence:

> In the US Treasury market, dealers' gross bond inventories and daily purchases of bonds from customers surged to over ten times their 2017-2022 medians. . . . customers of dealers faced bid-offer spreads reaching more than ten times normal and interdealer market depth nearly disappeared at some points. . . . settlement failures soared. [9]

Duffie describes the response:

> The Fed responded by offering virtually unlimited Treasury financing to dealers and by purchasing nearly a trillion dollars of Treasury securities from them over the next three weeks, among other major actions.[10]

In other words, the Fed lent dealers the money to buy Treasurys, and then turned around and bought the Treasurys from the dealers a few days later.

This was not a dealer bank bailout. Dealer banks were making big profits on this trading, buying low and selling high a few days later. They just were unwilling or unable to expand their trading activity under existing capital and liquidity rules. The Fed was unwilling to accept market interest rates rising by up to a percent and the kinds of trading difficulties and profits that attract additional intermediation capital, though not immediately. It is part of a larger pattern, echoed by the European Central Bank (ECB), of declaring bond prices lower than the central bank likes as signs of "dysfunctional" or "fragmented" markets, and stepping in with huge purchases.[11] Bond owners and bond sellers got the bailout, as well as the government which got to borrow at lower rates.

The Fed continued to buy huge amounts of Treasury securities, in exchange for newly created reserves, eventually monetizing about $3 trillion of the $5 trillion new issues of the pandemic. This enormous intervention surely cannot represent fear of continued "dysfunction," as the panic selling quickly stopped. Indeed, the major seller was quickly not large financial institutions, but the federal government itself, issuing unprecedented amounts of new debt to support pandemic spending. If there is "dysfunction" here, it is the beginning of a limited appetite for Treasury debt. We read the continued purchases

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[8] *See* Darrell Duffie et. al., *Dealer Capacity and U.S. Treasury Market Functionality*, FED. RSRV. BANK OF N.Y. (2023), https://www.newyorkfed.org/medialibrary/media/research/staff_reports/sr1070.pdf?sc_lang=en.

[9] Darrell Duffie, *Resilience Redux in the U.S. Treasury Market*, at 3, FED. RSRV. BANK OF KAN. (2023), https://www.kansascityfed.org/Jackson%20Hole/documents/9726/JH_Paper_Duffie.pdf.

[10] *Id.*

[11] Comm. Global Fin. Sys., *Central Bank Asset Purchases in Response to the Covid-19 Crisis*, CGFS Papers 68 (Mar. 2023), https://www.bis.org/publ/cgfs68.pdf.

as simple monetization, common in wars and other crises, The government wishes to spend an additional $5 trillion. The central bank buys debt to hold down the government's interest costs.

Whatever the ultimate motivation, the Fed purchased $3 trillion of Treasury securities,[12] with a clear proximate motive to keep up bond prices and down rates.

Money market funds ran in to trouble. People started to withdraw money from money market funds, and the funds were having trouble selling assets fast enough to meet redemptions. The Fed stepped in by initiating the Money Market Mutual Fund Liquidity Facility (MMLF) on March 18, 2020.[13] In this program, the Fed lent money to financial institutions which were willing to buy securities from money market funds, and allowed those borrowers to use the same securities as collateral for the loans.[14] Lending at rates not available on the market and taking as collateral unsellable securities are a transfer, though less obvious than straight out asset purchases.

Fixing a money market run is pretty simple. Money market funds promise a fixed value (one dollar per share) and daily, if not faster access, like bank deposits. They back these promises with short-term liquid securities, unlike banks who back promises with long-term loans and equity. Equity backstops—the fund gets some of its money by issuing equity, or has a sponsor willing to cover shortfalls—"breaking the buck" to trade shares at the actual value of underlying assets, allowing secondary trading of money market fund shares, redemption gates, and other simple reforms can easily make money market funds run-proof. There had been a money-market fund run in 2008, with a similar bailout. The Dodd-Frank reforms were supposed to fix money market runs. They failed.

From March 6 to March 20, 2020, corporate bond prices fell sharply, much more indeed than Treasury prices. The Moody's AAA index rose from 2.36% to 4.12%, and BAA from 3.29% to 5.15%, while the 10-year Treasury rate only rose from 0.54% on March 9 to 1.18% on March 18. The Fed swiftly announced purchase programs for corporate debt, the Primary[15] and Secondary[16] Market Corporate Credit Facilities, put in place March 22, 2020. The primary facility was designed to make it easier for corporations to issue new debt, much as the Fed did for Treasury and State and Local government debt described next. In the Secondary Market Facility, the Fed bought bonds that were already issued before the pandemic, along with exchange-traded bond funds. The objective was simply to prop up bond prices. The Fed did not

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[12] Kate Duguid, *Federal Reserve's $3 Trillion Virus Rescue Inflates Market Bubbles*, Reuters (July 13, 2020), https://www.reuters.com/article/idUSKCN24E13E.

[13] *Money Market Mutual Fund Liquidity Facility*, BD. GOVS. OF THE FED. RSRV. SYS., https://www.federalreserve.gov/monetarypolicy/mmlf.htm (last visited Apr. 1, 2024).

[14] *Id.*

[15] *Primary Market Corporate Credit Facility*, BD. GOVS. OF THE FED. RSRV. SYS., https://www.federalreserve.gov/monetarypolicy/pmccf.htm (last visited Apr. 1, 2024).

[16] *Secondary Market Corporate Credit Facility*, BD. GOVS. OF THE FED. RSRV. SYS., https://www.federalreserve.gov/monetarypolicy/smccf.htm (last visited Apr. 1, 2024).

announce a price target, but unlike previous quantitative easing, it did not announce a quantity limit either. Wall Street widely interpreted the program exactly as price support—the Fed would buy "whatever it takes," in Mario Draghi's famous words, to keep corporate bond prices from falling. The Fed announced that it would only buy investment grade bonds, including "fallen angels," downgraded bonds that were formerly investment grade. The widening spread between non-investment grade and eligible investment-grade debt testifies to the effectiveness of the Fed put. As with Draghi's first intervention, words were enough and prices stayed high without huge purchases. The ECB's later experience cautions us that next time the Fed might actually have to buy large quantities to keep prices from falling.

The Fed has long been accused of offering an implicit stock market "put" option—lowering short term interest rates to keep stock prices from falling. Most recently, in December 2018 the Fed halted its interest rate tightening, perceived to be in response to a tanking stock market. The Fed has bought set quantities of securities, including Treasury debt, mortgage-backed securities, and "toxic assets," with an explicit goal of raising their market prices. But the Fed has never come so close to offering an explicit put option, by which it buys whatever quantity of specific securities it takes to keep prices at a desired level.

Overall, the Fed and its sister central banks have crossed a second Rubicon. They once set a short-term rate, such as the US Federal Funds rate, and let other market prices adjust freely. This limitation on their powers, like the limitation to only pay attention to their price stability and employment mandates, was seen as a price of independence. Central banks now broadly interfere directly and widely in asset prices. The quantitative easing programs of the US Fed and most other central banks aim to raise the prices of long-term Treasury bonds and mortgage-backed securities. The Japanese central bank has been buying stocks since 2010 and long-term bonds under the Quantitative and Qualitative Easing (QQE) program since 2013.[17] It has set an explicit price target for long-term bond yields. In addition to broad-based quantitative easing, the ECB buys sovereign debt, and especially that of Italy, Spain, and Greece with sovereign debt problems, starting with the Public Sector Purchase Program (PSPP).[18] The ECB deliberately suppresses sovereign interest spreads, and has ended up with large portfolios of troubled sovereign debts. The ECB also buys "green bonds'' to raise their prices.[19]

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[17] Kimie Harada & Tatsuyoshi Okimoto, *The BOJ's ETF Purchases and Its Effects on Nikkea 225 Stocks*, 77 INT'L REV. FIN. ANALYSIS (June 22, 2021), https://www.sciencedirect.com/science/article/pii/S1057521921001605.

[18] *See* JOHN COCHRANE, ET. AL., REFORMING THE EURO: LESSONS FROM FOUR CRISES (2024).

[19] The term "green bond" refers to debt securities issued by companies that meet certain environmental criteria. *ECB's Green Bonds Buying to Boost Eligible Issuers' Liquidity*, FITCHRATINGS (July 9, 2020), https://www.fitchratings.com/research/banks/ecb-green-bonds-buying-to-boost-eligible-issuers-liquidity-09-07-2020.

Attempting to raise asset prices to float the balance sheets of troubled financial institutions, forestall their failure, and stop a run of their creditors, has a long history (a history of bad ideas, to us, but a history nonetheless). For example, the original 2007 Troubled Asset Relief Program (TARP) enabled the US government to purchase "toxic" mortgage-backed securities to raise market prices of those securities and make banks that held them seem solvent.[20] The TARP ended up being used in other ways, perhaps recognizing the impracticality of the project, but the idea was there nonetheless.

The current motivation for price intervention has now expanded far beyond stemming runs and crises at financial institutions. Apparently, asking holders of long-term corporate bonds to sit through a transitory mark-to-market loss on the value of their portfolios is now a "systemic risk." Words like market "fragmentation" and "dysfunction" are used, especially at the ECB, to justify these price interventions. But if they mean anything, those are short-term effects. If they mean anything, at some point someone should ask why markets are perpetually "fragmented" or "dysfunctional," and why so little capital and liquidity is available to take advantage of occasional enormously profitable trading opportunities.

Over the summer of 2020, state, county, and city governments were having trouble borrowing. The Fed created the Municipal Liquidity Facility,[21] and bought newly-issued debt directly from state and local governments, in return for newly-created money. Ultimately, two borrowers—the State of Illinois and the New York Metropolitan Transit Authority (MTA)—borrowed $1.65 billion.[22]

Buying new debt directly from governments, in return for newly-created money, is an obvious temptation to inflationary finance via artificially high prices and low interest rates on the debt. Law and tradition have long kept the Fed from such direct purchases. Instead, issuers must face market prices, and the Fed must also buy on the market. When, as in the 2020 treasury markets, the Fed lends money to dealers to buy newly issued debt, and then buys most of the debt from the dealers a few days later, that separation is a bit of a fig leaf, but it is still a fig leaf. The fig leaf dropped.

The Treasury and Municipal lending programs broke new ground in another way. Traditionally, the Fed concerned itself with market prices of existing securities, and confined its operations to banks. It did not print money and lend it directly, financing new borrowing by people, governments, and businesses in the real economy. The Fed held to legal limits, by setting up Special Purpose Vehicles together with the Treasury, and lending to those

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[20] *See generally Troubled Asset Relief Program: Lifetime Cost*, GOV'T ACCOUNTABILITY OFF. (Dec. 2023), https://www.gao.gov/assets/870/864482.pdf.

[21] *Municipal Liquidity Facility*, BD. GOVS. OF THE FED. RSRV. SYS., https://www.federalreserve.gov/monetarypolicy/muni.htm (last visited Apr. 1, 2024).

[22] Emily Munson, *$500 Billion Loan Fun for State Governments Barely Tapped*, MIDDLETOWN PRESS (Sept. 17, 2020), https://www.middletownpress.com/middletown/article/500-billion-loan-fund-for-state-governments-15576224.php.

vehicles, which then lent the money out. The government as a whole orchestrated the bailout.

That economic function expanded rapidly in a massive flow of government money to people and businesses, directly from the Treasury as well as via Fed programs. The "paycheck protection" program made forgivable loans to small businesses with 500 or fewer employees to cover their business costs, including mortgage interests, rent, utilities, and up to 8 weeks' payroll costs.[23] Other businesses got a generous "employee retention" tax credit.[24] Airlines were bailed out.[25] Individuals received various benefits such as "stimulus" checks, mortgage and student loan forbearance, generous and extended unemployment benefits, and extended Medicaid qualification.[26]

Perhaps sensitive to the charge in the 2008 crisis that the Fed saved "Wall Street but not Main Street," the Fed set up a "Main Street Lending Program"[27] in order to "support lending to small and medium-sized for profit businesses and nonprofit organizations."[28] "Loans issued under the Program have a five year maturity, deferral of principal payments for two years, and deferral of interest payments for one year."[29]

Overall, during the pandemic, the Fed created six such special purpose vehicles. In this way, the Fed lent on lenient terms to the real economy, not just the financial sector. Treasury programs added more support, both lending, forgivable loans, and transfers.[30]

This effort represented another large and unheralded loosening of our bailout regime. Previously bailouts focused on the financial system, and on preventing "crises," understood fairly narrowly as systemic runs at financial companies. The rationale for bailing out banks is that the interruption of banking business during widespread bankruptcy reorganizations will stop the flow of credit to the rest of the economy. Now, the large pandemic-era loans and payments in part represent support of the financial system. Giving people and businesses money allows them to pay loans on which they otherwise would have defaulted. The banks in the end got a lot of money, and bank creditors were again protected. But bailouts now extend much further than banks or even financial institutions, and their motivation is clearly to provide

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23 *What is the CARES Act?*, INVESTOPEDIA (Oct. 18, 2023), https://www.investopedia.com/coronavirus-aid-relief-and-economic-security-cares-act-4800707.

24 *Id.*

25 *Id.*

26 *Id.*

27 *Main Street Lending Program*, BD. GOVS. OF THE FED. RSRV. SYS., https://www.federalreserve.gov/monetarypolicy/mainstreetlending.htm (last visited Apr. 1, 2024).

28 *Id.*

29 *Id.*

30 Alicia Parlapiano, *Where $5 Trillion in Pandemic Stimulus Money Went*, N.Y. TIMES, (Mar. 11, 2022), https://www.nytimes.com/interactive/2022/03/11/us/how-covid-stimulus-money-was-spent.html; *see also Covid-19 Relief: Funding and Spending as of Jan. 31, 2023*, GOV'T ACCOUNTABILITY OFF. (Feb. 28, 2023), https://www.gao.gov/products/gao-23-106647.

direct support to people and businesses, in part forestalling bankruptcy reorganization, but not narrowly targeted even at that aim.

Throughout the economy leverage was rewarded and creditors protected. If you saved and bought a house with cash, if you saved and went to a cheaper college rather than take out a big student loan, or if you repaid that loan promptly, you did not get money. Airlines needed a bailout to avoid (another) bankruptcy because they had chosen debt-heavy financing rather than issue stock or retain earnings.

The consequent moral hazard now extends throughout the economy. Borrow. Borrow especially if you are big or part of a big and politically influential class of borrowers. As with student loans, borrow from the government. There is a good chance you will not have to pay it back.

One limitation is important: Most of the Fed's activity was conducted under its emergency powers, and did not turn in to permanent financing. Thus, the concern remains moral hazard during emergencies, not, yet, a permanent central bank-based credit system.

To be clear, our point is not to blame the Fed or the Treasury for these actions. There are no atheists in foxholes. A crisis is a terrible time to worry about moral hazard. In retrospect, some of the interventions, especially direct fiscal transfers, might have been overdone, but our central point is not centrally to call for restraint during a crisis. If a systemic run threatens, one has to bail out creditors. Bagehot's dictum calls for central banks to lend freely in a crisis, though the addenda of lending freely only at a penalty rate and only against good collateral are no longer followed.

Our complaint is that, despite the promises of Dodd-Frank, the system proved so fragile, so leveraged, so run-prone, so poor of available cash and liquidity, that the Fed and Treasury felt they had to take these actions again, and indeed to greatly expand the scope of bailouts.

Our complaint, also, is that while in 2008-2009 leaders at the Fed, Treasury, Financial regulators, and Congress had the decency to acknowledge something was wrong and needed fixing, nobody in a position of responsibility has acknowledged that anything is wrong with any of this, or that these actions build up a powder keg of moral hazard for the next time. They just pat themselves on the back for saving the world with a river of money, move on, and nobody has any concern that the same fragilities remain, are larger, and that the bailout will also have to be larger next time.

POST-COVID BAILOUTS

Covid was the first shock. Rising interest rates to contain the inflation induced by the Covid fiscal blowout provided the second shock.[31] The failure

[31] On the fiscal roots of the 2021-2023 inflation, see JOHN COCHRANE, THE FISCAL THEORY OF PRICE LEVEL (2023); John H. Cochrane, *Fiscal Narratives for US Inflation*, GRUMPY ECON. (Jan. 4. 2024), https://www.grumpy-economist.com/p/fiscal-narratives-for-us-inflation.

of the basic regulatory regime—bailouts plus regulatory risk management—is even more evident in this case.

The failures of Silicon Valley, Signature, and First Republic banks in early 2023 are the most salient events. Inflation started to surge in February 2021. In the second quarter of 2022, PCE deflator inflation, the Fed's favorite measure, reached 6.8%. The Fed so far had not budged interest rates above essentially zero, a slower reaction to inflation than even in the 1970s. The possibility that interest rates might rise seems at least like a risk one ought to consider. Rise they did. Starting with a 0.25% rise in late March 2022, the Federal Funds rate rose slowly to 4.33% by January 2023, eventually rising to 5.33% by August 2023.

Meanwhile, Silicon Valley Bank took in a large amount of uninsured large deposits. It turned around and invested that money in long-term treasury and guaranteed agency securities, betting that short-term rates would not rise. No subprime mortgages, no CLOs, no toxic derivatives, no hard-to-understand special vehicles. Its only risk was that higher interest rates would lower the market value of its assets and raise the rate it would have to pay on its borrowing, a risk understood at least since the 1700s. Interest rates rose, the market value of assets plunged. Large depositors ran quickly, a fact made easier by social media and electronic banking.

The Federal Deposit Insurance Corporation (FDIC) reacted by guaranteeing all deposits, of any size.[32] This is not official going forward, but there is no action to even promise "never again," so effectively markets expect all deposits of any size to be guaranteed going forward, at least during any newsworthy event. The cycle of guaranteeing more debts in each crisis continues, though so far without the decency of an investigation what went wrong and promise to do anything about the moral hazard. Via a new Bank Term Funding Program,[33] the Fed provided one-year loans to banks secured by U.S. Treasury securities, *valued at par,* not at lower market values. One year later, the Wall Street Journal reported, "banks are gaming it" to make near-arbitrage profits.[34] The government orchestrated the big banks to make large deposits to First Republic to prop it up, an interesting observation on its power to force too-big-to-fail banks to make bad investments.

The runs caused headlines, but the risk-management failure is widespread. Jiang, Matvos, Piskorski, and Seru estimate that a large fraction of commercial banks lost nearly all the market value of their equity due to

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[32] Press Release, Fed. Rsrv., Joint Statement by Treasury, Federal Reserve, and FDIC (Mar. 12, 2023), https://www.federalreserve.gov/newsevents/pressreleases/monetary20230312b.htm.

[33] Press Release, Fed. Rsrv., Federal Reserve Board Announces It Will Make Available Additional Funding to Eligible Depository Institutions to Help Assure Banks Have the Ability to Meet the Needs of All Their Depositors (Mar. 12, 2023), https://www.federalreserve.gov/newsevents/pressreleases/monetary20230312a.htm.

[34] David Benoit & Eric Wallerstein, *The Fed Launched a Bank Rescue Program Last Year. Now, Banks Are Gaming It.*, WALL ST. J. (Jan. 10, 2024), https://www.wsj.com/finance/banking/the-fed-launched-a-bank-rescue-program-last-year-now-banks-are-gaming-it-43e9cee3.

interest rate risk.[35] Hedging interest rate risk via swaps is kindergarten banking, but very few banks did any such hedging. They were consciously betting on further rate declines, and salvation in case of trouble.

Where were the regulators? With hundreds of thousands of Dodd-Frank rules, with layers of federal and state regulators, how could a regulatory architecture that promises to monitor and contain risk miss such simple maturity mismatch?

One answer is subtle. Banks are allowed to value long-term assets at book value, in "hold to maturity" accounting. There is no current rule connecting large uninsured run-prone deposits to interest rate risk in hold-to-maturity assets. As simple, glaring and obvious as the hole in SVB's balance sheet is, there actually was no rule against it.

Rules have a paradoxical flaw. Suppose a regulator were to say "I took the first week of undergraduate banking. I see old fashioned interest rate risk on your balance sheet. Interest rates could rise, the value of your assets could fall, and uninsured depositors could run. Do something about it." The bank has a plausible response: "We ticked all the boxes, complied with all the rules, get out of my office." Lehman brothers had all required regulatory capital the day it went under.

That story however was not the case. SVB's regulators were aware of the problem, and had been aware for months. But they took no decisive action. At the time of SVB's failure in March 2023, supervisors were still drafting an enforcement action, the Memorandum of Understanding against the bank stemming from deficiencies identified over seven months prior.[36]

Higher-level regulators do seem to have been oblivious to the elephant in the room. While the monetary policy arm of the Fed was loudly saying that interest rates were going to go up, and while six percent inflation against zero percent interest rates made that event more and more likely, the Fed's own stress tests in Fall 2022 asked banks only to evaluate their risks in a scenario of falling interest rates and recession, i.e., what if 2008 happens again. Stress test scenarios are discretionary and not bound by rules. The generals preparing for the last war analogy is apt. The left hand apparently does not talk to the right hand. Indeed, much opinion in and around the Fed seems to think that separating monetary policy from financial regulation is a good thing.

There are reasons that the SVB run was a bit of a surprise. Statistical risk modeling suggested that deposits are "sticky," that people will keep money deposited at banks, not even demanding higher interest rates in an environment of rising rates and falling asset values, let alone run based on

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[35] Erica Xuewei Jiang, et. al., *Monetary Tightening and U.S. Bank Fragility in 2023: Mark-to-Market Losses and Uninsured Depositor Runs?* (Nat'l Bureau of Econ. Rsch., Working Paper No. w31048, 2023), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4387676.

[36] Michael Barr, *Review of the Federal Reserve's Supervision and Regulation of Silicon Valley Bank,* BD. GOVS. OF THE FED. RSRV. SYS., at 8 (Apr. 28, 2023), https://www.federalreserve.gov/publications/review-of-the-federal-reserves-supervision-and-regulation-of-silicon-valley-bank.htm.

accounting numbers that few depositors pay attention to. Banks did not routinely hedge interest rate risk and were allowed by regulators to value long-term bonds at fictitious prices, in large part based on this experience. If that statistical habit persisted, then deposits would act like low-interest long-term debt, and banks would not in fact be exposed to interest-rate risk. Moreover, runs used to take time, as people lined up at the bank, Jimmy Stuart style. Few regulators or bankers realized that social media and electronic banking could change all that. And SVB and the others were unusual in relying on large uninsured deposits, where the statistical experience of "sticky" deposits came from small insured deposits. Beware applying statistical models outside their domain.

Still, it is not as if this event was unique in history. Continental Illinois had a run of uninsured deposits in 1984.[37] The Savings and Loan fiasco of the 1980s, together with the flight of deposits from banks to money market funds, which undermined the previous regulatory architecture, was sparked by the last large rise in interest rates in response to inflation.[38] Statistical risk modeling fell apart in 2008. This is not ancient history. Institutional memory ought to last this long.

The April 28, 2023, report and letter from Fed Vice Chair Michael Barr recognizes that "Federal Reserve supervisors failed to take forceful enough action" and, commendably, that "strong bank capital matters," but the 98 page report doesn't really come to firm conclusions, especially given the simple and transparent nature of SVB's failure.[39] In January 2024, the Comptroller of the Currency, Michael Hsu, was reportedly readying a proposal for the next obvious step in the regulate, fail, and regulate some more dance: Add rules.[40] Recognizing that uninsured deposits can flee faster than previous rules envisioned, one is sympathetic, but shouldn't this elephant in the room have been visible ahead of time? Is this 100,001th rule going to finally stop the dance? Hsu also proposes more widespread discount window borrowing, a useful improvement in general.

The hard lesson is that, despite thousands of well-trained economists, a regulatory machine cannot think out of the box, to the point of recognizing that statistical correlations can fall quickly to a tide of elementary rational behavior. The machine cannot remember and apply very simple lessons of

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37 Lee Davison, *Chapter 7: Continental Illinois and "Too Big to Fail"*, *in* FED. DEPOSIT INS. CORP., HISTORY OF THE EIGHTIES: LESSONS FOR THE FUTURE. VOL. 1, AN EXAMINATION OF THE BANKING CRISES OF THE 1980S AND EARLY 1990S 235–58, https://www.fdic.gov/bank/historical/history/235_258.pdf.

38 *Savings and Loan Crisis*, FED. RSRV. HISTORY, https://www.federalreservehistory.org/essays/savings-and-loan-crisis (last visited Apr. 1, 2024).

39 Barr, *supra* note 36.

40 Gina Heeb, *'The Bank Runs are Faster Now': Regulator Calls for Stricter Rules on Flighty Deposits*, WALL ST. J. (Jan. 18, 2023), https://www.wsj.com/livecoverage/stock-market-today-dow-jones-earnings-01-18-2024/card/exclusive-top-bank-regulator-to-call-for-new-liquidity-rules-4ZfWN1jwTYcB7hUxrTa6.

first-week banking classes and a slightly longer historical experience. Graham Allison's lesson that you can't ask bureaucracies to think or execute anything novel rings true.[41]

Our point is not the failure of people, who could do better from simply yelling a bit louder, but the essential failure of a regulatory architecture, which simply cannot do the tasks we wish it to do, no matter how good the people involved or how much one tries to expand the regulatory rule book to cover every possible contingency.

UK regulators failed to recognize plain vanilla interest rate risk in a similar manner.[42] In September 2022, UK pension funds melted down. UK pension funds are required to hold long-term securities, usually long-term government bonds, to match their long-term liabilities. That requirement was a useful innovation. Believing long rates would stay above short rates and all rates would fall, many of the pension funds doubled up, borrowing short term to hold even more long-term bonds. For many years, this strategy was profitable as interest rates continued to decline, and allowed the funds to make up some of their under-funding. But if any financial company is making a lot of money, wise regulators should be alerted that risk taking rather than genius is usually involved, and that risk can turn around. That is an uncommon attitude.

When interest rates finally rose in 2022, the pension funds suffered huge losses. An apparently small rise from 1% to 2% on a long-term interest rate can imply 30% or more decline in value. Moreover, the pension funds had to post collateral against their borrowing. They tried to bail out of positions to raise cash and prevent more losses, selling long-term securities en masse, further driving down prices and up rates. Observers were treated to the interesting combination of quantitative tightening—the Bank of England selling long-term bonds for inflation control—together with quantitative easing—buying long-term bonds for financial "stability" control, i.e., to prop up the value of long-term bonds and hence pension fund portfolios.

This event should have been even easier to foresee, as it did not involve any mystery about when depositors might run. Making a big bet and selling in a panic to make margin calls when prices go the other way is as old a way to fail as financial markets.

In March 2023, Credit Suisse was in danger. After years of trouble, big depositors were leaving. Finally, the event we've been waiting for since 2008 came about. A big bank was teetering. There was a chance to use all the post-crisis big-bank reforms. No. Instead, the Swiss government orchestrated a weekend sale to UBS, with a substantial infusion of Swiss government money. This was the standard pre-Lehman, pre-Dodd-Frank, pre-Basel procedure, for example with Bear Stearns. What happened to no more too big to

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41 GRAHAM T ALLISON, ESSENCE OF DECISION; EXPLAINING THE CUBAN MISSILE CRISIS (1971).

42 *See* Ketan B. Patel & Santiago I Sordo Palacios, *UK Pension Market Stress in 2022—Why It Happened and Implications for the U.S. Chicago*, FED. RSRV. BANK OF CHI. (June 2023), https://www.chicagofed.org/publications/chicago-fed-letter/2023/480.

fail, creditor bail-ins, living wills, orderly resolution, orderly restructuring in which equity loses before convertible debt is triggered? What happened to the central promise of big bank financial regulation? Evidently, the Swiss authorities felt that the whole machine was unworkable.

Lengwiler and Weder di Mauro report that Swiss authorities considered several options:

> 1. A resolution of Credit Suisse, declaring the point of non-viability and triggering the bail-in and conversion of bail-inable bonds (about CHF 48 billion). This would have followed the script of the resolution plan.
>
> 2. A temporary public sector ownership. This is not foreseen in the Swiss TBTF regime and would have required emergency law.
>
> 3. A merger of Credit Suisse with UBS.[43]

In the end, the merger was considered the least risky option.

The merger came with substantial public sweeteners, and bailouts of some creditors but not others:

> UBS offered $3 billion to acquire Credit Suisse with additional public support. Credit Suisse's AT1 bonds (CHF 16 billion) were wiped out, since they contained a clause which allowed for a full write-down if public support was provided. . . .
>
> The public support package consisted of liquidity assistance totalling CHF 250 billion from the SNB. CHF 100 billion was backed by a federal default guarantee. . . .
>
> the federal government [also] assumed a loss guarantee capped at CHF 9 billion.[44]

After the fact the government "earned about CHF 200 million" on the guarantee, but making money ex-post does not mean expensive risk was not assumed ex-ante.[45]

Noteworthily, "Credit Suisse… comfortably [met] all regulatory capital and liquidity requirements,"[46] just as Lehman Brothers did. So much for those thousands of pages, too. Again, the regulatory apparatus is apparently unable to signal trouble let alone to prevent it.

This is a stunning event. All the architecture that promised an end to too big to fail—too big for equity holders even to be wiped out, too big for regular precedents of creditors, too big for resolution—is apparently useless. The choice is especially noteworthy since Credit Suisse was clearly an

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[43] Yvan Lengwiler & Beatrice Weder Di Mauro, *Global Lessons from the Demise of Credit Suisse,* VOX EU CEPR (Sept. 4, 2023), https://cepr.org/voxeu/columns/global-lessons-demise-credit-suisse.

[44] *Id.*

[45] *Id.*

[46] *Id.*

isolated event with unique problems. Unlike the case in 2008, nobody suspected its problems extended to other banks. There was no systemic run, no cascade of other banks likely to fail, no "contagion," no likelihood of a systemic run should resolution plans be practiced.

Lengwiler and Weder di Mauro opine that, "the fact that the restructuring option was not chosen in the case of Credit Suisse does not mean that resolution planning had failed. In fact, the authorities emphasize that the bail-in would in principle have been possible."[47] Further, they opined that, "*The main lesson is that the TBTF regime is not broken*."[48]

An expert group containing both Lengwiler and Di Mauro further noted that, in their view, the Swiss government chose a sweetened merger as it "entailed fewer execution risks."[49] Well, yes, but that's the whole issue, no? If after 15 years, with lots of warning, an isolated bank can't be resolved according to plan because of "execution risks," the whole plan is pretty rotten.

We come to the opposite conclusion, the same as many Dodd-Frank/Basel critics including ourselves had at the outset. This plan will never be used.

Lengwiler and Weder di Mauro note a minor paradox, there is only one large Swiss bank left, so the merger option is now off the table "if ever UBS was in an existential crisis." Good luck.

Many US banks are, as of January 2024, in an "extend and pretend" regime. They are sitting on unrealized commercial real estate (CRE) losses as well as unrealized losses in long-term bond portfolios.[50] The Fed's November 2023 Supervision Report indicates that supervisors are monitoring CRE exposures: "Recent efforts include a horizontal review to address exposures to potential deterioration in CRE markets. Supervisors are centering the review on evaluating credit risk monitoring and measurement, internal loan risk rating accuracy, steps taken to mitigate the risk of losses on CRE loans, and CRE risk reporting to firms' boards of directors and senior management."[51] However, supervisors have not historically responded quickly to bank risk-management deficiencies.

The Federal Home Loan Bank (FHLB), a government-sponsored entity created to support the housing market during the Great Depression, is now a

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47 *Id.* For a view of potential reforms to the Swiss TBTF system, see Yvan Lengwiler, et. al., *The Need for Reform After the Demise of Credit Suisse*, RPT. OF THE EXPERT GRP. ON BANKING STABILITY (Sept. 1, 2023), https://too-big-to-fail.ch/en_US/report.

48 Lengwiler & Di Mauro, *supra* note 43 (emphasis in original).

49 Lengwiler, et. al., *supra* note 47, at 18.

50 Erica Xuewei Jiang, et. al., *Monetary Tightening, Commercial Real Estate Distress, and US Bank Fragility* (Nat'l Bureau of Econ. Rsch., Working Paper No. w 31970, 2023), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4413799.

51 *Supervision and Regulation Report*, BD. GOVS. OF THE FED. RSRV. SYS. (Nov. 2023), https://www.federalreserve.gov/publications/files/202311-supervision-and-regulation-report.pdf.

source of subsidized loans for all banks.[52] As deposits fled the banking system in end March 2023, the FHLB extended more than $800 billion in loans to banks in the second quarter of 2023 alone.[53] Whether these loans from what is clearly another "lender of last resort" were made to insolvent banks remains unknown. That Silicon Valley Bank borrowed heavily from FHLB in the days before its failure—i.e., when it was clearly insolvent—does not lend a lot of confidence that banks being supported are plausibly solvent rather than zombies, as lender-of-last-resort doctrine requires.[54]

SYSTEMIC FAILURES AND SYSTEMIC REPAIR

Our Fed, and financial regulatory architecture in general, has suffered a massive institutional failure. The central promise of the Dodd-Frank regulatory expansion is shown to be empty. The 2020 bailouts were larger than 2008, both in dollars and in scope. Expansion plans, such as the "macro-prudential" project that central banks would artfully spot and counter the "credit cycle" by tightening regulations on the upside and loosening on the downside, unlike the universal contrary historical habit, should seem utterly fanciful.

By "institutional" we explicitly do not place blame on individuals. The people are smart, knowledgeable, and well-meaning. The system is broken.

After major institutional failures, there is usually a period of soul searching, an inquest, at least a research project devoted to what went wrong and how can we fix it, a concerted attempt to understand the pervasive moral hazard that bailouts have engendered and how, finally, to contain it. Astonishingly, nothing of the sort is happening regarding the 2020 bailouts. The SVB and Credit Suisse failures seem destined to produce only a little muttering and an expansion of the rule book, but no mention of moral hazard repair. If nothing else, we hope to spark that conversation.

The natural response will be to add more rules and regulators. But this was not a case of ever more complex, devious, or unexpected structures failing. Even the simplest markets and institutions—the treasury market, money market funds, interest rate risks—failed. That failure says clearly, we do not need another hundred thousand rules.

Instead, the central approach of allowing a fragile and highly leveraged financial system, providing bailouts that incentivize that fragility, but counting on regulators to spot and contain risk is fundamentally doomed. If the

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52 *See generally Federal Home Loan Banking System*, FED. DEPOSIT INS. CORP., https://www.fdic.gov/resources/bankers/affordable-mortgage-lending-center/guide/part-3-docs/federal-home-loan-bank-system.pdf (last visited Apr. 1, 2024).

53 *The Role of Federal Home Loan Banks in the Financial System*, CONG. BUDGET OFF. (Mar, 2024), https://www.cbo.gov/publication/60064.

54 *See* Aaron Klein, *SVB's Collapse Exposes the Fed's Massive Failure to See the Bank's Warning Signs*, BROOKINGS (Mar. 16, 2023), https://www.brookings.edu/articles/svbs-collapse-exposes-the-feds-massive-failure-to-see-the-banks-warning-signs.

regulatory system can't see plain vanilla interest rate risk connecting deposits and long-term Treasurys, what hope is there that risk regulators will see the next Credit Suisse—which also met all its regulatory checkboxes?

Why not just give in? The government and the Fed saved the world again with a river of money, apparently easily. Give them a pat on the back, get used to the bailout regime, and wait for them to save the world the same way next time. That's where we're headed, for sure. Why not?

Surely, private gain in good times, taxpayers bear losses in bad times, may offend a bit.

A larger practical problem is that the ever-expanding bailout loop cannot go on. Bailouts require resources. Those resources come from issuing debt or printing money, which ultimately means future taxes or inflation. Everything is finite, including the US government's ability to borrow real resources in a crisis.

We have already seen limited fiscal capacity in the last episode. Investors sold, not bought, Treasurys. Interest rates would have risen a good deal more if the Fed had not monetized much of the debt. Most of all, the bailout and stimulus clearly led to a bout of inflation. Somebody has to pay for the $5 trillion of resources transferred during the pandemic. If it is not future taxpayers, it is the holders of outstanding nominal bonds. Unexpected inflation ate away about 15% of the value of their bonds, the equivalent of a default with a 15% haircut. We have seen the limits of the US borrowing capacity. Those investors might be more leery of holding bonds next time.

In the next crisis, the US fiscal situation and ability to raise immense bailout funds will be further stressed. The CBO's 2023 long-term budget projections show steady 5-8% of GDP primary deficits forever, and exploding debt.[55] And those projections are optimistic. They assume that nothing goes wrong: no crisis, recession, pandemic, war, or spending increase. This debt path simply cannot happen, and a major fiscal reform must take place. In the meantime, however, our government's ability to borrow another $5 trillion, or maybe $10 trillion, which requires persuading investors that this much additional fiscal surplus will eventually be provided to repay debt, is ever more in doubt.

Beyond scheduled and discretionary expenses, our government guarantees a lot of debt. Fannie and Freddie are unreformed, another broken promise of the Dodd-Frank era. Even in 2007, the agencies only bought, guaranteed, and securitized 65% of mortgages.[56] Now, they and other government agencies have a much larger market share.[57] Private securitization is crushed.

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[55] *The 2023 Long – Term Budget Outlook*, CONG. BUDGET OFF. (Jun. 2023), https://www.cbo.gov/publication/59331.

[56] Norbet J. Michel, *Overreliance on Fannie and Freddie Violates Their Federal Charters*, HERITAGE FOUND. (May 12, 2021), https://www.heritage.org/markets-and-finance/commentary/overreliance-fannie-and-freddie-violates-their-federal-charters.

[57] *Fannie Mae & Freddie Mac (GSEs)*, NAT'L ASS'N REALTORS, https://www.nar.realtor/fannie-mae-freddie-mac-gses (last visited Apr. 1, 2024).

Banks and fintech hold little debt on their books, mostly originating mortgages to distribute, with government guarantee. Fannie and Freddie are also lent to mortgage services providers to cover their losses under forbearance in 2020.

In student loans, in mortgage forbearance (CARES act), in rent forbearance, it seems impossible for our democratic government to lend money to its citizens and demand repayment, especially in bad times. But of course bad times are just when money may be tight for the government.

To be concrete, imagine that at some point in the next few years China invades or blockades Taiwan. Pacific trade comes to a halt. Financial sanctions embroil industry. We have a huge financial and economic crisis on our hands. And everyone is, as usual, levered up. The US will respond, as usual, with trillions of bailout, stimulus, and forbearance. The US may want to borrow, say $10 trillion, in addition to rolling over maturing debt, and this time borrowing a lot of money to finance military expenditures as well. Will markets provide that much new saving? Or will this borrowing result in rather instant inflation, rising credit spreads, and will the government be forced to dramatically cut back? Will the financial fire house have burned down? A new pandemic, a middle east war, a nuclear weapon going off somewhere, and many other easily conceivable events could provoke the same crisis. We have once in a century crises every 10 years these days.

Even before the next crisis, central banks may be constrained. Yes, inflation has eased, and interest rates may be heading down. If so, "extend and pretend" may work out, at least for interest rate risk. But inflation may resurge. This could be 1976, not 1982. If so, central banks will be in a quandary. Inflation control requires higher interest rates, but the still-leveraged, still-unhedged financial system may not withstand higher interest rates. Another round of 2020-2021 bailouts, but larger, could well lead to another round of 2021-2023 inflation, but larger, requiring higher interest rates still.

Higher interest rates also raise debt service costs. At 100% debt/GDP, each percentage point higher interest rates is 1% of GDP higher deficit, adding fiscal fuel to the inflation fire. The ECB faces a double challenge: Higher interest rates especially raise debt service costs for perilous sovereigns such as Italy, whose bonds the ECB owns in abundance and whose spreads the ECB is expected to contain in what it regards as a financial stability measure.

Our main concern is incentives. Bailouts stop crises after the fact, and perhaps democratically elected governments can be sufficient stewards of taxpayer money to balance the cost to taxpayers of occasional bailouts. But bailouts, price supports, and other measures give financial market participants incentives to borrow too much, to leave too little cash around, and thus to rely on larger and larger bailouts. We need to constrain those incentives. The regulatory architecture epitomized by the Dodd-Frank and Basel apparatus tried to do so. It failed. We need a substitute, not to just give up.

THE WAY OUT

Fortunately, there is a straightforward way out. We can construct a financial system that is immune from private sector financial crises and hence the need for bailouts. It can be as or more innovative and functional as the current one, giving savers ample returns and borrowers ample access to credit and investment capital. The blueprint has been around[58] since the 1930s. Arguably, modern information, communication, and financial technology makes it even more easily achieved than when first conceived.

First, we must restore clarity on just what "financial stability" means, and what events are, genuinely, in need of a regulatory response. "Financial stability" has come to mean the possibility that someone, somewhere, might lose money, even just on a mark to market basis, that an interest rate might rise, a price might fall. It has come to mean some business somewhere might undergo bankruptcy reorganization, or an individual bank might experience a run.

No. A financial crisis is a systemic run, when people run to get cash out of short-term promises all over the financial system, including healthy institutions, and the capacity of the financial system to function is imperiled. This is what happened in 2008. Other events are not crises.

Likewise, "contagion" has become overused, a dark yet vague fear that somehow any ripple anywhere might bring down the financial system. To laypeople it sounds like a technical term, but it has evolved to no meaning beyond this vaguely stated fear. Contagion requires a mechanism. If there is a run at one bank due to losses in one particular kind of security, other banks with similar exposure might suffer runs. That's a sensible "contagion," though propping up the first bank might do little to stop such a run at the second. But if other banks do not have similar exposures, and that is well known, such "contagion" will not happen. Central bankers spoke of "contagion" from Greece to Italy. Why? Italy did not own any Greek debt. At best we learn from a Greek default whether or not the rest of the EU will bail out Italy, but that is not the usual meaning of the word. We should only use the word "contagion" along with an explicit mechanism.

With this understanding, it is possible to pre-commit against many bailouts.

But other bailouts loom for good reason. Once a run is underway, a creditor bailout is really the only way to stop it, and governments will (and must) stop it. Bailouts are not really bailouts of the bank or other institution in the news, but rather bailouts of their creditors. Short-term creditors are running to get their money out while they can. The government guarantees the value of short-term debts to stop creditors from running. Whether the government props up the market value of failing institutions' assets, buys or

58 We refer to the "Chicago Plan" advocated by a group of economists in the 1930s in various publications.

lends against assets at inflated prices, arranges a sale of the failing institution to a solvent purchaser who will honor debts, with some guarantees and sweeteners, "injects" equity, or directly guarantees liabilities such as deposits, the effect is the same: Short-term creditors get their money back in full and can stop running.

But protection leads to too much risk taking by investors and by bankers. So in our sequence of financial crises, over and over again, authorities bailed out creditors to stop a run and then passed regulations to try to constrain risk taking so another larger crisis would not break out. The Dodd-Frank and Basel approaches were not anything new, they were just the latest in a centuries-long cycle.

Events since 2020 do not break this history by its bailout. They break this history by the unusual lack of any interest in containing moral hazard so the next one is not larger.

How can we escape the treadmill? The ingredients are simple, First, risky financial investing, like risky corporate investing, must be financed by equity and long-term debt which are securities that cannot run. When a stock-financed company loses money, you can't run to get your money out and bankrupt the company when it can't pay you. The price goes down instead. Second, any run-prone securities such as deposits must be fully backed by interest-paying reserves or short-term treasury debt.

Equity-financed banking and narrow deposit-taking (we avoid the word "narrow banking" on purpose) is well described elsewhere,[59] as are clear responses to all the standard objections. No, borrowers will not be starved for credit. They can get as much as now, and at good rates. The converse is one of the most persistent fallacies surrounding equity. Jay Powell himself, said of a two-percentage point capital increase "raising capital requirements also increases the cost of, and reduces access to, credit."[60]

This is simply not true, as Admati and Hellwig and many others have proved time and again.[61] Additional equity has no social cost, and indeed has a social benefit. It carries a big private cost to banks and their current shareholders, which lose too-big-to-fail bailouts and guarantees courtesy of taxpayers. Banks predictably decry any attempt to raise capital, and are persuasive to regulators as well.

A common confusion is revealed when people say banks "hold" capital. Banks "hold" reserves, liquid assets or cash, and those reserves are not lent

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59 *See, e.g.*, ANAT ADMATI & MARTIN HELLWIG, THE BANKERS' NEW CLOTHES: WHAT'S WRONG WITH BANKING AND WHAT TO DO ABOUT IT (2024); John H. Cochrane, *Toward a Run-Free Financial System*, *in* ACROSS THE GREAT DIVIDE: NEW PERSPECTIVES ON THE FINANCIAL CRISIS (Martin Neil Baily & John B. Taylor, eds., 2014), https://www.johnhcochrane.com/research-all/toward-a-run-free-financial-system; Peter DeMarzo, et al., *Resolving the Banking Crisis: A Proposal*, available at https://gsb-faculty.stanford.edu/amit-seru/ (last revised Apr. 12, 2023).

60 Jerome Powell, Joint Press Release, Statement by Chair Jerome H. Powell, BD. GOVS. OF THE FED. RSRV. SYS. (July 27, 2023), https://www.federalreserve.gov/newsevents/pressreleases/powell-statement-20230727.htm.

61 *See generally* ADMATI & HELLWIG, *supra* note 59.

out. Banks issue equity capital, or build up the value of equity capital via retained earnings. Capital is a source of funds, not a use of funds, it's a place banks get money to lend, not a sink for funds that would otherwise be lent.

No, investors will not face an insurmountable rationing of necessary cash. An equity-financed banking and narrow deposit-taking system can provide as much money as people want to hold. And, today, assets that bear some price risk can be just as liquid as money, obviating the need for immense cash holdings. "Narrow deposit takers" are essentially money market funds with enhanced transactions services, a familiar product, not a crazy new idea that opens the door to financial collapse.

We have seen the benefits of an abundant-reserves regime, in which banks no longer scramble to just meet reserve requirements, and in which reserve requirements no longer constrain bank lending and deposit creation. We need a parallel abundant-equity regime. For example, the turbulence in Treasury markets in 2020, in which dealer banks refused arbitrage opportunities, has been chalked up to the fact that they were up against capital budgets, and, crucially, they were not willing to get more capital even to finance arbitrage opportunities. The debt overhang keeping banks right at capital constraints disappears when capital is abundant.

The Federal Reserve and international banking regulators are now finalizing a "Basel III endgame" proposal to strengthen big-bank regulation.[62] It's a large and complex proposal. Most of it is a long addition to the hundreds of thousands of rules we have now, adding to risk assessment rules that just failed so miserably at SVB and Credit Suisse. David Wessel writes perceptively, "The proposal fills 316 pages of small type in the Federal Register . . . Few people besides regulators, executives of banks that would be affected, and their lawyers understand the details."[63]

The headline 16-percent increase in capital sounds like a lot, but 16 percent is only 2 percentage points, since capital is so low already. Abundant capital requires 20 or even 50 percentage points more capital.[64] How much, exactly? So much that the precise number doesn't matter, because banks will never fail.

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62 *See* Joint Press Release Agencies Request Comment on Proposed Rules to Strengthen Capital Requirements for Large Banks, BD. GOVS. OF THE FED. RSRV. SYS. (July 27, 2023), https://www.federalreserve.gov/newsevents/pressreleases/bcreg20230727a.htm.

63 David Wessell, *What is Bank Capital? What is the Basel III Endgame?*, BROOKINGS INST. (Nov. 29, 2023) https://www.brookings.edu/articles/what-is-bank-capital-what-is-the-basel-iii-endgame.

64 There is evidence that banking activities can be accomplished with much higher capital. Erica Xuewei Jiang, et. Al., Banking Without Deposits: Evidence from Shadow Bank Call Reports (Nat'l Bureau of Econ. Rsch., Working Paper No. w 26903, 2020), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3584191. Compare financial leverage of banks with non-banks engaged in similar lending activities. Non-banks operate under a less restrictive regulatory framework but lack access to insured deposit funding. They find that non-banks voluntarily maintain more than twice as high equity capital than banks, with the most significant disparity observed among smaller and mid-size banks that exhibit much higher financial leverage compared to their unregulated counterparts without access to deposit funding.

How do we get there? We need not reform the current giants, or rewrite the current rule book, taking another 15 years (from Dodd-Frank to Basel III). It would suffice to simply get out of the way, to allow equity-financed banking and narrow deposit taking to emerge, with the light regulatory touch such run-free institutions require, and let the flowers bloom. If the market value of equity and long-term debt is more than, say, 80 percent of the value of liabilities, the financial institution needs no asset regulation and can do what it wants, regulated no more than any other company. If a bank instead wishes today's capital structure, it faces today's regulations. A simple regulatory tax on short-term debt financing can also gently provide a nudge.

The Federal Reserve, which has been on a legal warpath against narrow deposit takers, could simply follow its legal mandate and allow them. A gold star for "can't possibly cause a run" would be nice too, instead of the current silly claim that allowing this enhanced form of money market fund would spark runs elsewhere.[65]

Simply allowing equity and long-term debt financed investment companies and narrow deposit takers and transactions service providers to operate would allow them to expand.

The absence of government guarantees would also have a salutary effect on financial stability. Your fire sale is my buying opportunity. There is little incentive now to hold some cash aside, as the Fed will jump in during any bad time and outbid you. When prices can fall without fear of a systemic run, then there will be lots more private capital available to jump in and make sure prices don't fall.

Naturally, it would also be a financial system in which new innovative entrants can come, and old dysfunctional businesses can go.

Standing in the way, of course, is a vast armada of financial institutions that profit from the current game, that have invested hundreds of millions in regulatory compliance/barriers to entry, and that profit from risk taking in good times knowing they will be protected in bad times, along with a lot of obfuscation from financial market analysts.

Also the regulators, whose livelihood depends on deep human capital of the current system, their relationship to a financial industry, and their presumption of technocratic competence to manage even tiny details of the financial system will surely not be pleased at such a fundamental reform. Capture goes both ways. Their ability to tell financial firms where to invest will collapse as well.

But this is politics, not finance. If we could just get to the point of agreeing that there is a problem, that the current system will collapse, that there is a clear solution, and all that stands in the way are vested interests, then we would have made a lot of progress.

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[65] *See* Letter from James McAndrews, CEO of TNB USA Inc., to Jerome Powell, Chairman of the Bd. of Govs. of the Fed. Rsrv. Sys., Appealing Account Application Denial (Feb. 26, 2024), https://www.tnbusa.com/wp-content/uploads/2024/02/TNB-Letter-of-Appeal.pdf.

APPENDIX. A BRIEF HISTORY OF BAILOUTS

Continental Illinois' failure in 1984 spawned the term "too big to fail." The bank lost a lot of money on bad loans and a run developed. The FDIC seized the bank. Notably, the government chose to bail out large uninsured depositors and bondholders, who had no formal ex-ante protection.[66]

In an interesting precedent for 2023, many Savings and Loans failed as interest rates rose in the early 1980s to combat inflation. They had invested in fixed-rate mortgages and other low-yielding assets. Financial innovations, including interest-bearing checking accounts and brokered deposits, along with deliberate regulatory "forbearance" in the hope that S&L could grow out of problems, allowed S&Ls to take on extra risks with guaranteed deposits, and losses grew. From a 1983 estimate that it would take $25 billion to pay the depositors of failed S&Ls, by 1986, almost 1,000 operating S&Ls were insolvent or nearly insolvent and, in the end, according to the Fed it cost about $124 billion to settle all S&Ls in trouble. Congress responded with the Financial Institutions Reform, Recovery and Enforcement Act of 1989. The Federal Home Loan Bank Board was abolished and was replaced by the Office of Thrift Supervision. S&Ls insurance was established under the FDIC. The Resolution Trust Corporation (RTC) was initiated to deal with the remaining problematic S&Ls.[67]

Latin American countries had trouble repaying sovereign debts in the 1980s. US commercial banks holding debt from troubled Latin American countries were allowed to delay the recognition of their losses to maintain solvency or the appearance of solvency, and thus to protect the banks' depositors and creditors. Private lenders in the US to the same countries had to forgive $61 billion of their lending. The US acted as the lender of last resort by organizing a collective rescue among the International Monetary Fund (IMF), central banks, and commercial banks. The IMF agreed to lend to countries in trouble, helping them pay the loans' interest, in return for promises to shift their economies towards free-market policies and cut public expenditures. Even the Fed's official history notes, "allowing those institutions to delay the recognition of losses set a precedent that may have weakened market discipline and encouraged excess risk-taking in subsequent decades."[68]

To deal with the 1997 East Asian crisis, and the danger that banks, which lent to those countries might fail, the IMF, the World Bank, the Asian Development Banks, and several governments offered $118 billion in loans to Thailand, Indonesia, and South Korea. Led by the New York Fed, US

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66 Davison, *supra* note 37, at 235–58.

67 *See Savings and Loan Crisis*, *supra* note 38.

68 *Latin American Debt Crisis of the 1980s*, FED. RSRV. HISTORY, https://www.federalreservehistory.org/essays/latin-american-debt-crisis (last visited Apr. 1, 2024).

commercial banks also agreed to roll over some short-term loans owed by South Korea and restructure them as medium-term loans. The aid included policy conditions for the countries, including decreasing their bank's leverage and tightening fiscal policies. They voluntarily chose much larger foreign exchange reserves and capital controls on the idea that governments should stop "hot money."[69]

In 1998, the hedge fund Long Term Capital Management (LTCM) made a massive loss due to its leveraged holdings of Russian government bonds (GKO), which fell during Russia's financial crisis. Under the New York Fed's leadership, a consortium of 14 firms offered $3.625 billion to take over 90% of the LTCM's ownership to prevent it from failing, which would have spread losses to LTCM's short-term creditors. LTCM was allowed to resume its business under close supervision by the consortium members. Although there was no regulatory response after this crisis, the LTCM reminded us of the danger of high leverage and the fragility of complex risk management models based on historical correlations.[70]

In early 2008, the US government bailed out Bear Sterns to prevent its creditors from losses. The Fed offered $12.9 billion loans to facilitate a merger between Bear Stearns and JPMorgan Chase and $28.82 billion lending to purchase assets from Bear Stearns. In September 2008, the Treasury Department offered almost $200 billion to Fannie Mae and Freddie Mac to keep them solvent. The US government also took temporary control of AIG: the Treasury Department and the Fed offered a $141.8 billion fund in exchange for 92% of the AIG's ownership.[71]

Lehman Brothers' failure in September 2008, after the usual effort to find a buyer with government sweeteners failed, was the exception that proved the rule. After Lehman Bros. failed the Fed and Treasury used TARP authority to "inject" capital into large banks and to buy "toxic assets."[72]

Amid the financial crisis, due to limited access to car loans and decreased car sales, General Motors and Chrysler were in danger of bankruptcy. In December 2008, President Bush initiated a bailout of GM and Chrysler of $17.4 billion, using some funds from the Troubled Asset Relief Program. The Treasury Department also lent to and purchased the GM and Chrysler stocks. The bailout of the auto industry used about $81 million fund and was extended until 2014, imposing about a $10 billion cost to the taxpayers.[73]

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[69] *Asian Financial Crisis*, FED. RSRV. HISTORY, https://www.federalreservehistory.org/essays/asian-financial-crisis (last visited Apr. 1, 2024).

[70] *Near Failure of Long-Term Capital Management*, FED. RSRV. HISTORY, https://www.federalreservehistory.org/essays/ltcm-near-failure (last visited Apr. 1, 2024).

[71] *See generally* W. Scott Frame, et al., *The Rescue of Fannie Mae and Freddie Mac*, 29 J. ECON. PERSPS. 25 (2015).

[72] *Troubled Asset Relief Program*, *supra* note 20.

[73] Andrew Glass, *Bush Bails Out U.S. Automakers, Dec. 19, 2008*, POLITICO (Dec. 19, 2018), https://www.politico.com/story/2018/12/19/bush-bails-out-us-automakers-dec-19-2008-1066932.

In response, the Dodd–Frank Act was passed in 2010, and Financial Stability Oversight Council was established to oversee the financial stability of "too big to fail" firms.[74] The Act also initiated the Consumer Financial Protection Bureau, in part to prevent overly risky mortgage lending.[75] In addition, the act introduced the Volcker Rule to restrict financial firms from risky trading and investment behavior.[76]

74 *See* 12 U.S.C. §§ 5301, 5481-5603; *Financial Stability Oversight Council*, U.S. DEP'T OF TREASURY, https://home.treasury.gov/policy-issues/financial-markets-financial-institutions-and-fiscal-service/fsoc (last visited Apr. 1, 2024).

75 *Introduction to Financial Services: The Consumer Financial Protection Bureau (CFPB)*, CONG. RSCH. SERV. (Jan. 5, 2023), https://sgp.fas.org/crs/misc/IF10031.pdf.

76 *Volker Rule*, BD. GOVS. OF THE FED. RSRV. SYS. (Jan. 30, 2020), https://www.federalreserve.gov/supervisionreg/volcker-rule.htm.