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Financial Regulation: Systemic Risk

February 1, 2022

Congressional Research Service
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R47026

CRS REPORT
Prepared for Members and
Committees of Congress

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SUMMARY

R47026

February 1, 2022

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Financial Regulation: Systemic Risk

The U.S. financial system has experienced two major episodes of financial instability in the 21st century (as well as a few minor incidents)—the 2007-2009 financial crisis and instability surrounding the onset of the COVID-19 pandemic in the spring of 2020. In both cases, the federal government and the Federal Reserve responded by extending, on an overwhelming scale, financial assistance to financial markets and institutions to restore stability. Although the government generally recouped principal and interest on this assistance after markets stabilized, trillions of taxpayer dollars were pledged.

Systemic risk is financial market risk that poses a threat to financial stability. After the financial crisis, systemic risk regulation was a major focus of regulatory reform, notably in the 2010 Dodd-Frank Act (P.L. 111-203). These reforms can be categorized as attempting to improve the monitoring of systemic risk, contain systemic risk (with a focus on issues that had caused systemic risk during the crisis), and alter the standing authority under which agencies could provide assistance during a crisis. To better monitor emerging threats to financial stability, the Dodd-Frank Act created the Financial Stability Oversight Council (FSOC), headed by the Treasury Secretary and composed of all the federal financial regulators and a few other financial officials. FSOC can make nonbinding recommendations to its member agencies and Congress on how to address emerging threats. It can also designate nonbank financial firms as systemically important financial institutions (SIFIs). To address the "too big to fail" issue, large banks and SIFIs are subject to enhanced prudential regulation (heightened safety and soundness standards) by the Federal Reserve.

Arguably, not all of these reforms have worked as intended. Over its lifespan, FSOC has designated three insurance firms and one nonbank lender as SIFIs. All four were later de-designated, one in a court case that the Trump Administration declined to appeal. In 2019, FSOC issued guidance that shifted its focus from SIFI designation and other entity-based regulation to activity-based regulation. Yet FSOC has made few recommendations for activity-based regulation since 2010 and has moved slowly to make and implement recommendations. By contrast, systemic risk can emerge and grow quickly. Recommendations cannot be implemented unless Congress or the relevant agency acts, assuming any agency has the existing authority to address that threat.

The pandemic experience suggests that financial-crisis-related reforms proved successful in preventing the failure of large financial firms that would result in "bailouts" (pandemic "bailouts" were limited to nonfinancial firms) but unsuccessful in creating a more resilient financial system that could withstand sudden shocks without resorting to large-scale government intervention to maintain stability at the first signs of panic. While sectors that saw substantive reforms, such as banks and derivatives, proved to be resilient during the pandemic, areas of nonbank financial markets (such as money market funds, repo markets, and other short-term borrowing markets) that were not fundamentally reformed after the financial crisis broke down and relied on the same Federal Reserve emergency programs that were created during the financial crisis, as well as new emergency programs that were not required in the financial crisis. These programs restored financial stability and set off a large increase in asset values after the spring of 2020. This experience raises issues of fairness and moral hazard stemming from whether risk-taking financial market participants should be protected from bad outcomes. Government intervention to prevent financial instability is intended to prevent large losses in income and employment, as was the case in the financial crisis. Yet the speed at which financial instability turned to boom raises questions of whether government intervention was an overwhelming success or unnecessary, because in hindsight markets might have stabilized without assistance.

Historically, long financial booms have been punctuated by shorter but sudden downturns. Many systemic risks never ultimately result in financial instability. Over time, financial markets have been characterized by ongoing innovation that has created new opportunities and new risks. Innovation can be driven by new technology or ideas, or efforts to exploit gaps or inconsistency in a fragmented U.S. regulatory system, or both. Recently, the market share of fintech firms and value of cryptocurrencies has risen rapidly, yet there have been no fundamental regulatory changes to acknowledge this reality.

Contents

Introduction 1
Sources of Systemic Risk 1
How Has the Government Responded to Recent Financial Crises? 3
2007-2009 Financial Crisis 3
Spring 2020 Financial Turmoil 4
Systemic Risk Policy Since the Financial Crisis 6
Enhanced Monitoring 7
Opacity 7
Financial Stability Oversight Council 7
Federal Reserve Initiatives 8
Intergovernmental Entities 9
Preventative Reforms 9
Too Big to Fail 10
Crisis Management 14
Emergency Assistance 14
Orderly Liquidation Authority 15
A Historical Perspective on Systemic Risk 17
Challenges Facing Effective Systemic Risk Policy 18
Political Constraints 18
Limits to Regulatory Powers 19
Financial Innovation 21
Lessons Learned from the Past Decade of Systemic Risk Regulation 22
Ending Bailouts 23
Identifying and Responding to Emerging Threats 24
Too Big to Fail 26
Activities-Based Regulation 27

Tables

Table 1. Formerly Designated Nonbank SIFIs 12
Table 2. Designated FMUs 13
Table 3. Bank Performance During and After Crises 22

Contacts

Author Information 28

Introduction

The bursting of the housing bubble led to a prolonged U.S. financial crisis from 2007 to 2009 that featured sharp declines in asset prices, a drying up of liquidity in financial markets, and solvency problems for hundreds of small and several large financial firms. The crisis resulted in the longest and (at the time) deepest recession since the Great Depression, causing widespread losses in jobs and wealth. Financial stability was not restored until unprecedented federal financial assistance in 2008-2009 by the Federal Reserve (Fed) and Treasury shored up financial sector liquidity and capital.[1]

A major focus of financial reform after the crisis was systemic risk—financial market risks that pose a threat to financial stability. In 2010, the Dodd-Frank Wall Street Reform and Consumer Protection Act (P.L. 111-203) was enacted to address problems that arose in the financial crisis.[2] The wide-ranging act reformed several parts of the financial system. Financial regulators undertook other post-crisis reforms using existing authority. Many reforms, such as the Basel III bank regulatory reforms, were coordinated internationally and then implemented domestically by financial regulators.

In the spring of 2020, the COVID-19 pandemic initially caused another bout of financial instability. Policymakers quickly reverted to the 2008-2009 playbook of providing large-scale financial assistance to financial markets and participants to restore financial stability. This time, a financial crisis was averted and stability was restored quickly. This was followed by a strong financial boom featuring rapidly rising asset prices, very low interest rates, and plentiful credit availability (at least for well-qualified borrowers) that continues to the present. Although the effect of the pandemic itself on jobs and inflation has been large,[3] financial instability has not been a significant contributing factor to macroeconomic outcomes. To date, there have been no comprehensive post-crisis financial regulatory reforms similar to the Dodd-Frank Act or Basel III in response to the events of 2020.

This report provides a brief overview of the reforms undertaken after the financial crisis and an evaluation of how regulators have carried out those reforms since. In the worst-case scenario, systemic risk can result in a full-blown financial crisis similar to the 2007-2009 experience. More frequently, systemic risk can result in temporary and relatively mild disruptions to the smooth functioning of specific financial market segments, such as repurchase agreement (repo) market disruptions in the fall of 2019.[4] Systemic risk regulation cannot eliminate all systemic risk, but it aims to keep it contained so that instability can be prevented.

Sources of Systemic Risk

The financial crisis highlighted that systemic risk can emanate from financial firms, financial markets, or financial products. It can be caused by the failure of a large, complex, and interconnected financial firm (hence the moniker "too big to fail") or by correlated losses among many small market participants. Although historical financial crises have centered on banks, nonbank financial firms were also a source of instability in the financial crisis and the pandemic.

[1] See the Financial Crisis Inquiry Commission Report, January 2011, https://fcic.law.stanford.edu/report.

[2] See CRS Report R41350, *The Dodd-Frank Wall Street Reform and Consumer Protection Act: Background and Summary*, coordinated by Baird Webel.

[3] See CRS Report R46606, *COVID-19 and the U.S. Economy*, by Lida R. Weinstock.

[4] See CRS Insight IN11176, *Federal Reserve: Recent Repo Market Intervention*, by Marc Labonte.

Financial instability is generally triggered by some impulse—some external factor that sets instability in motion. The most well-known impulse is the bursting of an asset bubble, such as the housing bubble in 2007. Asset bubbles are characterized by sustained periods of rapid price appreciation that cannot be justified based on underlying economic fundamentals but instead are fueled by what former Fed Chair Alan Greenspan described as "irrational exuberance." Prices can then suddenly reverse, inflicting large losses on investors. In addition to asset values, the Fed monitors growth in household and business borrowing, use of leverage (debt relative to equity) by the financial sector, and funding risks for financial firms in its semi-annual *Financial Stability Report*.[5] A sudden reversal in any of these measures could also potentially trigger a chain reaction that leads to financial instability.

The pandemic illustrates that there can be other causes of financial instability that are less directly tied to financial prices or credit.[6] In that case, uncertainty about the rapidly unfolding and novel economic effects of the pandemic caused a spike in financial market uncertainty, causing instability. Other examples of systemic risk external to financial markets include the potential for a destabilizing cyberattack on a key financial market or participant.[7]

After the initial impulse, some propagating mechanism is required to cause a localized risk to spread and cause instability throughout the system.[8] Financial prices swing up and down frequently, yet financial stability is typically immune to their movements. The housing bubble was different because of the size of losses, where losses were concentrated, and the fact that losses were unanticipated so those bearing them were insufficiently protected.

Daniel Tarullo, a former Fed governor, identified four propagating mechanisms:[9]

1. **Domino or spillover effects**—for example, when one firm's failure imposes debilitating losses on its counterparties. This risk is greatest when counterparty exposure is large and concentrated.
2. **Feedback loops**—for example, when fire sales of assets depress market prices, thereby imposing losses on all investors holding the same asset class. The first round of losses can lead to further fire sales by affected investors who would otherwise not have sold. Another example is deleveraging—when credit is cut in response to financial losses, resulting in further losses that require a further withdrawal of credit.
3. **Contagion effects**—for example, a run in which depositors, creditors, or investors suddenly withdraw their funds from a class of institutions or assets. Banks and some other financial firms, such as money market funds, are

[5] Reports available at https://www.federalreserve.gov/publications/financial-stability-report.htm. See also Michael T. Kiley, "What Macroeconomic Conditions Lead Financial Crises?," *Journal of International Money and Finance*, vol. 111 (March 2021).

[6] See the section below entitled "Spring 2020 Financial Turmoil."

[7] For more information, see CRS In Focus IF11717, *Introduction to Financial Services: Financial Cybersecurity*, by Andrew P. Scott; and CRS In Focus IF11315, *The LIBOR Transition*, by Marc Labonte.

[8] Ioana-Iuliana Tomuleasa, "Macroprudential Policy and Systemic Risk: An Overview," *Procedia Economics and Finance*, vol. 20 (2015), pp. 645-653.

[9] Governor Daniel K. Tarullo, "Regulating Systemic Risk," speech, March 31, 2011, https://www.federalreserve.gov/newsevents/speech/tarullo20110331a.htm. Similarly, the Financial Stability Oversight Council (FSOC) uses three transmission channels to designate systemically important financial institutions—exposure, asset liquidation, and critical function or service. See FSOC, "Authority to Require Supervision and Regulation of Certain Nonbank Financial Companies," 77 *Federal Register* 21637, April 11, 2012, https://home.treasury.gov/system/files/261/Authority%20to%20Require%20Supervision%20and%20Regulation%20of%20Certain%20Nonbank%20Financial%20Companies%20%28April%2011%2C%202012%29.pdf.

vulnerable to runs because they promise withdrawal on demand at par and their assets (e.g., loans) are less liquid than their liabilities (e.g., deposits). This creates an incentive to withdraw before other creditors/depositors do, since assets cannot be liquidated quickly enough to meet all redemption requests during a run.

4. **Disruptions to critical functions**—for example, when a market can no longer operate because of a breakdown in market infrastructure. This could occur because of the failure of one firm that dominates a certain part of market infrastructure or because the infrastructure has been disrupted by, say, a cyberattack.

How Has the Government Responded to Recent Financial Crises?

The federal government broadly supported financial markets and the economy and provided targeted assistance to specific financial firms or markets in response to the financial crisis and the pandemic. Broadly, the Federal Reserve reduced interest rates to zero and provided liquidity through asset purchases and repos. Congress enacted fiscal stimulus that increased federal budget deficits by several percentage points of gross domestic product. More narrowly, the Fed, Federal Deposit Insurance Corporation (FDIC), and Congress created unprecedented facilities to provide capital, lending, and asset purchases or guarantees targeted at specific distressed markets. This assistance cumulatively exposed taxpayers to billions of dollars of potential losses in the worst-case scenario, although it appears likely to generate enough positive income to offset any losses.

2007-2009 Financial Crisis

In August 2007, asset-backed securities, particularly those backed by subprime mortgages, suddenly became illiquid and fell sharply in value as an unprecedented housing boom turned into a housing bust. Losses on these securities held by financial firms depleted their capital. Uncertainty about future losses on illiquid and complex assets led, sometimes catastrophically, to firms having reduced access to the private liquidity necessary to fund day-to-day activities.

In the fall of 2008, the crisis reached panic proportions. A number of large financial firms failed (e.g., Lehman Brothers, an investment bank) or, to avoid failure, were rescued by the government (e.g., AIG, an insurer, and Fannie Mae and Freddie Mac, government-sponsored enterprises [GSEs]) or were acquired while in distress (e.g., Wachovia and Washington Mutual, both banks). Many saw these firms as “too big to fail” (TBTF)—firms whose failure would cause financial problems for counterparties or would disrupt the markets in which the firms operated. One example was the failure of a large money market fund holding Lehman Brothers debt that caused a run on many similar funds, including several whose assets were sound.

The result of the crisis was one of the longest and deepest economic recessions since the Great Depression, with unemployment peaking around 10%. The recession ended in June 2009, but unemployment remained elevated and inflation remained very low for several more years. To offset the effects of the recession, Congress enacted large-scale fiscal stimulus (P.L. 110-185 and P.L. 111-5) and the Fed employed monetary stimulus, including a number of unprecedented monetary actions such as reducing interest rates to zero and making large-scale asset purchases (popularly called quantitative easing, or “QE”).

In addition, the federal government intervened directly in financial markets through a number of extraordinary steps to address widespread disruption to the functioning of financial markets.[10] Initially, the government approach was largely an ad hoc one, attempting to address the problems at individual institutions on a case-by-case basis. For example, the Housing and Economic Recovery Act (HERA; P.L. 110-289) allowed the Federal Housing Finance Agency (a federal regulator) to take Fannie Mae and Freddie Mac into government conservatorship and allowed Treasury to inject hundreds of billions of dollars into them to keep them solvent. The Fed rescued Bear Stearns (an investment bank) and AIG using its emergency lending authority under Section 13(3) of the Federal Reserve Act.[11]

The panic in September 2008 convinced policymakers that a larger and more systemic approach was needed. The Fed created a number of emergency programs under Section 13(3) targeting frozen or dysfunctional financial markets. Although the Fed has always been a lender of last resort, a key difference between these emergency programs and the Fed's discount window is that the latter is available only to banks that are regulated for safety and soundness by the Fed or another federal banking regulator, whereas the former are generally not. The FDIC used its systemic risk exception to least cost resolution to guarantee bank deposits and debt.[12] To end runs on money market mutual funds (MMFs), Treasury guaranteed them using assets in the Exchange Stabilization Fund (ESF). All three of these statutory authorities were used differently than envisioned when granted. The Fed authority was not envisioned as being used to purchase assets, the FDIC authority was not envisioned as being used to provide a broad debt guarantee, and the ESF funds were not envisioned as being used to intervene domestically to shore up a financial product.

In October 2008, Congress passed the Emergency Economic Stabilization Act (EESA),[13] creating the Troubled Asset Relief Program (TARP), which was used, among other things, to inject capital into hundreds of small banks and several large financial firms. TARP was envisioned by Congress as a program to purchase mortgage-backed securities (MBS) but was instead used to assist several markets and industries, including bankruptcy assistance to U.S. automakers. The HERA and EESA authorities expired in 2010 and were not renewed, although funds continued to be available or outstanding after expiration under existing contracts.

Collectively, the Fed and federal government pledged trillions of dollars under these programs, although takeup was far lower. On the whole, this assistance required repayment and interest payments and other forms of compensation, so the payments the government took in exceeded what was outlayed.[14]

Spring 2020 Financial Turmoil

The COVID-19 pandemic initially caused deep economic uncertainty amidst economic shutdowns and social distancing, with gross domestic product falling about one-third in the

[10] Information on government assistance provided during the crisis can be found in CRS Report R43413, *Costs of Government Interventions in Response to the Financial Crisis: A Retrospective*, by Baird Webel and Marc Labonte.

[11] See CRS Report R44185, *Federal Reserve: Emergency Lending*, by Marc Labonte.

[12] 12 U.S.C. §1823(c). In total, the FDIC's systemic risk exception was invoked five times during the crisis. See Government Accountability Office, *Federal Deposit Insurance Act: Regulators' Use of Systemic Risk Exception*, GAO-10-100, April 2010.

[13] P.L. 110-343; 12 U.S.C. §§5311 et seq.

[14] See CRS Report R43413, *Costs of Government Interventions in Response to the Financial Crisis: A Retrospective*, by Baird Webel and Marc Labonte.

second quarter of 2020.[15] This uncertainty led multiple financial markets—including Treasury, repo, equity, corporate debt, and municipal debt markets—to initially experience sharp declines in asset prices, increases in fund outflows, and a sudden loss in liquidity.[16]

In response to the pandemic, fiscal stimulus and monetary stimulus were employed again on a larger scale than during the financial crisis.[17] The Fed flooded financial markets with trillions of dollars of liquidity via repos and purchases of Treasury securities and MBS. Financial rescue programs were also revived. Using its Section 13(3) emergency authority, the Fed reopened many of the facilities it had created during the financial crisis (some in modified form) and opened new facilities for the first time for the corporate debt and municipal debt markets and the loan market for midsize businesses and nonprofits.[18] The Fed reopened financial-crisis-era facilities in part preemptively and in part because the same markets experienced fragility again. For example, MMFs again struggled with runs, with $125 billion of withdrawals in March from prime funds, representing 11% of total prime assets (i.e., those invested primarily in short-term corporate debt, called "commercial paper," rather than government debt).[19] These runs required two Fed emergency facilities to prevent the collapse of MMFs and the commercial paper they invest in. Under the CARES Act (P.L. 116-136), Treasury provided direct aid to airlines and related industries and to small businesses (through the Paycheck Protection Program) but not to financial firms.[20] Unlike 2008, this aid was not targeted to financial firms. The Fed pledged hundreds of billions of potential assistance for some emergency facilities and unlimited assistance for others, although actual assistance peaked at less than $100 billion for most facilities.[21] Treasury agreed to absorb potential losses on many of the Fed's facilities using money from the CARES Act.

To date, this assistance to the financial sector appears, overall, to have generated enough positive income to offset any losses to taxpayers, although it is too soon to say whether that will be true for all individual programs.[22]

Unlike the financial crisis, financial markets quickly responded positively to the Fed's and Treasury's interventions, as well as to evidence that economic activity would rebound in part thanks to robust fiscal and monetary stimulus. By the end of April 2020, strains in most financial markets had fully subsided—in most cases, before any assistance had been provided because of the lag between when Fed facilities were announced and became operational. (Some programs took months to roll out after their initial announcement.[23]) By August 2020, the value of the stock market had exceeded its pre-pandemic high and continued to rise rapidly over the subsequent year to new heights. Likewise, housing and other asset prices have risen rapidly since conditions

[15] See CRS Report R46606, *COVID-19 and the U.S. Economy*, by Lida R. Weinstock.

[16] Financial Stability Board (FSB), *Holistic Review of the March Market Turmoil*, November 2020, https://www.fsb.org/wp-content/uploads/P171120-2.pdf. See also Muhammad Suhail et al., "Systemic Risk: The Impact of COVID-19," *Finance Research Letters*, vol. 36 (October 2020).

[17] For a list of fiscal stimulus or pandemic relief legislation, see CRS Insight IN11734, *The COVID-19-Related Fiscal Response: Recent Actions and Future Options*, by Grant A. Driessen and Lida R. Weinstock.

[18] See CRS Report R46411, *The Federal Reserve's Response to COVID-19: Policy Issues*, by Marc Labonte.

[19] FSB, *Holistic Review of the March Market Turmoil*, p. 19.

[20] See CRS Report R46329, *Treasury and Federal Reserve Financial Assistance in Title IV of the CARES Act (P.L. 116-136)*, coordinated by Andrew P. Scott.

[21] See CRS Report R46411, *The Federal Reserve's Response to COVID-19: Policy Issues*, by Marc Labonte.

[22] Some assistance to non-financial firms, such as the Paycheck Protection Program and airline payroll support, were not intended to be repaid.

[23] Federal Reserve, *Financial Stability Report*, May 2020, https://www.federalreserve.gov/publications/files/financial-stability-report-20200515.pdf.

improved in late spring 2020. Nevertheless, the Fed maintained or introduced these programs for months after financial conditions were booming.

The Fed and Treasury terminated nearly all loan programs and facilities at the end of 2020 or the end of the first quarter of 2021. The Fed continued providing extraordinary monetary stimulus through zero interest rates and asset purchases but slowed the pace of its asset purchases beginning in November 2021.[24]

Systemic Risk Policy Since the Financial Crisis

In discussing policy during financial crises, former Fed Chair Ben Bernanke drew an analogy to firefighting—during a fire, the focus is on extinguishing the fire. Once the fire is extinguished, changes to the fire code and better enforcement of the fire code can be made to prevent future fires.[25] Similarly, during financial instability, policymakers are focused on restoring stability. After stability is restored, policymakers can pursue reforms to make future instability less likely.

Once financial stability had been restored after the financial crisis and emergency programs were being wound down, Congress enacted the Dodd-Frank Act in 2010. The act had hundreds of sections, which responded to a broad range of problems that contributed to, were revealed by, and arose during the crisis across the entire financial services industry. Title I of the act, the Financial Stability Act, created the Financial Stability Oversight Council (FSOC) and the Office of Financial Research (OFR) and provided the Fed with additional authority to mitigate systemic risk. Title II of the act created the Orderly Liquidation Authority to resolve financial firms whose failure posed systemic risk. In addition, regulators undertook multiple initiatives under existing authority to reform regulation after the crisis. Some of the most prominent initiatives, such as the Basel III Accords, were coordinated internationally through intergovernmental fora. This report highlights the major reform initiatives related to systemic risk. Some of the most prominent reforms undertaken at the time (such as those related to consumer protections) are beyond the scope of this report.

To date, Congress has not considered similar legislation in response to issues raised by the pandemic-induced financial turbulence. There has also been little systemic risk regulatory reform in response to the pandemic to date, with one exception. In December 2021, the Securities and Exchange Commission (SEC) proposed reforms to address problems that arose in MMFs.[26]

Systemic risk policy entails both what to do during a crisis and how to prevent future crises. For purposes of this report, reforms are divided into three categories: (1) preemptively monitoring to identify emerging threats before they result in financial stability, (2) preemptively preventing known problems from causing financial instability, and (3) crisis management reforms to how the government responds post hoc to end a crisis. After the financial crisis, these reforms were particularly focused on another policy goal of both parties in Congress: preventing financial firms from being "bailed out" in the future.[27]

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[24] See CRS Insight IN11792, *Federal Reserve: Tapering of Asset Purchases*, by Marc Labonte.

[25] Quoted in John Cassidy, "Anatomy of a Meltdown," *New Yorker*, November 23, 2008, https://www.newyorker.com/magazine/2008/12/01/anatomy-of-a-meltdown.

[26] SEC, *Money Market Fund Reforms*, December 2021, https://www.sec.gov/rules/proposed/2021/ic-34441.pdf.

[27] For example, Section 112 of the Dodd-Frank Act makes one of the three purposes and duties of FSOC to eliminate expectations that the government will shield shareholders, creditors, and counterparties of systemically important financial firms from losses. Likewise, Title I of the Financial Choice Act, sponsored by Rep. Jeb Hensarling, then-chair of the House Financial Services Committee, and passed by the House in 2017, was titled "Ending 'Too Big to Fail' and

Enhanced Monitoring

The Dodd-Frank Act enhanced systemic risk monitoring by creating new entities tasked with identifying emerging threats to financial stability and reducing opacity in financial markets so regulators and the public could better identify and understand emerging threats.

Opacity

One challenge policymakers struggled with during the financial crisis was a dearth of detailed information about what was unfolding in financial markets due to limited oversight powers in a number of areas. The Dodd-Frank Act increased the information that financial actors were required to provide to regulators and the public and increased regulatory oversight in a number of areas, including (relevant title or section of the act in parentheses):

- derivatives markets (Title VII),
- private funds such as hedge funds (Title IV),
- asset-backed securities (Section 942(b)),
- municipal advisers (Section 975),
- consumer finance (Title X),
- nonbank subsidiaries of bank holding companies (Sections 604 and 605), and
- nonbank financial firms (Section 112 and 161) and financial market utilities (Title VIII) that are designated as systemically important or for purposes of assessing their systemic importance.

Other nonstatutory reforms in recent years have increased the information provided in repo markets[28] and in trading of Treasury securities and agency MBS.[29]

Financial Stability Oversight Council

Before the financial crisis, no regulator was explicitly tasked with mitigating systemic risk or maintaining financial stability, although the Fed, with its lender-of-last-resort responsibilities, was often the de facto first responder to instability. This role is different from proactively preventing systemic risk, however.[30] Another criticism after the crisis was that the regulatory system is composed of too many regulators who are too narrowly focused and do not work together, leading to gaps in identifying risks and a lack of focus on the big picture.[31]

The Dodd-Frank Act created FSOC, which is headed by the Treasury Secretary and composed of the all of the federal financial regulators (who are voting members) and a few other financial

Bank Bailouts." It would have done so, however, by repealing Titles II and VIII of the Dodd-Frank Act, among other things.

[28] See OFR, *U.S. Repo Markets Data Release Information*, https://www.financialresearch.gov/data/us-repo-data/; and Federal Reserve Bank of New York, *Data Markets Dashboard*, https://www.newyorkfed.org/markets/data-hub.

[29] See Financial Industry Regulatory Authority, *Trade Reporting and Compliance Engine (TRACE)*, https://www.finra.org/filing-reporting/trace.

[30] The bank regulators also regulated banks for safety and soundness so that bank failures would not, among other things, cause financial instability. They did not regulate financial markets for systemic risk more broadly, however.

[31] Government Accountability Office, *Financial Regulation*, GAO-16-175, February 2016, https://www.gao.gov/assets/680/675400.pdf.

officials (who are nonvoting members, with the exception of the insurance expert).[32] FSOC was tasked with identifying risks to financial stability, promoting market discipline by eliminating expectations that the government will prevent firms from failing, and responding to emerging threats to financial stability. Bringing regulators together with these tasks was viewed as a way to address problems with narrow focus and gaps without shifting power to a new or existing regulator.

FSOC must make decisions by majority vote, with certain key decisions made by supermajority vote where the Treasury Secretary wields a veto. Generally speaking, FSOC does not have rulemaking, supervisory, or enforcement powers to intervene when it identifies emerging threats to stability.[33] When one of its members has the requisite authority, FSOC can recommend—but not require—that member to act. Otherwise, it can recommend a legislative change to Congress. It can also mediate conflicts between members and offer (nonbinding) solutions—although that power has never been formally invoked. It is required to produce an annual report to Congress (on which the chair testifies), where it catalogs emerging threats and recommendations to Congress and member agencies to address those threats.

The Dodd-Frank Act created OFR to support FSOC. The OFR director, in consultation with the Treasury Secretary, sets OFR's budget and staffing levels, and OFR is financed through assessments on bank holding companies (BHCs) with over $250 billion in assets and designated systemically important financial institutions (SIFIs). OFR's most recognizable accomplishment has been the Legal Entity Identifier initiative.[34]

Each Administration has brought a different philosophy to systemic risk regulation, which has been reflected in part by changes to FSOC's and OFR's funding levels. FSOC's and OFR's budgets, which are not subject to congressional appropriations, decreased in nominal terms by 27% and 38%, respectively, from 2016 to 2019 and increased by 0.4% and 21%, respectively, in 2021. Staffing levels have seen similar shifts. Several series of ongoing OFR publications were not published or were published less frequently during that time.[35]

Federal Reserve Initiatives

The Fed made its focus on financial stability more explicit following the financial crisis. Its Board of Governors has a Division of Financial Stability that is overseen by the Committee on Financial Stability, composed of a subset of governors. The Fed has produced a semiannual Financial Stability report since November 2018 that provides a snapshot of various risk factors within the financial system. For supervision of the largest and most complex banks, the Fed created the Large Institution Supervision Coordinating Committee in 2010. These internal reforms were not statutorily required.

[32] For more information, see CRS Report R45052, *Financial Stability Oversight Council (FSOC): Structure and Activities*, by Marc Labonte.

[33] As noted in the designation section, it does have the authority to designate systemically important firms and financial market utilities.

[34] See OFR, Legal Entity Identifier, https://www.financialresearch.gov/data/legal-entity-identifier/.

[35] For example, OFR's Financial Markets Monitor was last published in 2017, Annual Research Review in 2018, Staff Discussion papers in 2018, and Viewpoint Papers in 2017. In addition, OFR's briefs were not published in 2019, and the OFR blog was not published from 2018 to 2020.

Intergovernmental Entities

Financial markets are global, so inconsistent regulation across jurisdictions risks creating inefficiencies or a "race to the bottom" where financial firms seek out locales with lax standards. As a result, various intergovernmental entities and international standard-setting bodies coordinate financial regulation across jurisdictions. A number of intergovernmental entities in which the United States participates also regularly monitor systemic risk.[36] For example

- The Financial Stability Board (FSB) was created by the G20 after the financial crisis to coordinate financial regulatory reform.[37] It is composed of financial regulators. The United States played a leading role in the reforms that it has endorsed, many of which were implemented domestically in the Dodd-Frank Act.[38] The FSB regularly monitors implementation of the regulatory reforms it endorses and emerging threats to systemic risk in its annual report and occasional studies.
- The International Monetary Fund's mission is to ensure the stability of the international monetary system. Its semiannual Global Financial Stability Report "highlight(s) systemic issues that could pose a risk to financial stability."[39]

Preventative Reforms

Reforms sought to enhance the stability of several types of markets and institutions that proved to be a source of financial instability during the financial crisis. AIG and others built up large, leveraged, and hidden exposures through largely unregulated over-the-counter derivatives markets. To reduce risk in derivatives markets, Title VII of the Dodd-Frank Act required greater clearing and exchange trading and set margin and capital requirements for participants. It also limited banks' ability to deal in certain types of swaps within their insured depositories.

Distress in the residential mortgage market was central to the financial crisis. Title XIV created underwriting requirements for residential mortgages. Section 941 required securitizers to retain credit risk in the asset-backed securities they created (having "skin in the game") to avoid "pass the trash" problems that occurred during the crisis. (Residential mortgages were broadly exempted from these requirements.)

Responding to the hundreds of bank failures during and after the financial crisis, prudential regulation of all banks was strengthened. The Dodd-Frank Act required some of these changes, such as the prohibition on proprietary trading and sponsorship of private funds (Section 619, known as the "Volcker Rule") and a requirement that BHCs as a whole are subject to the same capital standards as insured bank subsidiaries (Section 171, known as the "Collins Amendment"). Some of the most significant changes were regulatory changes that were part of Basel III. For example, under Basel III banks are required to hold more capital (both overall and specifically against riskier assets) and capital of higher quality.

[36] For more information, see CRS In Focus IF10129, *Introduction to Financial Services: International Supervision*, by Martin A. Weiss.

[37] The FSB is a successor to the Financial Stability Forum, which was created in 1999.

[38] See FSB, *Post-2008 Financial Crisis Reforms*, https://www.fsb.org/work-of-the-fsb/market-and-institutional-resilience/post-2008-financial-crisis-reforms/.

[39] Global Financial Stability Reports are available at https://www.imf.org/en/publications/gfsr.

Another key regulatory reform taken under pre-crisis statutory authority was changes to MMF regulation. In response to runs during the financial crisis, the SEC implemented reforms to make MMFs less prone to runs. Despite these reforms, MMFs experienced similar runs during the spring of 2020, and the SEC has proposed additional reforms.

Another set of reforms sought to address problems in the crisis involving large financial institutions, discussed in the next section. The Dodd-Frank Act sought to end TBTF and the systemic risk it posed.[40] Title I of the act subjected financial firms deemed TBTF to enhanced prudential regulation (discussed in the next section), and Title II created an FDIC resolution regime to wind down BHCs and nonbank financial firms at risk of failure.[41]

It should be noted, however, that these reforms did not address two large financial firms at the center of the crisis—Fannie Mae and Freddie Mac, the housing GSEs. Congress never enacted housing finance reform to address structural weakness that led to the GSEs' conservatorship. However, government conservatorship gives their regulator greater ability to limit the risks that GSEs take and allows the government to cover any financial losses the GSEs experience while collecting or "sweeping" any profits they make.

Too Big to Fail

A key source of financial instability in 2008 was financial problems at large, complex, interconnected financial firms that either failed or were bailed out by the Fed or Treasury. If financial market participants perceive them as TBTF, it can cause moral hazard, the phenomenon where risk taking increases because, in this case, the firm is shielded from the consequences of failure. Greater risk taking by a TBTF firm can increase the systemic risk it poses.

One approach to mitigating TBTF problems is to subject those financial firms to enhanced prudential regulation (EPR). Currently, a firm can be subject to EPR through three methods—receiving a SIFI designation by FSOC for nonbank financial firms, exceeding a size-based criterion for BHCs, or receiving a "global-systemically important bank" (G-SIB) designation by the FSB for the most systemically important BHCs. For the nonbanks SIFI and G-SIB method, EPR is applied based on FSOC's or the FSB's assessment, respectively, of the entity's overall systemic importance based on a number of factors, whereas for BHCs, eligibility for EPR is strictly size-based.

Enhanced Prudential Regulatory Requirements

The Dodd-Frank Act and Basel III apply EPR to a set of large financial firms to make it less likely that they fail, given the systemic risk that their failures could pose.[42] These regulations impose regulatory costs on the covered firms, but those costs can help counterbalance the funding advantages that the firms enjoy from the TBTF perception. Under the Dodd-Frank Act, designated nonbank SIFIs and all BHCs with more than $50 billion in assets were subject to EPR by the Fed—more stringent safety and soundness requirements that do not apply to other firms.[43] Under this regime, which was never implemented for SIFIs, the Fed has applied a number of specific safety and soundness requirements to BHCs to mitigate systemic risk:

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[40] For more information, see CRS Report R42150, *Systemically Important or "Too Big to Fail" Financial Institutions*, by Marc Labonte.

[41] See the section below entitled "Orderly Liquidation Authority."

[42] See CRS Report R45711, *Enhanced Prudential Regulation of Large Banks*, by Marc Labonte.

[43] Most large banks are legally organized as BHCs. EPR by the Fed does not apply to large banks that do not have a holding company structure.

- Stress tests and capital planning ensure that institutions hold enough capital to survive a crisis.
- Living wills provide plans to safely wind down failing institutions.
- Liquidity requirements ensure that institutions are sufficiently liquid if they lose access to funding markets.
- Counterparty limits restrict institutions' exposure to counterparty default.
- Risk management standards require publicly traded companies to have risk committees on their boards and banks to have chief risk officers.
- Financial stability requirements provide for regulatory interventions that can be taken only if an institution poses a threat to financial stability.

In 2018, P.L. 115-174 increased the threshold from $50 billion to $250 billion and authorized the Fed to tailor EPR requirements for BHCs with assets between $100 billion and $250 billion, reducing the number of banks subject to EPR, and, in conjunction with regulatory changes, reducing the stringency of some of these requirements.[44]

Financial Stability Board Designations

The FSB is responsible for designating G-SIBs.[45] There are currently eight G-SIBs headquartered in the United States, all of which are also BHCs with over $250 billion in assets.[46] The most stringent versions of the EPR requirements listed above apply to G-SIBs. Under Basel III, the very largest banks are subject to additional capital and liquidity requirements that do not apply to other firms. Some of the Basel III requirements are applied only to G-SIBs, while others are applied to additional large banks. The EPR requirements on G-SIBs have been largely unchanged since 2018.

In 2013, the FSB began designating globally systemically important insurers with the intention of subjecting them to the most stringent prudential requirements. FSB discontinued this designation in 2017. Similar to FSOC (see below), the International Association of Insurance Supervisors, an international forum for insurance regulators, has shifted from institution-based regulation to activities-based regulation for systemic risk.[47] According to the National Association of Insurance Commissioners (NAIC), the U.S. state insurance regulators are analyzing the new approach.[48] At one point, the FSB planned to designate nonbank/non-insurer globally systemically important financial institutions, but that effort was abandoned before any designations were made.[49]

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[44] A list of banks subject to EPR in 2021 can be found in FSOC, *Annual Report*, 2021, p. 77, https://home.treasury.gov/system/files/261/FSOC2021AnnualReport.pdf.

[45] H.R. 3948, which was ordered to be reported by the House Financial Services Committee on June 23, 2021, would require each G-SIB to publish a publicly available annual report that would report on a number of its attributes.

[46] FSB, *2021 List of Global Systemically Important Banks (G-SIBs)*, November 2021, https://www.fsb.org/2021/11/2021-list-of-global-systemically-important-banks-g-sibs/.

[47] International Association of Insurance Supervisors, *Holistic Framework for Systemic Risk in the Insurance Sector*, November 2019, https://www.iaisweb.org/page/supervisory-material/financial-stability//file/87109/holistic-framework-for-systemic-risk.

[48] NAIC, *Holistic Framework*, updated August 2020, https://content.naic.org/cipr_topics/topic_holistic_framework.htm.

[49] FSB, *Progress and Next Steps Towards Ending "Too-Big-To-Fail" (TBTF)*, September 2013, https://www.fsb.org/wp-content/uploads/r_130902.pdf.

Nonbank SIFIs

FSOC's primary regulatory power is the ability to designate nonbank financial firms and payment, clearing, and settlement systems that are deemed systemically important. The former are referred to as systemically important financial institutions (SIFIs) and the latter as financial market utilities (FMUs or SIFMUs). There were previously four and are currently zero SIFIs (see **Table 1**). Three of the four SIFIs were insurance firms, and the fourth (GE Capital) was a nonbank lender. Firms must be designated by a two-thirds majority, including the Treasury Secretary. Over its history, FSOC has considered but voted against designating five other (undisclosed) firms as SIFIs.[50] It is not currently considering any designations.[51]

Table 1. Formerly Designated Nonbank SIFIs

	Designation Date	De-Designation Date
AIG	July 9, 2013	Sept. 29, 2017 (by FSOC)
GE Capital	July 9, 2013	June 29, 2016 (by FSOC)
Prudential	Sept. 20, 2013	Oct. 17, 2018 (by FSOC)
MetLife	Dec. 19, 2014	March 30, 2016 (by court ruling)

Source: CRS based on FSOC documents.

The EPR requirements discussed above were proposed but never finalized for nonbank SIFIs before their de-designation, so EPR was never applied to them. Regulators struggled to effectively adjust EPR requirements that came out of bank regulation and were to be administered by a bank regulator (the Fed) to a different nonbank business model.

Nonbank SIFIs may appeal their designation first to FSOC and then in court, and designations must be reassessed annually. This provides firms an incentive to change their business models or activities so that they are no longer systemically important. Between 2016 and 2018, AIG, GE Capital, and Prudential were de-designated by FSOC, and MetLife was de-designated as the result of a court challenge to its designation that the Trump Administration chose not to appeal.[52] To de-designate firms, FSOC must demonstrate that they are no longer systemically important. It released a detailed report explaining each de-designation, but the public versions of the reports were heavily redacted.[53] Before de-designation, FSOC reported that GE Capital divested $272 billion of its assets, reduced its use of short-term funding by 86%, and reorganized its corporate structure.[54] For AIG and Prudential, the unredacted data supporting FSOC's claims that the firms no longer posed systemic risk was less clear-cut, making its decisions difficult to evaluate without

[50] FSOC, *Annual Report*, 2017, p. 120, https://www.treasury.gov/initiatives/fsoc/studies-reports/Documents/FSOC_2017_Annual_Report.pdf.

[51] FSOC, *Annual Report*, 2021, p. 140.

[52] See CRS Report R45162, *Regulatory Reform 10 Years After the Financial Crisis: Systemic Risk Regulation of Non-Bank Financial Institutions*, by Jay B. Sykes.

[53] These reports are available at https://home.treasury.gov/policy-issues/financial-markets-financial-institutions-and-fiscal-service/fsoc/designations.

[54] FSOC, *Basis for the Financial Stability Oversight Council's Rescission of Its Determination Regarding GE Capital Global Holdings, LLC*, June 28, 2016, https://home.treasury.gov/system/files/261/GE%20Captial%20Global%20Holdings%2C%20LLC%20%28Recission%29.pdf.

access to its confidential deliberations.[55] For example, Prudential's total assets increased between designation and de-designation.

In 2019 guidance, FSOC reoriented its approach to addressing systemic risk posed by nonbanks away from *institution-based regulation* (i.e., SIFI designation) and toward *activities-based regulation*—regulating particular financial activities or practices to prevent them from causing financial instability. Although these two approaches need not be mutually exclusive,[56] the guidance creates a higher bar to designations and states that a designation will be pursued "only if a potential risk or threat cannot be adequately addressed through an activities-based approach."[57] This guidance and MetLife's successful court challenge to its designation arguably make it more difficult for FSOC to designate a SIFI in the future.

Unlike with institution-based regulation, FSOC has no direct authority to apply activities-based regulation. Instead, this approach requires FSOC to make policy recommendations and regulators (if they have existing authority) or Congress (if regulators do not have authority) to adopt them—although that has happened rarely to date, as noted.

Financial Market Utilities

The eight FMUs were designated in 2012, and they have not changed since. **Table 2** provides a description of the FMUs and their primary regulators.

Table 2. Designated FMUs

FMU	Primary Regulator	Description
Clearing House Payments Company	Fed	operates CHIPS, a payment settlement system
CLS Bank International	Fed	foreign exchange settlement special purpose bank
Chicago Mercantile Exchange	CFTC	central counterparty clearing services for swaps, options, and futures
Depository Trust Company	SEC	central securities depository and securities settlement system
Fixed Income Clearing Corporation	SEC	central counterparty clearing services for Treasury and agency securities
ICE Clear Credit	CFTC	central counterparty clearing services for credit default swaps
National Securities Clearing Corporation	SEC	central counterparty that provides clearing and settlement services for corporate securities
The Options Clearing Corporation	SEC	central counterparty clearing services for U.S. options and futures

[55] For a legal analysis, see David Zaring, "The Federal Deregulation of Insurance," *Texas Law Review*, vol. 97, no. 1 (November 2018), pp. 125-162.

[56] Jeremy C. Kress et al., "Regulating Entities and Activities: Complementary Approaches to Nonbank Systemic Risk," *Southern California Law Review*, vol. 92, no. 6 (September 2019), pp. 1455-1528.

[57] FSOC, "Authority to Require Supervision and Regulation of Certain Nonbank Financial Companies," 84 *Federal Register* 71740, December 30, 2019, https://home.treasury.gov/system/files/261/Authority-to-Require-Supervision-and-Regulation-of-Certain-Nonbank-Financial-Companies.pdf.

Source: Federal Reserve, *Designated Financial Market Utilities*, https://www.federalreserve.gov/paymentsystems/designated_fmu_about.htm.

FMUs are not subject to the prudential requirements described above but instead to enhanced risk-management standards and examinations by the Fed, SEC, or Commodity Futures Trading Commission (CFTC), depending on the type of FMU.[58] Balancing these costs, the Dodd-Frank Act granted the FMUs direct access to the Fed's discount window and payment systems and interest-bearing accounts at the Fed. Unlike nonbank SIFIs, all of which are regulated by the Fed, FMUs have the same primary regulators as if they were not designated. The Fed has some emergency override authority, however, which has never been used.

Crisis Management

As discussed above, policymakers attempted to quell panic during the financial crisis through extraordinary federal financial assistance. Some assistance was provided through new legislation during the crisis, and some relied on standing emergency authority of the Fed and FDIC or drew on funds available at the Treasury's discretion from the ESF. Although these programs generally did not suffer from losses, they raised concerns about taxpayer exposure, fairness, and moral hazard.

Policymakers can set the terms in advance for what type of assistance can and cannot be provided during a crisis. In response to the financial crisis, the Dodd-Frank Act reformed these standing authorities with the goal of making "bailouts" of failing firms less likely in the future. There is little Congress can do to stop future Congresses from providing assistance during future crises, however. Policymakers can also set up alternatives to assistance during a crisis. The Dodd-Frank Act also created the Orderly Liquidation Authority, an alternative to bankruptcy for financial firms.

Emergency Assistance

At the time of the financial crisis, the Fed's emergency lending authority under Section 13(3) of the Federal Reserve Act was broad and discretionary, and the Fed used it to create a number of novel emergency lending facilities that stretched the meaning of the term *loan* as well as to prevent the failure of Bear Stearns and AIG. Title XI of the Dodd-Frank Act reformed Section 13(3) to narrow the Fed's discretion.[59] It required emergency programs to be broadly based and "for the purpose of providing liquidity to the financial system, and not to aid a failing financial company." It required assistance to be secured "sufficient to protect taxpayers from losses." Any program must be approved by the Treasury Secretary and "terminated in a timely and orderly fashion." In essence, these changes were compatible with the broad emergency lending programs created in the crisis but ruled out future individual bailouts of troubled firms. These changes did not prevent the Fed from reopening many of its financial crisis emergency programs during the pandemic and creating new programs for markets that did not receive assistance during the financial crisis (e.g., municipal securities, loans to midsize businesses and nonprofits.)

Likewise, the FDIC used its emergency authority during the financial crisis in a way that was arguably unintended. It offered broadly based bank debt and uninsured deposit guarantee programs under its systemic risk exception to least cost resolution (12 U.S.C. §1823(c)(4)(G)).

[58] Fed, SEC, CFTC, *Risk Management Supervision of Designated Clearing Entities*, July 2011, https://www.federalreserve.gov/publications/other-reports/files/risk-management-supervision-report-201107.pdf. See also CRS Report R41529, *Supervision of U.S. Payment, Clearing, and Settlement Systems: Designation of Financial Market Utilities (FMUs)*, by Marc Labonte.

[59] For more information, see CRS Report R44185, *Federal Reserve: Emergency Lending*, by Marc Labonte.

Title XI of the Dodd-Frank Act narrowed this systemic risk exception to be available only to banks in FDIC receivership and created a new process for debt guarantees. Going forward, the FDIC may guarantee debt based on agreement with the Treasury Secretary and Fed that a "liquidity event" has occurred. It must charge participants fees and limit the guarantee to solvent banks and cannot provide banks with equity. The overall size of the debt guarantee is set by the Treasury Secretary and must be approved by Congress under "fast track" procedures. To limit the scope of FDIC guarantees, the Dodd-Frank Act prohibited guarantees on uninsured non-interest-bearing transaction deposits. The CARES Act (P.L. 116-136) eliminated this limitation and created a parallel emergency federal guarantee for credit unions. As it turned out, there have not been any significant runs on bank debt or deposits during the pandemic, and the FDIC has not created similar programs since the financial crisis.

Congress addressed the ESF's MMF guarantee during the financial crisis in Section 131 of the Emergency Economic Stabilization Act (EESA; P.L. 110-343; 12 U.S.C. §§5311 et seq.), reimbursing the ESF from EESA funds but also forbidding the future use of the ESF to provide such a guarantee. The ESF would again be used in the pandemic to backstop Fed emergency programs, and Congress appropriated up to $500 billion to the ESF for that purpose in Title IV of the CARES Act (P.L. 116-136).[60] Although not used, Section 4015 of the CARES Act temporarily repealed the EESA restriction on using the ESF to guarantee MMFs during the pandemic.

These examples illustrate that Congress may limit an agency's standing emergency authority but cannot prevent future Congresses from granting new authority to provide emergency assistance or repealing existing limits.

Orderly Liquidation Authority

The alternative to government assistance to prevent financial firms from failing is to allow them to fail. The concern in the financial crisis was that allowing large financial firms to fail would exacerbate the crisis; many economists believe these concerns were realized following the bankruptcy of Lehman Brothers in the fall of 2008. Policymakers argued that an alternative to the bankruptcy code was needed that could allow financial firms to be wound down without causing financial instability.[61]

In addition to reducing the likelihood that large firms would fail, the Dodd-Frank Act also attempted to make it less disruptive if they did fail. As an alternative to bankruptcy, Title II of the Dodd-Frank Act created a resolution regime for nonbank financial firms if their failure posed a risk to financial stability. Called Orderly Liquidation Authority (OLA), it is modeled on the FDIC's bank resolution regime, with key differences, and is administered by the FDIC. For example, the receivership must be approved by, in some cases, the primary regulator, the Treasury Secretary, and the Fed, and the company may appeal the decision in court.

As receiver, the FDIC can manage assets, sign contracts, terminate claims, collect obligations, and perform management functions. The Dodd-Frank Act sets priorities among classes of unsecured creditors, with senior executives and directors coming second to last before shareholders in order of priority. It requires that similarly situated creditors be treated similarly, unless doing so would increase the cost to the government. The FDIC is allowed to create bridge companies, as a way to divide good and bad assets, for a limited period of time to facilitate the

[60] For more information, see CRS Report R46329, *Treasury and Federal Reserve Financial Assistance in Title IV of the CARES Act (P.L. 116-136)*, coordinated by Andrew P. Scott.

[61] A firm did not need to have previously been designated as a SIFI or subject to EPR to be eligible for OLA.

resolution. Unlike the Federal Housing Finance Agency's resolution regime, the Dodd-Frank regime does not allow for conservatorship—firms in OLA may only be wound down.

The Dodd-Frank Act calls for shareholders and creditors to bear losses and management "responsible for the condition of the company" to be removed. The FDIC is allowed to use its funds to provide credit to the firm while in receivership if funding cannot be obtained from private credit markets. Unlike the resolution regime for banks, under OLA least-cost resolution is only a factor for the FDIC to consider "to the greatest extent practicable," and the regime is not pre-funded. (The FDIC may borrow from Treasury to finance it.) Instead, costs that cannot be recouped in resolution must be made up after the fact through assessments on counterparties (to the extent that their losses were smaller under receivership than they would have been in a traditional bankruptcy process) and risk-based assessments on financial firms with assets exceeding $50 billion.

The FDIC has stated that

> the most promising resolution strategy [under Title II] from our point of view will be to place the parent company into receivership and to pass its assets, principally investments in its subsidiaries, to a newly created bridge holding company. This will allow subsidiaries that are equity solvent and contribute to the franchise value of the firm to remain open and avoid the disruption that would likely accompany their closings….
>
> Equity claims of the firm's shareholders and the claims of the subordinated and unsecured debt holders will be left behind in the receivership….
>
> Therefore, initially, the bridge holding company will be owned by the receivership. The next stage in the resolution is to transfer ownership and control of the surviving franchise to private hands….
>
> The second step will be the conversion of the debt holders' claims to equity. The old debt holders of the failed parent will become the owners of the new company.[62]

This approach has been dubbed "Single Point of Entry," and the FDIC requested comment on this strategy in December 2013.[63] Although bank subsidiaries are not eligible for OLA, this approach would allow a BHC to be resolved under OLA. For the Single Point of Entry approach to succeed, the holding company must hold sufficient common equity and debt at the parent level that can absorb losses in resolution so that creditors can be "bailed in." Otherwise, investors will anticipate that public funds will be used to absorb losses.[64] In December 2016, the Fed finalized a rule to require G-SIBs to meet a "total loss-absorbing capacity" requirement through equity and long-term debt held at the parent level of the holding company.[65]

No large financial firm has failed since 2010, so OLA has not yet been tested.

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[62] Martin J. Gruenberg, Acting Chairman of the FDIC, remarks to the Federal Reserve Bank of Chicago Bank Structure Conference, Chicago, IL, May 10, 2012.

[63] The proposed rule can be accessed here: http://www.gpo.gov/fdsys/pkg/FR-2013-12-18/pdf/2013-30057.pdf. For more information on the FDIC as receiver under Title II, see http://www.fdic.gov/resauthority/.

[64] Christopher Payne and Tony Costello, "Will Orderly Resolution Work?," *BGOV Analysis*, May 19, 2014.

[65] This requirement would also apply to the U.S. operations of foreign G-SIBs. The rule, "Total Loss-Absorbing Capacity," can be accessed at https://www.federalreserve.gov/newsevents/press/bcreg/20161215a.htm. For a critique of this approach, see Stephen Lubben and Arthur Wilmarth, "Too Big and Unable to Fail," *GW Legal Studies Research Paper* no. 2016-44 (2016).

A Historical Perspective on Systemic Risk

Financial instability is not unique to the 21st century, as the United States experienced a series of banking panics through its early history, culminating in the Great Depression beginning in 1929.[66] There are overall cyclical and secular trends that dominate financial activity. Placing recent systemic events in this broader context can help inform policymakers' evaluations of the current system risk regulatory framework and options to amend it.

Financial markets are cyclical—prone to a repeated pattern of boom and bust. Investors can shift from being overly optimistic to overly pessimistic over that cycle. A cycle typically lasts several years but is not regular or predictable. It is frequently, but not always, correlated with expansions and contractions in the real economy. Systemic risk often manifests itself when the cycle moves from boom to bust. During the boom, most financial instruments are profitable and investor demand is high. During a downturn, financially weak borrowers are exposed, the overpricing of some financial instruments is revealed, investor demand falls, and financial institutions exposed to excessive losses can fail. New credit becomes scarce, which has two effects. First, it can cause an economic downturn, as the credit needed for firms to purchase capital goods and households to purchase durable goods and housing becomes more expensive and less available. Second, it can cause liquidity problems for financial institutions involved in "maturity transformation," meaning that they convert short-term liabilities, such as bank deposits, into long-term assets, such as mortgages. Most financial downturns do not result in system-wide financial instability. But at the extreme, a liquidity crunch can become a liquidity crisis when creditors (such as depositors) run on financial institutions (such as banks).

Over a longer time horizon, financial activity has been characterized by persistent innovation that has created new financial instruments and new methods for investing in them. Some of this innovation is driven by financial technology, currently called "fintech," which has increased the ability to and reduced the cost of collecting and analyzing data. Some of this innovation is driven by developing new ways to arrange finance to reduce regulatory costs. Both of these factors can be seen behind the growing importance of nonbank financial intermediation (NBFI) over time.[67] According to the FSB, U.S. NBFI assets increased from $43 trillion in 2006 to $78 trillion in 2020.[68] "Shadow banking" has seen the increasing migration of the core banking activities of lending and deposit taking from banks to capital markets. Sometimes, the migration has involved the same activity being carried out by a different institution, such as loans made by nonbank lenders instead of banks. Sometimes, the migration has been to functionally equivalent or highly similar products that are regulated differently, such as funds moving from bank deposits to MMFs.

Frequently, a regulatory cycle can move in tandem with, or lag, the financial cycle, meaning a tendency for regulatory relief to be offered by Congress or regulators during booms and new regulations to be introduced in response to crashes. In booms, both securities issuers and investors or creditors and debtors are satisfied with the profits they are making, and there may be little

[66] Andrew J. Jalil, "A New History of Banking Panics in the United States, 1825-1929: Construction and Implications," *American Economic Journal: Macroeconomics*, vol. 7, no. 3 (July 2015), pp. 295-330, https://www.aeaweb.org/articles?id=10.1257/mac.20130265.

[67] Sirio Aramonte, Andreas Schrimpf, and Hyun Song Shin, "Non-Bank Financial Intermediaries and Financial Stability," BIS Working Papers no. 972, October 2021, https://www.bis.org/publ/work972.pdf.

[68] CRS calculations based on data available at FSB, *Monitoring Aggregates by Jurisdiction from the FSB's Global Monitoring Report on Non-Bank Financial Intermediation*, https://data.fsb.org/dashboard/Jurisdiction%20View. As a share of total assets held by financial institutions, NBFI assets were relatively steady over that period, because assets held by public institutions grew significantly.

political impetus to introduce reforms. In downturns, financial institutions fail, debtors default, and investors lose money, all of which may lead to calls for regulatory action. Financial regulators such as the Office of the Comptroller Currency, the Fed, the FDIC, the SEC, and the Federal Housing Finance Agency were all created in the aftermath of crises. Of course, the prevailing regulatory philosophy is determined by other political dynamics as well, but the financial cycle is arguably an important determinant. Still, some systemic risks, such as those posed by banks, have been contained only through a permanent federal safety net, such as the Fed's discount window and FDIC deposit insurance.

Challenges Facing Effective Systemic Risk Policy

Political Constraints

Financial markets generally work well in normal circumstances but have proven to be fragile under stress. Crises are, by their nature, rare and unpredictable. Financial stability might prevail for a decade or more. Yet when financial crisis strikes, it can result in unusually large losses in employment, income, and wealth. Many things could potentially pose systemic risk, but few will in fact cause a financial crisis. Risk is ubiquitous in financial markets, but risks that might cascade into widespread financial instability in certain circumstances can be benign from a systemic perspective most of the time. This makes it difficult—politically and economically—to effectively regulate for systemic risk.

Financial regulation seeks to find the optimal balance between the benefits of regulation and the regulatory burden it entails. One of the potential benefits of regulation is to reduce systemic risk. Systemic risks impose negative outcomes on the economy as a whole that are not all internalized by financial market participants, so economic theory predicts that, left alone, market participants would take on more systemic risk than is optimal from a societal perspective. Regulatory burden takes the direct form of costs imposed on regulated entities but can also take the indirect form of reducing credit availability and raising its cost, thereby potentially harming economic growth. In principle, regulators should aim to find an optimal level of systemic risk to be tolerated. Too little systemic risk regulation would lead to more frequent, severe economic downturns associated with financial crises. But too much systemic risk regulation would result in too little innovation and risk taking.[69] In practice, it is hard to estimate how much systemic risk any given regulation would prevent. By contrast, the regulatory burden associated with systemic risk regulation tends to be more directly measurable.

Policymakers whose time horizon will typically be shorter than a financial cycle may see little benefit and much downside to pursuing risk mitigating policies given that those policies typically impose direct costs on market participants, with only intangible benefits (i.e., a smaller probability of financial instability) of an uncertain size. Unpopular and costly government "bailouts" may ultimately be needed if systemic risk is left to fester, but if those bailouts occur in the distant future, they will be approved and carried out by successors. When bailouts occur, they can defuse a crisis in the short-term but increase systemic risk in the long term because of moral hazard. As a result of these dynamics, regulatory reform may be most likely in the aftermath of a crisis when regulatory shortcomings have been laid bare.

[69] Stephen G. Cecchetti and Javier Suarez, *On the Stance of Macroprudential Policy*, Reports of the Advisory Scientific Committee, European Systemic Risk Board, No 11, December 2021, https://www.esrb.europa.eu//pub/pdf/asc/esrb.ascreport202111_macroprudentialpolicystance~58c05ce506.en.pdf.

The Fed's Financial Stability Report points out that instability can be caused by shocks that, by their nature, cannot be predicted ahead of time, but it can also be caused by predictable vulnerabilities that accumulate over time and can be expected to cause disruption in times of stress.[70] To that end, the report monitors trends in asset valuation, leverage, and credit, which in theory could all be targeted by regulators to prevent excessive growth. However, there is rarely consensus that an asset bubble has formed until after it has burst. Financial market participants can usually come up with credible "fundamental" explanations for why asset prices or leverage are higher than in the past, and indeed valuations, leverage, and outstanding credit have all risen in relative terms over the long run. Efforts to deflate bubbles or curb credit directly harm investors or borrowers, respectively—doing so may be hard to justify when regulators cannot point to any imminent threat to stability. Most people are happy when bubbles are inflating, and not every increase in asset prices is caused by a bubble. Attempts to deflate bubbles will generally be unpopular for the former reason and could be misguided for the latter reason. In recent annual reports, FSOC has highlighted the large increase in asset prices but has not labeled it a bubble or called for any regulatory changes to address it.[71]

Limits to Regulatory Powers

Limits to regulatory jurisdiction and authority hinder regulators' ability to identify and mitigate systemic risk. Most regulators do not have broad authority to act on the basis of systemic risk mitigation alone, and the authority they do have might be an awkward fit for the risks at hand. If regulators do not already have authority, they cannot act until Congress grants them authority. U.S. financial regulation is characterized by fragmentation—jurisdiction is scattered across multiple state and federal regulators with differing powers and authorities[72]—making it less likely that risks that span markets or institutions will be properly diagnosed and addressed. FSOC is tasked with identifying and monitoring systemic risks and provides regulators a forum for diagnosing systemic risk in a consistent way, but it does not have authority to regulate it. FSOC cannot override member agencies who disagree with it or each other. If one regulator attempts to address systemic risk alone, it may be unsuccessful. A regulatory crackdown on a risky activity in one type of firm could lead to that activity migrating to a less regulated firm, a phenomenon known as *regulatory arbitrage*. When it does, the risks can become harder to identify and understand.

In some circumstances, safety and soundness (prudential) regulation of individual firms may be a close enough substitute for systemic risk regulation that prudential regulators can effectively identify and respond to emerging threats.[73] (Conversely, regulating institutions for safety and soundness may also make them less likely to be a source of systemic risk.[74]) Generally, prudential regulation grants regulators the authority to write rules to curb risk taking and supervisory and enforcement powers to ensure that the regulated entity is complying with those rules. Regular

[70] Federal Reserve, *Financial Stability Report*, November 2021, p. 3, https://www.federalreserve.gov/publications/files/financial-stability-report-20211108.pdf.

[71] See, for example, FSOC, *Annual Report*, 2021, p. 9.

[72] See CRS Report R44918, *Who Regulates Whom? An Overview of the U.S. Financial Regulatory Framework*, by Marc Labonte.

[73] It would not be a good substitute if the institution were pursuing an activity that could destabilize overall financial conditions but posed little risk to the institution's safety and soundness. Realistically, this might occur when an activity is benign in normal conditions but destabilizing when the financial system is under stress.

[74] See Yener Altunbasa et al., "Macroprudential Policy and Bank Risk," *Journal of International Money and Finance*, vol. 81 (March 2018), pp. 203-220.

supervision is an iterative process that can prevent excessive risks from building up. Banks are closely supervised for safety and soundness, so in theory, federal regulators are closely monitoring and limiting their risk taking.

Nonbank lenders and capital market participants are not generally subject to ongoing prudential supervision, and their regulators, broadly speaking, are not tasked with ensuring their safety and soundness. Generally, the SEC does not have authority to impose prudential standards on private funds (such as hedge funds) or their activities, for example.[75] Insurance firms are supervised for safety and soundness but at the state level rather than on a consolidated basis across states that includes its noninsurance subsidiaries.[76] (Other types of financial firms, including some payments providers, also have state regulators.) Although NAIC has an initiative[77] and task force[78] to address systemic risk, NAIC initiatives are not binding on state regulators, and regulators focused on state issues may be less concerned with or capable of identifying the overall risks to the financial system.

Institution-based regulation can reduce systemic risk when it is the institution itself that poses systemic risk (e.g., a TBTF firm) or if the activity posing risk is performed only by institutions regulated for safety and soundness (e.g., bank deposits). It is generally more difficult for regulators to monitor and mitigate activities that pose systemic risks when they are performed by institutions not subject to safety and soundness regulation or by multiple types of institutions. This could be especially true when those market participants are not required to make information readily available to regulators or the public.[79] Regulators that are not prudential regulators also have enforcement powers, but without regular examinations,[80] they have more difficulty discovering wrongdoing to exercise those powers. Furthermore, without a safety and soundness mandate, excessive risk taking is not forbidden.

If a crisis ensues, policymakers have limited standing authority to quell it. The Fed has emergency lending authority that is limited to broadly based, temporary liquidity programs and rules out bailouts to failing firms and expected losses, and the FDIC can temporarily guarantee bank debt on an emergency basis. In both the financial crisis and the pandemic, these authorities were viewed as too limited, and Congress authorized additional emergency assistance.[81]

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[75] Kress et al., "Regulating Entities and Activities," pp. 1455-1528.

[76] For a description of how large insurers are regulated, see FSOC, *Basis for the Financial Stability Oversight Council's Final Determination Regarding Metlife, Inc.*, Chapter 3.2, December 18, 2014, https://home.treasury.gov/system/files/261/MetLife%2C%20Inc..pdf. A few insurers organize as BHCs or thrift holding companies (THCs) so that the Fed is their consolidated regulator. Many insurers "debanked" in the years after the financial crisis to avoid Fed supervision. Large insurers with BHCs or THCs are exempted from EPR.

[77] NAIC, *Macroprudential Initiative*, updated October 2020, https://content.naic.org/cipr_topics/topic_macroprudential_initiative_mpi.htm.

[78] NAIC, *Financial Stability (E) Task Force*, https://content.naic.org/cmte_e_financial_stability_tf.htm.

[79] For example, the Consumer Financial Protection Bureau's inspector general discusses the agency's difficulty in identifying nonbank institutions under its jurisdiction because there is no registration process or limited reporting requirements. See Office of Inspector General, *The Bureau Can Further Enhance Certain Aspects of Its Approach to Supervising Nondepository Institutions*, December 8, 2021, https://oig.federalreserve.gov/reports/bureau-supervising-nondepository-institutions-dec2021.pdf.

[80] The CFTC and SEC conduct exams of some entities under their jurisdiction but, depending on the type of entity, these exams are more limited in scope and less frequent compared to prudential supervision.

[81] The Dodd-Frank Act further limited both the Fed's and FDIC's emergency authority after the financial crisis.

Financial Innovation

Financial innovation often seeks to minimize regulatory burden. One way to do so is by finding novel ways to arrange financial activities so that they are no longer subject to regulation, blurring the lines between the regulated and nonregulated product or firm. For example, "shadow banking" can result in activities moving from institutions such as banks that are regulated for safety and soundness to institutions that are not. This can lead to regulators playing "catch up."

Risks evolve quickly, while policymaking is typically a deliberative process. Innovation can lead to new regulatory gaps, but the rulemaking process to close those gaps can be time consuming. Moreover, a regulator may lack the authority to respond (because the activity has moved to a different regulator's jurisdiction), or there may be an impasse about the best way to respond to the gap because in practice many regulators require some bipartisan consensus among commissioners to act. Policymakers can also respond to innovation by easing regulatory restrictions in an effort to "level the playing field" for more regulated entities. For example, over time regulators and Congress (most notably through the Gramm-Leach-Bliley Act of 1999, P.L. 106-102) responded to bank-like activities shifting out of the banking system by expanding the activities that banks were permitted to engage in, thus eroding the Glass-Steagall Act's (Act of June 16, 1933, 48 Stat. 162) separation of commercial banking and securities activity.[82]

New products, practices, and types of firms lack the track record that may be needed to accurately quantify risk—risks may not become obvious until a downturn, at which point it may be too late. For example, Congress chose to exempt over-the-counter derivatives from supervision or prudential regulation when the market was relatively small. Whereas derivatives were originally viewed as a way to hedge risks, the financial crisis revealed that they could also magnify and obscure risk. As the market grew rapidly in the run-up to the financial crisis, its regulatory framework remained unchanged. The earlier decision made it harder for regulators to understand what risks the market posed. Furthermore, risks may be hard to manage and monitor because the new products fit poorly in the existing regulatory framework. For example, policymakers have debated whether stablecoins should be regulated as currencies, commodities, securities, mutual funds, banks, or bank deposits. Each option has different regulatory requirements and regulatory jurisdiction—giving different regulators a vested interest to hold out for jurisdiction.

Unlike pharmaceuticals, new financial products do not need to get federal authorization before being introduced on the market. But they must comply with existing law, which, depending on the type of product, may include a registration requirement. Regulators can use their enforcement powers if new products break existing laws, but initiating an enforcement action may take time when a product is novel, and a lengthy judicial process may be needed to confirm that laws have been broken. For example, the rapid growth in cryptocurrency markets has been met with only a gradual and ongoing regulatory response from both a rulemaking and enforcement perspective. The novel technology has raised questions about how it should be regulated, what existing authority regulators have to regulate it, and what new authority they might need. Neither FSOC nor its members have yet offered a comprehensive or proactive plan on what regulatory steps should be taken.

[82] Nicholas K. Tabor, Katherine E. Di Lucido, and Jeffery Y. Zhang, "A Brief History of the U.S. Regulatory Perimeter," Federal Reserve Finance and Economics Discussion Series 2021-051, 2021, https://doi.org/10.17016/FEDS.2021.051. For information on the Glass-Steagall Act, see CRS Report R44349, *The Glass-Steagall Act: A Legal and Policy Analysis*, by David H. Carpenter, Edward V. Murphy, and M. Maureen Murphy.

Lessons Learned from the Past Decade of Systemic Risk Regulation

Many of the regulatory reforms following the financial crisis have been in place for at least a decade—the Dodd-Frank Act was enacted in 2010 and implemented through rulemaking in the years that followed. One can look back over the past decade to see if those reforms have performed as expected. Furthermore, financial instability at the beginning of the pandemic provided a real-life test of how they operated in times of stress.

Many of the problems in markets that saw regulatory overhauls after the crisis have not reemerged since, although some critics believe that the regulatory burden associated with these reforms has been too high compared to the problem being addressed. These include problems with derivatives markets, mortgage markets, and banks. The pandemic experience suggests that reforms to make small and large banks more resilient was successful—although the short-lived nature of the downturn and the blanket government intervention to protect small businesses,[83] residential mortgage holders,[84] and student loan holders[85] from hardship makes this a less trying test for bank solvency than it would appear at first sight. Compared to the financial crisis, few small or large U.S. banks failed or experienced liquidity or capital problems during the pandemic, and no large bank caused disruptions to markets or imposed large losses on counterparties.[86] No bank received capital from the federal government or was bailed out in 2020, although they used the Fed's discount window, and banks and nonbank subsidiaries of BHCs were beneficiaries of emergency Fed programs to relieve stress in various capital markets alongside nonbank financial firms.[87]

Table 3. Bank Performance During and After Crises

	Financial Crisis and Aftermath (2008-2012)	Pandemic (2020-2021)
Number of banks on FDIC's problem bank list (annual average)	660	51
Number of bank failures (total)	465	4
Peak use of Fed's discount window	$112 billion	$50 billion

[83] See CRS Report R46284, *COVID-19 Relief Assistance to Small Businesses: Issues and Policy Options*, by Robert Jay Dilger and Bruce R. Lindsay.

[84] See CRS Insight IN11334, *Mortgage Provisions in the Coronavirus Aid, Relief, and Economic Security (CARES) Act*, by Katie Jones and Andrew P. Scott.

[85] See CRS Report R46314, *Federal Student Loan Debt Relief in the Context of COVID-19*, by Alexandra Hegji.

[86] Many of the bank failures following the financial crisis did not occur until after the crisis had ended, so it might be premature to conclude that banks were resilient after the pandemic. However, the fact that few banks are currently on the problem bank list suggests that a wave of post-pandemic failures is unlikely.

[87] Section 522 of P.L. 116-260 allows Treasury to make investments in minority depository institutions and community development financial institutions—some of which are banks—to support their efforts to "provide loans, grants, and forbearance for small businesses, minority-owned businesses, and consumers, especially in low-income and underserved communities … that may be disproportionately impacted by the economic effects of the COVID-19 pandemic." The intended purpose of this program is not to recapitalize these institutions, however. For more information, see CRS Insight IN11565, *Consolidated Appropriations Act, 2021 (P.L. 116-260): Emergency Capital Investment Program*, by David W. Perkins.

	Financial Crisis and Aftermath (2008-2012)	Pandemic (2020-2021)
Peak use of Fed's Term Auction Facility	$493 billion	$0

Sources: FDIC, "Bank Failures in Brief—Summary 2001 through 2021," https://www.fdic.gov/bank/historical/bank/; FDIC, "Statistics at a Glance: Historical Trends as of September 30, 2021," https://www.fdic.gov/analysis/quarterly-banking-profile/statistics-at-a-glance/2021sep/fdic.pdf.

Notes: Data for 2021 is through September for banks on problem bank list. The FDIC defines "problem" institutions as those "with financial, operational, or managerial weaknesses that threaten their continued financial viability." The Term Auction Facility was not reopened during the pandemic.

Many of the same financial crisis problems that appeared in nonbank capital markets reappeared in 2020, including repo markets, commercial paper, asset-backed securities, corporate and municipal bonds, and MMFs.[88] These markets all stabilized quickly but only after a pledge by the Fed to provide "whatever it takes" assistance. Although there were few notable failures among nonbank financial firms either, one can speculate that many could have failed had the Fed not stepped in to quell panic.[89] These markets saw fewer regulatory changes after the financial crisis and are relatively lightly regulated.

The remainder of this report evaluates whether the major goals of systemic risk have been achieved—ending bailouts, ending TBTF, and identifying and responding to emerging threats.

Ending Bailouts

The pandemic showed that efforts to end government intervention in financial markets were only a partial success. No large financial firm required rescue by the government, but the Fed again intervened to stabilize financial markets on an overwhelming scale with financial backing from Congress in the CARES Act. Despite the backlash against government intervention after the financial crisis, doing nothing in the face of widespread financial turmoil during the pandemic proved politically untenable, underscoring the notion that Congress cannot tie the hands of future Congresses. By contrast, the CARES Act lifted two restrictions on bailouts put in place in response to the financial crisis (uninsured deposit guarantees and using the ESF to guarantee MMFs) during the pandemic.

Two large-scale government interventions in a little over a decade makes any future pledge not to intervene less credible, thereby undermining the potential role of market discipline in curbing risk and increasing the likelihood of future crises through greater moral hazard. Further, the Fed has little regulatory authority over the markets it intervened in to mitigate moral hazard. Although the counterfactual is unknown, the brevity of financial instability in 2020 and subsequent financial boom raises the possibility that large-scale intervention was unnecessary and markets might have re-stabilized on their own. In other words, it is unclear whether the federal intervention in

[88] FSB, Lessons Learnt from the COVID-19 Pandemic from a Financial Stability Perspective, October 2021, https://www.fsb.org/wp-content/uploads/P281021-2.pdf.

[89] A notable exception was Archegos, a family office. Family offices are exempt from many SEC regulatory requirements. Archegos imposed large losses on four G-SIBs—Credit Suisse, UBS, Mitsubishi UFJ FG, and Morgan Stanley—that lent to it. Its 2021 failure does not appear to be closely related to the pandemic. For more information, see CRS In Focus IF11825, *Family Office Regulation in Light of the Archegos Fallout*, by Gary Shorter and Eva Su; and Erik Schatzker et al., "Bill Hwang Had $20 Billion, Then Lost It All in Two Days," *Bloomberg Businessweek*, April 8, 2021, https://www.bloomberg.com/news/features/2021-04-08/how-bill-hwang-of-archegos-capital-lost-20-billion-in-two-days.

financial markets was successful (because it staved off a crisis) or unnecessary (because financial turmoil would have subsided on its own). If the latter, this would be problematic, since the purpose of financial interventions is to prevent lost jobs and income, not to prop up asset prices. If the subsequent boom in financial markets would not have started without government intervention, it raises issues of fairness—in terms of protecting investors from losses in what were intended to be risky investments—and the implications of greater wealth inequality.[90]

The counterargument is that the pandemic was such a rare and unique event—literally, a once-in-a-century occurrence that resulted in unprecedented economic lockdowns nationwide—that financial markets should not expect another government intervention in the future.[91] But moral hazard is based on what markets do expect, not what they should expect, so systemic risk could still be higher even if policymakers did view the pandemic as unique. Furthermore, the pandemic response could exacerbate moral hazard because of new emergency programs that had never been created before, statutory rollbacks of post-financial-crisis restrictions on intervention, and some permanent interventions, such as the Fed's repo backstop (see text box).

The Fed's New Standing Repo Facility

Without a change in statutory authority, invoking emergency authority, or a rulemaking process, the Fed created a federal backstop for repo markets after repo markets proved unstable in both the financial crisis and the pandemic.[92] In 2014, the Fed created a permanent standing reverse repo facility where a broad range of market participants could *lend* the Fed cash in exchange for Treasury securities and MBS. In 2021, the Fed set up a parallel permanent standing repo facility to *borrow* cash from the Fed. Unlike the Fed's emergency facilities that have already expired, the programs are permanent.

One goal of the facilities is to prevent systemic risk posed by repo market disruptions, which can lead to sudden loss in access to liquidity for borrowers when private lenders suddenly pull back.[93] But the facilities may exacerbate systemic risk by encouraging greater reliance on repo funding with the knowledge that borrowers can turn to the Fed in times of trouble. Moral hazard can theoretically be contained through regulation, but the Fed does not regulate this market or its nonbank participants or charge for ongoing access to the facility.

Identifying and Responding to Emerging Threats

Much of the post-financial-crisis regulatory response responded to specific things that went wrong during that crisis. While there is value to addressing known problems so they do not reoccur, this approach can fall prey to the "fighting the last war" syndrome. Namely, each financial crisis is unique, so the cause of the next crisis is unlikely to be the same as the last. But an emerging threat cannot be addressed until it emerges.

[90] Some asset classes, such as equities, benefited at most indirectly from government intervention by improving the liquidity position of the underlying firms. Other asset classes—such as corporate bonds, commercial paper, repos, and MMFs—directly benefited from government intervention.

Any increase in inequality caused by the asset boom cannot be considered in isolation but should be considered along with other factors that have affected inequality, such as falling unemployment and rising wages, that were also partly affected by policy.

[91] Anna Kovner and Antoine Martin, "The Official Sector's Response to the Coronavirus Pandemic and Moral Hazard," Federal Reserve Bank of New York, Liberty Street Economics, September 24, 2020, https://libertystreeteconomics.newyorkfed.org/2020/09/the-official-sectors-response-to-the-coronavirus-pandemic-and-moral-hazard.html.

[92] The Fed has used repos in open market operations to execute monetary policy for decades under existing authority but had never guaranteed access to all eligible users to meet their liquidity needs before.

[93] Another goal of the facilities is to make interest rates less volatile, making monetary policy implementation easier.

The Dodd-Frank Act created FSOC and OFR with the "fighting the last war" problem in mind. Ideally, FSOC could identify threats as they emerged, and member regulators and Congress could nip those threats in the bud. Arguably, this dynamic has not played out over the past decade. In practice, since 2010, FSOC has used the statutory process to recommend that member agencies address systemic risk only once—for an "old threat," not an "emerging threat" (as in the SEC MMF reforms adopted in 2014).[94] However, FSOC has also published informal recommendations to members, such as proposals to implement GSE capital requirements[95] (which were adopted) and to address climate risk[96] (implementation is ongoing).

Each year, FSOC produces an annual report that is hundreds of pages long and covers a wide array of potential threats. Neither congressional committee of jurisdiction has scheduled the statutorily required annual testimony for this report every year in recent years. Many of the same topics and recommendations appear each year. The report rarely makes recommendations to Congress, and Congress has not acted on those recommendations it has made. For example, several annual reports recommended that Congress enact GSE reform. In 2021, the report did not recommend that Congress address LIBOR transition risk even though the House had already passed such a bill (H.R. 4616), which the Treasury had previously endorsed.[97] The report makes recommendations to member agencies, but those recommendations are most frequently that the agency should monitor the issue or continue to pursue the policy it is currently pursuing. Arguably, this coordination of the regulatory agenda helps avoid regulatory gaps or duplication, but it has not led to the initiation of significant action on emerging threats.

To date, FSOC has operated collegially and set policy by consensus, and there has been no public opposition from member agencies to any of its recommendations nor public disputes between members. The flip side of this consensus-driven model is that policies have been formulated slowly and could suffer from a "lowest common denominator" of what members can agree to (or inertia when there is no consensus). Specific reform recommendations can take years to propose, let alone implement. Threats to financial stability, by contrast, can emerge quickly. So long as threats remain just that, this disparity has not proven to be problematic. But reforms that might have been manageable or politically viable when threats were small can become less tractable as markets grow. Cryptocurrencies, for example, have grown in value from less than $500 billion in 2020 to over $2 trillion in 2021,[98] but regulators have still not proposed rules (or applied existing rules) to create a new comprehensive regulatory framework for them.

With 10 voting members and five nonvoting members with diverse expertise and viewpoints, FSOC may be a cumbersome venue for setting policy. Perhaps for that reason, since 2020, a subset of members acting outside of FSOC have coordinated the response to systemic risk posed

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[94] FSOC, "Proposed Recommendations Regarding Money Market Mutual Fund Reform," 77 *Federal Register* 69455, November 19, 2012, https://home.treasury.gov/system/files/261/Proposed-Recommendations-Regarding-Money-Market-Mutual-Fund-Reform.pdf.

[95] FSOC, *Statement on Activities-Based Review of Secondary Mortgage Market Activities*, September 25, 2020, https://home.treasury.gov/system/files/261/Financial-Stability-Oversight-Councils-Statement-on-Secondary-Mortgage-Market-Activities.pdf.

[96] FSOC, *Report on Climate-Related Risk*, October 21, 2021, https://home.treasury.gov/system/files/261/FSOC-Climate-Report.pdf.

[97] Deputy Assistant Treasury Secretary Brian Smith, testimony at U.S. Congress, House Committee on Financial Services, Subcommittee on Investor Protection, Entrepreneurship, and Capital Markets, *The End of LIBOR*, 117th Cong., 1st sess., April 15, 2021, https://financialservices.house.gov/uploadedfiles/hhrg-117-ba16-wstate-smithb-20210415.pdf.

[98] International Monetary Fund, *Financial Stability Report*, October 2021, Figure 2.1, https://www.imf.org/-/media/Files/Publications/GFSR/2021/October/English/ch2.ashx.

by stablecoins, Treasury market dysfunction, and MMFs.[99] In its 2021 Annual Report, FSOC highlighted all three of these reports but offered no recommendations for the former two. (Its recommendations for the latter were to implement the report's recommendations.) This may raise questions about whether Treasury is ignoring Congress's will to have systemic risk policy centered in FSOC, where all of its members can weigh in.

Too Big to Fail

The Dodd-Frank Act created EPR and OLA to mitigate TBTF problems. It based EPR on size alone for BHCs and used an FSOC designation process (where decisions were based on systemic importance instead) for nonbank financial firms. It may be useful to compare how these parallel regimes performed.

EPR for banks was operational within a few years of enactment. Regulations have been tweaked in recent years to make them more tiered, and P.L. 115-174 reduced the number of BHCs subject to EPR. But the notion that banks with over $250 billion in assets should be subject to EPR is relatively uncontroversial today. (Whether banks below $250 billion should be subject to EPR is considerably more controversial.) Given that size is an imperfect proxy for systemic importance, policymakers face a tradeoff. They can set the size threshold relatively low and impose an unnecessarily high regulatory burden on firms above the threshold that are not systemically important, or they can set it relatively high and fail to capture all systemically important firms.

The threat of large bank failure was an integral source of systemic risk during the financial crisis but played no role in the pandemic, in part because their capital levels remained well above statutory minimums. The Fed initially capped dividends and stock buybacks at large banks subject to stress tests to make sure their capital levels were not eroded.[100] These restrictions were fully removed in June 2021. The fact that no large bank has struggled since the financial crisis means that it is difficult to evaluate the effectiveness of Dodd-Frank requirements such as OLA and living wills. However, some are concerned that EPR requirements have resulted in large banks hoarding capital and liquidity during the pandemic. This has a mixed effect on financial stability—it makes the banks safer but can make the rest of the financial system more fragile if lending and liquidity provisions (e.g., banks with broker-dealers are market-makers for securities) become more pro-cyclical. With this concern in mind, Basel III included a counter-cyclical capital buffer that could be raised during booms (requiring banks to hold more capital) and lowered in downturns (requiring them to hold less). However, the counter-cyclical buffer has been kept at zero continuously since it was first introduced, raising the question of under what circumstances, if any, it will be politically viable for regulators to raise it above zero.

In contrast to EPR for large banks, nonbank SIFI designation first struggled and then collapsed. As seen in **Table 1**, designation was a slow process, taking three to four years from enactment. MetLife's successful legal challenge would presumably make designation more arduous in the future. If a nonbank financial firm posed risks, this is unlikely to be an effective way to address those risks quickly. Four firms were designated since 2010, and three of them were insurers—an

[99] In some cases, the response has involved the President's Working Group on Financial Markets, an informal coordinating body of regulators (all of which are FSOC members) and the Treasury Secretary that pre-dated the creation of FSOC.

[100] Federal Reserve, "Federal Reserve Board Releases Results of Stress Tests for 2020 and Additional Sensitivity Analyses Conducted in Light of the Coronavirus Event," press release, June 25, 2020, https://www.federalreserve.gov/newsevents/pressreleases/bcreg20200625c.htm.

industry that, outside of AIG, was not at the center of financial crisis problems.[101] Although investment banks and other securities firms were central to the crisis, no firm from the securities industry (often called "asset managers" in this context) was designated.[102] Consideration by FSOC was successfully batted down in the initial stages, reportedly by industry and the SEC.[103]

No EPR regulations were implemented for these firms while they were designated, as the Fed seemed to struggle to adapt bank regulations to nonbank financial firms' business models. Eventually, all four were de-designated, so they are now regulated like any other firm in their respective industries. The designation and de-designation process was opaque and subjective enough that FSOC could first argue that Prudential was a SIFI and then argue it had ceased to be a SIFI despite the fact that it had grown larger in the meantime. In hindsight, four SIFIs arguably seemed to be too few to be sustainable—those four could credibly argue that they were unfairly singled out in such a way that would have made it hard to compete with their peers (had regulations been finalized).[104] FMU designation—of which there were eight—has proven more durable than SIFI designation, in part because the regulatory requirements that accompanied designation seemed less disruptive to their existing regulation and business models.

Although systemic importance is not based on size, it is correlated with size—it is hard to imagine any truly small financial firm being systemically important—and size is easy to measure.[105] Measuring systemic importance is more complicated—complexity and interconnectedness are important but hard-to-quantify factors—and hence more subjective. Comparing the experience with applying EPR to large banks and nonbank SIFIs, it appears that a simple, objective measure was more robust than a complicated, opaque, subjective measure.

Activities-Based Regulation

Effective entity-based regulation of systemically important financial firms can address the systemic risk caused by the TBTF problem, but not all systemic risk is caused by TBTF. Thus, systemic risk regulation is unlikely to be effective if limited to systemically important financial firms.

Regulation can be applied to entities or activities that pose systemic risk. When entities are systemically important because of the activities they perform, regulation could theoretically address the problem through either entity- or activity-based regulation. FSOC under the Trump Administration issued guidance to reorient systemic risk regulation primarily toward activity.[106]

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[101] AIG's problems were related to its securities lending and credit default swaps businesses. One could argue that these are not part of the traditional business of insurance. See CRS Report R42953, *Government Assistance for AIG: Summary and Cost*, by Baird Webel.

[102] This is partly because the five large investment banks that operated before the financial crisis no longer existed as standalone investment banks after the crisis.

[103] Joshua S. Wan, "Systemically Important Asset Managers: Perspectives on Dodd-Frank's Systemic Designation Mechanism," *Columbia Law Review*, vol. 116, no. 3, https://columbialawreview.org/content/systemically-important-asset-managers-perspectives-on-dodd-franks-systemic-designation-mechanism/.

[104] Christina Parajon Skinner, "Regulating Nonbanks: A Plan for SIFI Lite," *Georgetown Law Review Journal*, vol. 105, no. 5 (June 2017), pp. 1379-1432.

[105] OFR, "Size Alone Is Not Sufficient to Identify Systemically Important Banks," *Viewpoint 17-04*, October 26, 2017, https://www.financialresearch.gov/viewpoint-papers/2017/10/26/size-not-sufficient-to-identify-systemically-important-banks/.

[106] FSOC, "Authority to Require Supervision and Regulation of Certain Nonbank Financial Companies," 84 *Federal Register* 71740, December 30, 2019, https://home.treasury.gov/system/files/261/Authority-to-Require-Supervision-and-Regulation-of-Certain-Nonbank-Financial-Companies.pdf.

At least in regard to the securities industry, Treasury Secretary Janet Yellen reaffirmed that view in testimony.[107] FSOC can require entity-based regulation through its SIFI designation authority, whereas it can only recommend activity-based regulations that member regulators may or may not have authority to carry out. There are theoretical reasons to question whether activities-based regulation can fully or effectively substitute for entity-based regulation. Specifically, risky activities can be harder to identify beforehand and monitor, and institutions can pose systemic risk because of the cumulative effect of their activities, any one of which might not be risky if pursued individually on a smaller scale at another firm.[108] But as a practical matter, as outlined above, there has been almost no activities-based systemic risk regulation since passage of the Dodd-Frank Act.

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Acknowledgments

The "2007-2009 Financial Crisis" section draws from CRS Report R43413, *Costs of Government Interventions in Response to the Financial Crisis: A Retrospective*, by Baird Webel and Marc Labonte.

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[107] *Congressional Quarterly*, "Senate Banking, Housing and Urban Affairs Committee Holds Hearing on the CARES Act Quarterly Report," transcript, March 24, 2021.

[108] Kress et al., "Regulating Entities and Activities," pp. 1455-1528.