OPTIONS FOR DEPOSIT INSURANCE REFORM

MAY 1, 2023

FDIC
FEDERAL DEPOSIT
INSURANCE CORPORATION

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Section 1: Executive Summary

The Federal Deposit Insurance Corporation was established in 1933 in response to widespread bank runs and bank failures that inflicted severe damage on the U.S. economy. Although many banks have failed since then, all insured deposits have been fully protected by the FDIC.

Trends in uninsured deposits have increased the exposure of the banking system to bank runs. At its peak in 2021, the proportion of uninsured deposits in the banking system was 46.6 percent, higher than at any time since 1949. Uninsured deposits are held in a small share of accounts but can be a large proportion of banks' funding, particularly among the largest 10 percent and largest 1 percent of banks by asset size. Large concentrations of uninsured deposits, or other short-term demandable liabilities, increase the potential for bank runs and can threaten financial stability. Uninsured depositor runs triggered the failures of Silicon Valley Bank and Signature Bank in March 2023, respectively the second and third largest bank failures in the FDIC's history.

Technological changes may increase the risk of bank runs. The speed with which information, or misinformation, is disseminated and the speed with which depositors can withdraw funds in response to information may contribute to faster, and more costly, bank runs. The spread of information and the ability of depositors to transfer funds overnight and on weekends may make it more challenging to promptly intervene in a bank run.

A primary objective of deposit insurance is to promote financial stability. By issuing demandable deposits and lending long term, banks are subject to runs. When there is a bank run, a bank may be forced to liquidate assets inefficiently. The bank may need to be sold on short notice, reducing its valuation and increasing resolution costs. A bank run may also lead to contagion, as demandable liability holders at similarly situated banks withdraw their funds, leading to increased stress in the banking system. Depositors who lose access to their funds in bank failures may be unable to meet obligations coming due, resulting in financial stress to firms and households. Deposit insurance reduces these risks.

Protecting small depositors, who hold most of the deposit accounts, has been an objective of the deposit insurance system since its founding. As of December 2022, more than 99 percent of deposit accounts were under the $250,000 deposit insurance limit. Monitoring bank solvency involves fixed costs, making it both impractical and inefficient for small depositors to conduct due diligence. Monitoring banks is also time consuming and requires financial, regulatory, and legal expertise that cannot be expected of small depositors. Deposit insurance protects small depositors' savings, without these undue costs and burdens.

Deposit insurance can result in moral hazard and can increase bank risk-taking. Moral hazard is the incentive to take on greater risk as a result of being protected from the consequences of risk-taking. Since insured depositors face no risk of loss and little incentive to withdraw funds, risks and embedded losses can sometimes build over time at banks funded largely by insured deposits.

Therefore, changes to deposit insurance must consider both the financial stability benefits of more coverage and the possible implications for risk-taking in the banking system.

Regulation and supervision are essential for helping the deposit insurance system meet its objectives and constrain moral hazard. Tools such as capital requirements and supervision of bank growth can reduce moral hazard that arises from deposit insurance. Meanwhile, liquidity regulation and interest rate risk regulation and supervision can complement deposit insurance to reduce run risk. Expansion of long-term debt requirements may both increase financial stability by facilitating bank resolution and reduce moral hazard by increasing market discipline from debtholders.

Bank runs are a costly form of market discipline to mitigate moral hazard. Bank runs by uninsured depositors transfer losses to the FDIC and other market participants, increase risk to the system by preventing an orderly resolution of the bank, and can increase risk to stakeholders at other banks through contagion. Still, deposit withdrawals can force closures of banks with unsafe business practices not otherwise addressed. The threat of bank runs may also deter bank risk-taking if bank management perceives that the risk of a run threatens bank franchise value. Forms of market discipline that similarly constrain bank management, but not through runs, are preferable from a financial stability perspective.

Even with deposit insurance, non-deposit creditors and shareholders may still constrain bank risk-taking. However, deposit insurance may reduce the cost of deposit funding and so reduce bank incentives to raise non-deposit funding. Policies that promote reliance on other market participants to constrain bank risk-taking can dampen moral hazard concerns related to deposit insurance.

Deposit insurance has broader market effects. Banks compete for deposits on several dimensions. As deposit insurance increases, deposits become a relatively more attractive asset. In addition, as deposit insurance coverage increases, demand for deposits may rise, leading to a decline in deposit interest rates and an increase in banks' reliance on deposit funding. Understanding the broader market implications of changes to deposit insurance is important for any policy decision.

Deposit insurance is not free and must be funded through assessments on the banking system. Although the challenges posed by concentrations of uninsured depositors in the system are driven primarily by a small subset of depositors at a subset of banks, increases to the deposit insurance limit increase the size of the Deposit Insurance Fund (DIF, or the Fund) necessary for a given target ratio of the Fund to insured deposits. Increasing the size of the Fund must be done through increased assessments on banks.

Additional policies can support deposit insurance objectives and mitigate undesired consequences. Deposit insurance pricing is a tool that promotes fund adequacy, encourages the fair allocation of the cost of deposit insurance across banks and, to some extent, influences bank risk-taking. Requiring collateralization of large uninsured deposits may also be considered an option to limit bank reliance on uninsured deposits, reduce depositor run incentives, and increase depositor discipline. Limiting the convertibility of large uninsured deposits would restrict the capacity of depositors to run and may improve depositor discipline in a manner that does not threaten financial stability.

This report evaluates three options to reform the deposit insurance system. Ordered only for clarity of discussion, **Limited Coverage** maintains the current structure of deposit insurance in which there is a finite deposit insurance limit that applies across depositors and types of accounts. Limited Coverage includes the possibility of an increased, but finite, deposit insurance limit. **Unlimited Coverage** provides unlimited deposit insurance. **Targeted Coverage** allows for different levels of deposit insurance coverage across different types of accounts and focuses on higher coverage for business payment accounts. Targeted Coverage includes the possibility that some account types receive unlimited coverage, while others do not. Although each option has strengths and weaknesses, Targeted Coverage captures many of the financial stability benefits of expanded coverage while mitigating many of the undesirable consequences.

Each option should be viewed alongside other policy changes. Because each of the options has relative strengths and weaknesses, their effectiveness depends upon the extent to which other policies are pursued simultaneously. Regulation and supervision and deposit insurance pricing can be used to support financial stability objectives and mitigate consequences. In addition, limiting the convertibility of large uninsured deposits, requiring collateralization of large uninsured deposits, simplifying deposit insurance, or providing excess deposit insurance may be considered alongside Limited Coverage and Targeted Coverage options.

Limited Coverage maintains the current system of deposit insurance and does not, by itself, address the run risk associated with high concentrations of uninsured depositors, even with an increase to the deposit insurance limit. Increasing the limit by an order of magnitude (for example, to millions of dollars) is insufficient to cover many of the largest uninsured deposit accounts, the sudden withdrawal of which may be sufficient to destabilize segments of the banking system. Therefore, achieving financial stability goals in a system with large quantities of uninsured demandable deposits should be pursued alongside other tools that limit bank reliance on uninsured demandable deposits, reduce the incentive of uninsured depositors to run, or reduce the ability of uninsured depositors to run. Small and medium-size businesses that hold deposits at ranges modestly above the current limit may benefit from an increase to the deposit insurance limit. Absent an increase in the limit by multiple orders of magnitude, the overall effects on other markets and the adequacy of the DIF are likely to be small.

Unlimited Coverage—fully insuring all deposits—effectively removes run risks but may have large effects on bank risk-taking, the level of deposit insurance assessments on banks, and broader financial markets. Insurance backed by the federal government provides the best deterrent to run risk. However, full deposit insurance may also generate large inflows of deposit funding to banks. It also would remove depositor discipline and may induce excessive risk-taking by banks. In addition, full deposit insurance may lead to significant disruptions for asset markets for which deposits are a substitute. Other tools, such as regulation, supervision, and pricing, may be used along with insurance to reduce disruptions to other asset markets and to dampen increased moral hazard. Full deposit insurance would increase the size of the DIF needed to achieve any given ratio of the DIF to insured deposits by about 70 to 80 percent, ignoring possible inflows of deposits, leading to significantly higher assessments on banks.

Targeted Coverage would provide substantial additional coverage to business payment accounts without extending similar insurance to all deposits, yielding large financial stability benefits relative to its costs. A challenge to Targeted Coverage is the need to delineate between business payment deposits and other deposits. Extending deposit insurance to business payment accounts may have relatively large financial stability benefits, with fewer costs to moral hazard relative to increasing the limit for all accounts, as in the other options. It is difficult for businesses to maintain payment accounts across multiple banks to obtain increased deposit insurance coverage. Payment accounts rarely involve weighing a risk-return tradeoff typical of investments that form the basis of desirable market discipline. Further, losses on business payment accounts are most likely to spill over to payroll and other businesses. However, significant challenges in Targeted Coverage are distinguishing accounts that merit higher coverage from those that do not and limiting the ability of depositors and banks to circumvent those distinctions. Extending considerably higher deposit insurance to business payment accounts may require a significant increase in assessments.

Overview: This report highlights the limitations of the current deposit insurance system to achieve financial stability objectives in an environment with large quantities of uninsured deposits and policy options that may be considered to help the deposit insurance system meet those objectives. Table 1.1 provides a summary of the advantages and disadvantages of the options along with complementary tools for consideration. Section 2 discusses the events of March 2023 and broader industry trends that give rise to financial stability concerns. Section 3 provides a brief history of changes to the U.S. deposit insurance system. Section 4 outlines the objectives and consequences of deposit insurance. Section 5 discusses tools that may be used in conjunction with deposit insurance to achieve policy objectives. Section 6 discusses options and considerations for reform to the deposit insurance system. Section 7 concludes.

Table 1.1 Summary of Advantages and Disadvantages of the Options for Deposit Insurance Reforms			
	Advantages	**Disadvantages**	**Potential Complementary Tools**
Limited Coverage	• Best tested model of deposit insurance • Results in a limited effect on moral hazard • Has a limited effect on Deposit Insurance Fund (DIF) adequacy • Creates limited disruption in other markets	• Raises financial stability concerns from uninsured deposits at risk	• Consider liquidity regulations that reduce reliance on uninsured deposits • Incorporate additional liquidity risk measures into pricing • Place limits on convertibility for large deposits • Implement deposit insurance simplification coupled with an increase in coverage to address transparency concerns and complexity • Consider long-term subordinated debt requirement to facilitate resolution
Unlimited Coverage	• Largely eliminates bank runs • Enhances transparency—clear understanding of insurance status for depositors • Simplifies resolution process	• Eliminates depositor discipline; burden of market discipline falls to debtholders and stockholders • Potentially broader market disruptions • Generates large effects on DIF and increased assessments	• Consider long-term subordinated debt requirements and capital requirements to mitigate moral hazard • Consider regulation that limits reliance on deposits • Consider interest rate restrictions
Targeted Coverage	• Targets coverage to meet ongoing payment and operational needs of businesses • Increases financial stability, depending on the increase in coverage • Results in a limited decrease in depositor discipline depending on types of accounts covered • Previous experience (Transaction Account Guarantee Program)	• Challenging to define type of accounts, risk of regulatory arbitrage • Decrease in transparency due to complexity • Increases complexity of resolutions • Requires additional DIF funding	• Consider interest rate restrictions on accounts for which additional coverage is extended • Consider simplification of ownership categories to decrease complexity • If large accounts remain partially insured, require that large deposits are secured • If large accounts remain partially insured, place limits on convertibility for large deposits

Section 2: Introduction and Background

Introduction

The Federal Deposit Insurance Corporation was established in 1933 in response to widespread bank runs and bank failures that inflicted severe damage on the U.S. economy.[1] Although many banks have failed since, with the advent of FDIC insurance all insured deposits have been fully protected.

The events of March 2023 were a reminder that the risk of bank runs can still be consequential. Runs by uninsured depositors caused the failures of Silicon Valley Bank and Signature Bank, respectively the second and third largest bank failures in the FDIC's history. On March 12, 2023, the Secretary of the Treasury, acting on the recommendations of the FDIC and the Federal Reserve and after consultation with the President, invoked the statutory systemic risk exception to protect all depositors in connection with each of the two failures.[2] On the same day, the Federal Reserve announced the creation of the Bank Term Funding Program to lend to depository institutions at par against eligible collateral.[3] The agencies took these actions to protect the U.S. economy by strengthening public confidence in the banking system.

These and subsequent events have stimulated a robust policy discussion about whether changes to the U.S. federal deposit insurance system are needed to ensure that it continues to achieve the important objectives that Congress established. These include promoting public confidence in the banking system and supporting financial stability, protecting small savers, and containing the cost of the deposit insurance system through regulation, supervision, deposit insurance pricing and insurance fund management.

This report describes options for reform of the deposit insurance system and tools that can be used to complement the system. The proposed options require an act of Congress, though some aspects of the report lie within the scope of FDIC rulemaking authority.

The events of March 2023 have also stimulated discussion of whether changes are needed to the framework of bank supervision and regulation. These issues merit serious attention. Recommendations regarding specific changes to supervision and regulation are, however, beyond the scope of this report.

Background

The conditions that led to the failure of Silicon Valley Bank and Signature Bank, the decision to make systemic risk determinations in connection with the two failures, and the establishment of the Federal

[1] The current deposit insurance requirements may be found in the Federal Deposit Insurance Act (FDI Act), 12 U.S.C. 1811, et seq.

[2] "Joint Statement by the Department of the Treasury, Federal Reserve, and FDIC," press release March 12, 2023. https://www.fdic.gov/news/press-releases/2023/pr23017.html

[3] Board of Governors of the Federal Reserve System, "Federal Reserve Board Announces It Will Make Available Additional Funding to Eligible Depository Institutions to Help Assure Banks Have the Ability to Meet the Needs of All Their Depositors," press release March 12, 2023. https://www.federalreserve.gov/newsevents/pressreleases/monetary20230312a.htm

Reserve's special liquidity program provide important context for the remaining discussion in this report.

The Bank Failures of March 2023[4]

On March 8, 2023, Silvergate Bank, with about $11.3 billion in assets at year-end 2022, announced that it would wind down its operations and self-liquidate. In retrospect, this announcement was a precursor to the events of the next few days. Silvergate had a business model focused on providing services to digital asset firms. From year-end 2018 through year-end 2021, Silvergate grew its assets eightfold, from about $2 billion to about $16 billion. The bank's asset growth was funded by uninsured deposits, which at year-end 2021 comprised about 98 percent of its deposits. Amid concerns about market developments regarding digital assets, in the fourth quarter of 2022 Silvergate experienced a significant outflow of deposits (including from the digital asset exchange FTX). To cover deposit withdrawals, Silvergate sold debt securities, resulting in a net earnings loss of $1 billion. On March 1, Silvergate reported that recent events raised concerns about its ability to operate as a going concern, and on March 8 it announced that it would self-liquidate.

Silicon Valley Bank (SVB) had assets of $209 billion and deposits of $191 billion as of year-end 2022. Its deposits were associated with commercial and private banking clients, mostly linked to businesses financed through venture capital. From year-end 2018 through year-end 2021, SVB almost quadrupled its asset size, with the growth funded almost entirely by uninsured deposits. On its year-end 2022 Consolidated Report of Condition and Income (Call Report), SVB reported that 94 percent of its domestic deposits were uninsured.

SVB also had substantial unrealized losses on securities, amounting to 104 percent of tier 1 capital as of year-end 2022. These losses represented the decrease in the fair value of long-maturity securities caused by the substantial increase in interest rates that occurred in 2022, which continued into 2023. The combination of large volumes of uninsured deposits and large amounts of underwater securities elevated the risk that the bank would be forced to sell securities at a loss to cover deposit withdrawals.

On March 8, the same day that Silvergate announced that it would self-liquidate, SVB announced a proposed offering of common stock and mandatory convertible preferred stock.[5] The announcement noted that SVB had completed the sale of a substantial portion of its available-for-sale securities portfolio that day and reported that more than $21 billion of securities had been sold at an after-tax

[4] Much of the information in this section is from "Recent Bank Failures and the Federal Regulatory Response", United States Senate Committee on Banking, Housing, and Urban Affairs, March 28, 2023 (https://www.banking.senate.gov/hearings/recent-bank-failures-and-the-federal-regulatory-response) and "The Federal Regulator's Response to Recent Bank Failures," United States House of Representatives Financial Services Committee, March 29 2023 (https://financialservices.house.gov/calendar/eventsingle.aspx?EventID=408664) and the accompanying written testimony.

[5] SVB Financial Group, "SVB Financial Group Announces Proposed Offerings of Common Stock and Mandatory Preferred Stock," press release March 8, 2003. https://ir.svb.com/news-and-research/news/news-details/2023/SVB-Financial-Group-Announces-Proposed-Offerings-of-Common-Stock-and-Mandatory-Convertible-Preferred-Stock/default.aspx

loss of $1.8 billion. The announcement, and warnings about SVB in social media posts by private investors, escalated uninsured depositor concerns about the bank: by the end of the day on March 9, $42 billion in deposits had left the bank.[6] The California Department of Financial Protection and Innovation closed the bank on Friday morning, March 10, and appointed the FDIC as receiver.

The FDIC's announcement on Friday morning of its appointment as receiver for SVB indicated that uninsured depositors of SVB would receive an advance dividend and a receivership certificate for the rest of their funds.[7] This approach was less costly to the DIF than it would have been to fully protect all uninsured depositors. Under the statutory Least Cost Test, the FDIC could not protect uninsured depositors unless a systemic risk determination had been made by the Secretary of the Treasury, acting on the recommendations of the FDIC and the Federal Reserve, and after consultation with the President.

The announcement that the uninsured depositors of SVB had not been fully protected reverberated through the financial markets on Friday and into the weekend and precipitated the failure of Signature Bank. Signature had year-end 2022 assets of $110 billion and deposits of $89 billion. Its business included a significant focus on the digital asset industry. Signature grew its assets about 2.5-fold from year-end 2018 to year-end 2021. Like SVB and Silvergate, its rapid growth was funded with uninsured deposits. Almost 90 percent of Signature's deposits at year-end 2022 were uninsured. Signature also had exposure to unrealized losses on securities amounting to about 32 percent of its tier 1 capital.

Like Silvergate, Signature began losing deposits in 2022 amid unfavorable developments in the digital asset industry. With the announcement of the failure of SVB on Friday, Signature experienced an acceleration of deposit outflows that had begun the previous day. It lost 20 percent of its deposits in a matter of hours on March 10 and had a negative balance with the Federal Reserve at the close of business. The New York State Department of Financial Services closed Signature on Sunday, March 12, and appointed the FDIC as receiver.[8]

Following these developments, the bank regulatory agencies had significant concerns that uninsured depositors would withdraw funds rapidly from other banks. The agencies had already received reports on March 10 from several institutions with large amounts of uninsured deposits that their depositors had begun to withdraw funds.[9] Cascading bank runs could have caused widespread losses to business payroll accounts and more widespread financial contagion.

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[6] In early research Cookson, Fox, Gil-Bazo, Imbet, and Schiller (2023) analyze the effect of social media on bank stock market losses, including those at SVB.

[7] FDIC, "FDIC Creates a Deposit Insurance National Bank of Santa Clara to Protect Insured Depositors of Silicon Valley Bank, Santa Clara, California," press release, March 10, 2023. https://www.fdic.gov/news/press-releases/2023/pr23016.html

[8] FDIC, "FDIC Establishes Signature Bridge Bank, N.A, as Successor to Signature Bank, New York, NY," press release, March 12, 2023. https://www.fdic.gov/news/press-releases/2023/pr23018.html

[9] The March 31, 2023, Federal Reserve Statistical Release H.8, tables 7 and 9, reported that in the week ending March 15, the 25 largest domestically chartered commercial banks in the United States gained $120.2 billion in deposits, while smaller domestically chartered commercial banks in the United States lost $184.6 billion in deposits:

The Treasury, FDIC, and Federal Reserve agreed that systemic risk determinations for both SVB and Signature Bank were in the public interest. These were announced on Sunday, March 12, and on the same day the Federal Reserve announced the establishment of the Bank Term Funding Program.[10]

The self-liquidation of Silvergate and the failures of SVB and Signature stemmed from a confluence of factors, some of which were common to each. All three banks grew extremely rapidly before they failed. Experience has shown that rapid growth using short-term funding is a risky business model. In effect, significant amounts of deposits at these banks behaved as short-term funding, rather than stable relationship deposits. All three also had varying degrees of exposure to unrealized losses in their securities portfolios. For these banks, the risk that securities would need to be sold at a loss to cover deposit withdrawals became a reality.

Finally, and of particular importance given the focus of this report on the deposit insurance system, the vast majority of the deposits of all three banks were uninsured.[11] For practical purposes, in terms of their potential exposure to depositor runs and consequent liquidity risk, these banks were in effect operating as uninsured institutions.

Susceptibility to Uninsured Deposit Runs May Have Increased

Abstracting from the specifics of the events of March 2023, several developments suggest that the banking system has evolved in ways that could increase its exposure to deposit runs. These developments include the amplification of concerns through social media and the speed of some depositor responses, the interaction of failure-resolution events and depositor behavior, and the increased volume and proportion of uninsured deposits in the banking system.

The risk of depositor runs is inherent in banking, where long-term assets are funded by short-term deposit liabilities. The FDIC was established largely in response to the widespread bank runs of the 1930s. Depositors who are unprotected by deposit insurance may consider moving their funds if they are concerned about the liquidity or solvency of their bank. If uninsured depositors believe that other depositors share their concerns and that a run on the bank and potential failure is imminent, then they may act quickly to withdraw their funds. Synchronous deposit withdrawals may then force the liquidation of assets and cause the failure of the bank. A bank failure caused by a run can be a self-fulfilling prophecy.

It is important to recognize that insured depositors do not have an incentive to run based on fears that their deposits are at risk. For banks with material reliance on uninsured deposits, however, a scenario in which uninsured depositors become sufficiently concerned about their risk of loss could create the conditions for a run.

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https://www.federalreserve.gov/releases/h8/20230331/h8.pdf.

[10] "Joint Statement by the Department of the Treasury, Federal Reserve, and FDIC," press release, March 12, 2023. https://www.fdic.gov/news/press-releases/2023/pr23017.html

[11] As noted earlier, the uninsured deposits of Silvergate were 98 percent of its deposits at year-end 2022. Subsequently, deposits decreased at the institution so that its proportion of uninsured deposits was much lower by the time it announced its self-liquidation.

The ubiquity of social media and mobile banking may mean that bank runs, when they happen, happen faster. The role of social media in the SVB depositor run illustrates the dynamics that can arise. Social media posts advised depositors to withdraw funds from SVB, and uninsured depositors did so all at once. The concentration of these large deposits in technology industry firms and individuals who appear to have been part of closely overlapping virtual communities may have contributed to the synchronized nature of the deposit outflows.

Another consideration is that the law governing the FDIC's treatment of uninsured deposits in bank failures may influence how attuned uninsured depositors are to the possibility that they would incur losses in a bank failure. Before 1992, the FDIC was not subject to the Least Cost Test and therefore generally protected uninsured deposits. The Least Cost Test came into being with the Federal Deposit Insurance Corporation Improvement Act (FDICIA), implemented in 1992.[12] It required the FDIC to resolve banks in a way that is least costly to the DIF considering only the specific resolution transaction at hand. If covering the uninsured deposits is not least costly, as may be the case when the proportion of uninsured deposits is large, the FDIC cannot protect uninsured deposits without a systemic risk determination from the Secretary of the Treasury, acting on the recommendations of the FDIC and Federal Reserve and after consultation with the President.

FDICIA's systemic risk determination process remained untested until 2008, when it was invoked to address distress at several large banking organizations.[13] The systemic risk determination process was also used to create the FDIC's Transaction Account Guarantee Program (TAG program) that extended temporary full deposit insurance coverage to noninterest-bearing transactions accounts.[14] This use of the systemic risk determination process likely helped to ensure that uninsured deposit runs did not play an important destabilizing role in the 2008-2013 banking crisis.

Under the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act),[15] and as amended in 2020 by the Coronavirus Aid, Relief, and Economic Security Act (CARES Act),[16] the FDIC must obtain congressional approval for any widely available guarantee of the obligations of depository institutions or depository institution holding companies.[17] The FDIC has issued regulations applicable to certain large banks to facilitate its ability to make timely deposit insurance determinations in the event of failure.[18] With these developments, it is possible that relative to the framework for handling uninsured deposits that existed in the past, sophisticated market participants could now be more attuned to the possibility of uninsured depositors incurring losses.

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[12] Pub. L. 102-242.
[13] Chapter 3 of FDIC (2017) provides detail on the use of the systemic risk exception for individual institutions during the 2008 to 2013 crisis.
[14] Additional detail about the FDIC's Transaction Account Guarantee Program can be found in Section 3 of this report.
[15] Pub. L. 102-242.
[16] Pub. L. 116-136.
[17] For details, see 12 U.S.C. 5612.
[18] See section 360.9 of the FDIC's regulations, titled "Large-Bank Deposit Insurance Determination Modernization," https://www.fdic.gov/regulations/resources/largebankdim/08final717.pdf and part 370 of the FDIC's regulations, titled "Recordkeeping for Timely Deposit Insurance Determination." https://www.fdic.gov/regulations/resources/recordkeeping/index.html

Another important consideration that may influence the likelihood of uninsured depositors running on their bank is the loss experience of uninsured depositors in earlier bank failures.[19] The announcement of a resolution in which uninsured deposits are not fully protected may create concern among uninsured depositors at other banks, a dynamic that may be amplified by the rapid spread of information on social media.

Finally, by several measures, the reliance on uninsured deposits by the banking system has increased, particularly among larger banks.

Banking System Reliance on Uninsured Deposits Is Increasing

Following the 2008-2013 banking crisis, the reliance by the U.S. banking system on uninsured deposits grew dramatically, both in dollar volume and as a proportion of overall deposit funding.[20] From year-end 2009 through year-end 2022, uninsured domestic deposits at FDIC-institutions increased at an annualized rate of 9.8 percent, from $2.3 trillion to $7.7 trillion.[21] The trends are comparable when using alternative methods in calculating uninsured deposits.[22] In 2022 inflation-adjusted dollars, the value of uninsured deposits peaked in 2021 and remained greater in 2022 than at any point in the FDIC's history prior to 2021.[23] The 2022 total value of uninsured deposits was more than five times its real value in 1990. As shown in Figure 2.1, the portion of all deposits uninsured at its peak in 2021 was at its highest level since 1949.

While many banks have increased their reliance on uninsured deposits, the trend has been most pronounced among the largest banks. Growing concentrations of uninsured deposits at large banks make the banking system potentially more vulnerable to depositor runs such as those in March 2023.

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[19] For a discussion of that loss experience since 1992, see Section 3 of this report.

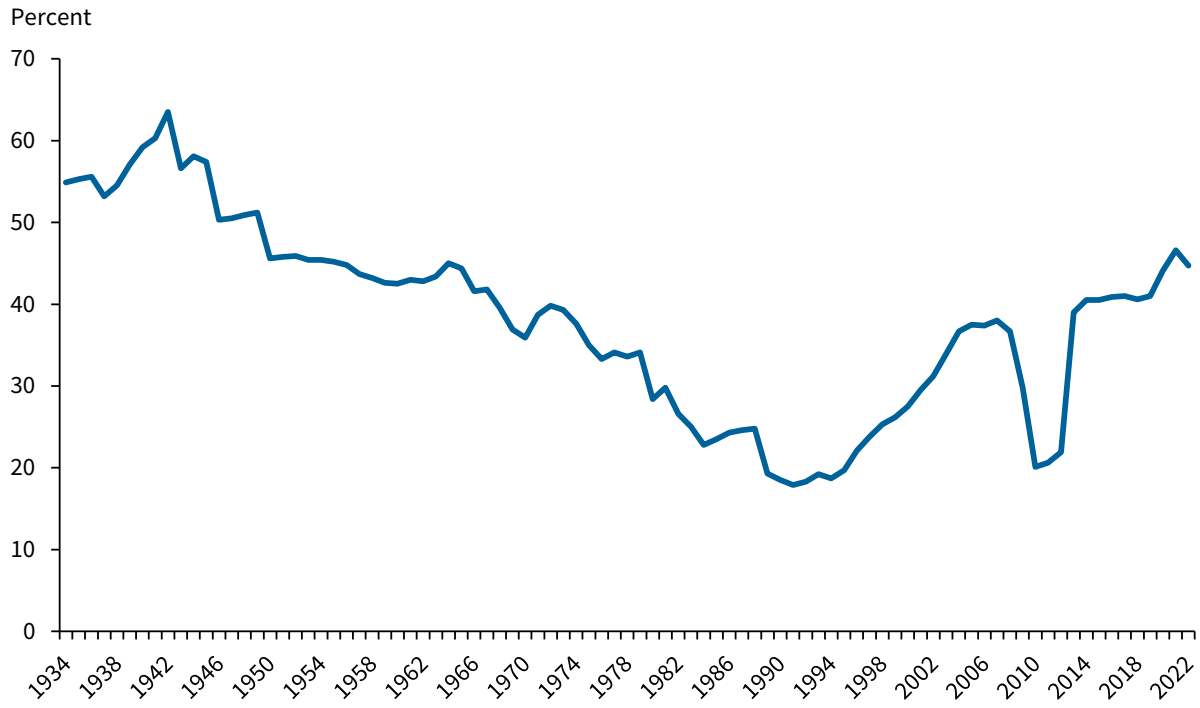
[20] The discussion in this section is focused on deposits in domestic offices of U.S. banks and the proportions of those deposits that are insured and uninsured. Deposits in foreign offices of U.S. banks are not insured by the FDIC. Some jurisdictions may provide some deposit insurance coverage of these deposits; the amounts of coverage, if any, vary by jurisdiction.

[21] The estimates used in this sentence are derived from FDIC Quarterly Banking Profile (QBP) 2010, Vol 4, No. 1, Table I-B and QBP 2023, Vol. 17, No. 1, Table I-C. In this report, for purposes of analytical consistency over time, we calculate aggregate uninsured domestic deposits as domestic deposits minus estimated insured deposits. Because estimated insured deposits include selected deposit liabilities not included in reported domestic deposits, the calculation yields an estimate for uninsured deposits that is somewhat less than the total amount of uninsured deposits reported by banks. For example, at yearend 2022 banks reported $8.2 trillion in uninsured domestic deposits. Generally, Call Report items do not match up with the 14 ownership rights and capacities used by the deposit insurance determination process.

[22] Estimated uninsured deposits that banks report may be inaccurate or inconsistent across quarters and institutions. There are at least three reasons the estimates may overstate the FDIC's exposure to uninsured deposits if a bank failure occurs. First, uninsured depositors typically flee institutions exhibiting deteriorating financial health. Second, some depositors reduce their balances or adjust their allocation of deposit across accounts to increase explicit deposit insurance coverage. Third, deposits that initially appear uninsured are actually insured once FDIC ownership rights and capacities are considered. It is also possible that uninsured deposits are understated if it is the case that deposits in accounts below the insurance limit are uninsured after aggregating to a depositor by ownership category at a bank.

[23] Estimates of uninsured deposits for this statement are from FDIC Annual Reports.

Figure 2.1 Uninsured Deposits Are Growing as a Share of Domestic Deposits



Source: FDIC.
Note: Figure shows the estimated share of all domestic deposits that are uninsured.

Figure 2.2 plots the share of banks with uninsured deposits greater than 50 percent of domestic deposits based on asset size. Due to consolidation of the banking industry over the period, asset size is shown using percentiles of the asset size distribution in each period rather than asset thresholds, namely the top 1 percent, the top 10 percent, and the bottom 90 percent.[24] For context, at year-end 2022 the size cutoffs were $57 billion for the top 1 percent and $2.4 billion for the top 10 percent. The percentage of banks in the larger size groups that are reliant on uninsured deposits is increasing. For example, as of year-end 2009, 13 percent of banks in the largest asset size group had more than half their domestic deposits uninsured; at year-end 2022, 40 percent of those banks had uninsured deposits of more than half their domestic deposits.

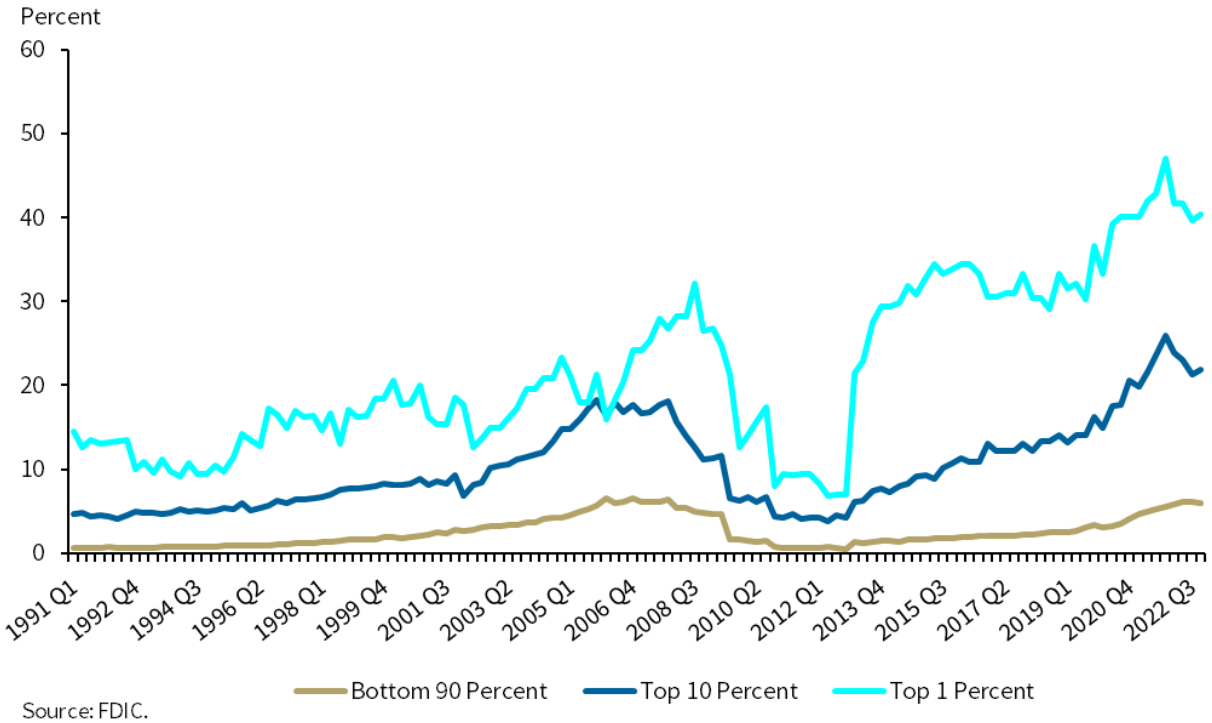
Figure 2.2 also shows that a non-negligible share of banks in the top 10 percent asset size bucket had more than half of their domestic deposits uninsured. And among all FDIC-insured institutions, a meaningful degree of reliance on uninsured deposits is not uncommon: about 28 percent of FDIC-insured institutions had more than 33 percent of their domestic deposits uninsured at year-end 2022.

Uninsured deposits are disproportionally concentrated in the largest banks. At year-end 2022, banks in the top 1 percent of the asset size distribution held about 72 percent of deposits in domestic offices but about 77 percent of uninsured deposits in domestic offices. These uninsured deposits come from a small subset of deposit accounts: accounts with balances exceeding $250,000 comprised less than 1

[24] The trend line for the top 10 percent does not include the banks in the top 1 percent.

percent of all deposit accounts by number at year-end 2022.[25] Banks in the top 1 percent by assets, however, held about 66 percent of all such large accounts.

Figure 2.2 The Share of Banks With Over 50 Percent Uninsured Domestic Deposits Is Increasing Across All Sizes

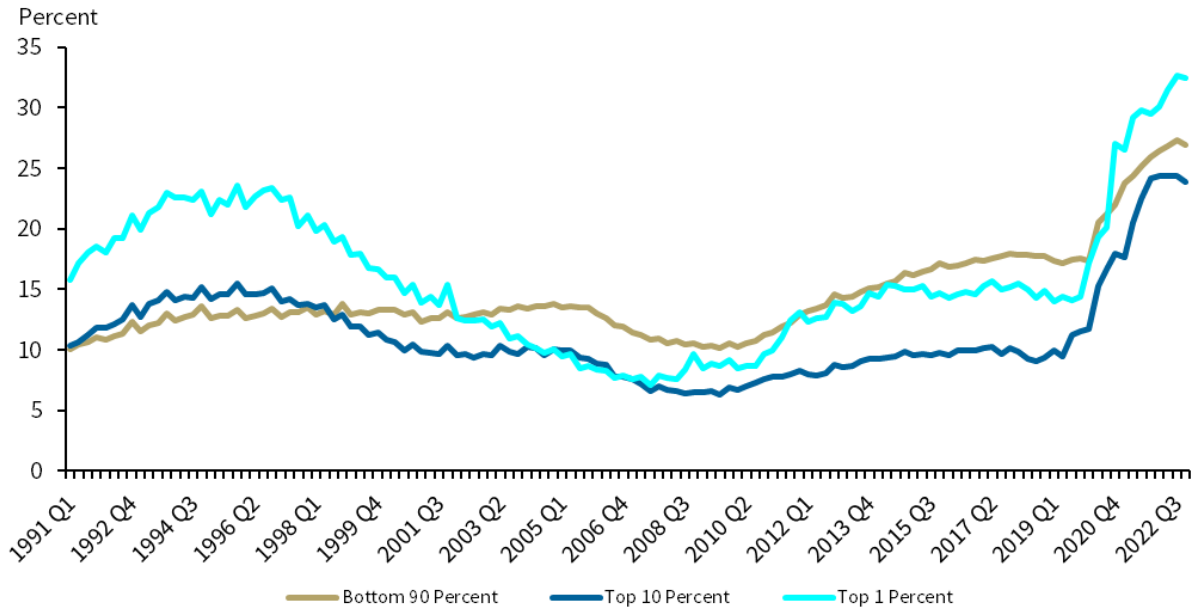


Source: FDIC.
Note: Top 1 represents the top 1 percent of banks by total assets ($54.0 billion in 2022), Top 10 represents the top 10 less the top 1 percent ($2.4 billion in 2022), and the Bottom 90 percent represents all other insured institutions.

Finally, since the onset of the COVID-19 pandemic, demand deposits as a share of domestic deposits have increased sharply; demand deposits include both insured and uninsured deposits. Figure 2.3 shows that while the demand deposit share has increased for all bank asset sizes, the relative change has been greater for banks in the top 10 percent and top 1 percent of assets than it has for smaller banks. At year-end 2022, the top 1 percent of banks by assets had 32 percent of their deposits in demand accounts, up from 14 percent before 2020.

[25] Accounts with balances above the deposit insurance limit are not necessarily uninsured. For example, a brokerage sweep account at a bank could be very large while being fully insured to the individual sweep account customers.

Figure 2.3 Demand Deposit Share of Domestic Deposits Is Increasing Across Bank Sizes



Source: FDIC.
Note: Top 1 represents the top 1 percent of banks by total assets ($54.0 billion in 2022), Top 10 represents the top 10 percent less the top 1 percent ($2.4 billion in 2022), and the Bottom 90 percent represents all other institutions.

It is not clear whether the increase in the proportion of demand deposits will be an enduring structural change or will prove to be a transitory effect of the deposit surge associated with the COVID-19 pandemic and the policies used to address it. Even if the trend of increasing demand deposits persists, its implications for the stability of deposits are unclear. As the March 2023 events demonstrated, experience with deposit outflows is not necessarily a reliable guide to the future. To the extent large demand deposits may be payroll or other business payment accounts, however, such deposits may be relatively more sensitive to adverse developments affecting banks.

Section 3: History of Deposit Insurance in the U.S.

This section examines changes to deposit insurance coverage since the FDIC was established, including periodic changes to the standard maximum deposit insurance amount (SMDIA) and the periods when differential coverage was available for different account types. It includes a detailed discussion of the most recent differential deposit insurance coverage treatment by account type, the FDIC's 2008 TAG program, and a similar program put in place under Dodd-Frank in 2010. The section then discusses changes in the composition of deposits since 1984 and provides information on uninsured depositor losses over the past three decades. The section ends by looking briefly at technological and recent regulatory changes, and relevant upcoming changes to the financial system.

The SMDIA applies to each depositor by ownership right and capacity, or ownership category, for each bank and is based on federal statutes and FDIC regulations.[26] The FDIC's "General Principles of Insurance Coverage" note that "All deposits held by a depositor in a particular ownership category — whether in one account or multiple deposit accounts — are aggregated and insured up to the SMDIA for that ownership category."[27] As of May 2023, there were 14 ownership categories.[28] In practice, the ability of depositors to open accounts under multiple ownership categories allows depositors to access deposit insurance coverage above $250,000 at a single bank. This section refers to the SMDIA as $250,000, rather than effective coverage, unless noted otherwise.

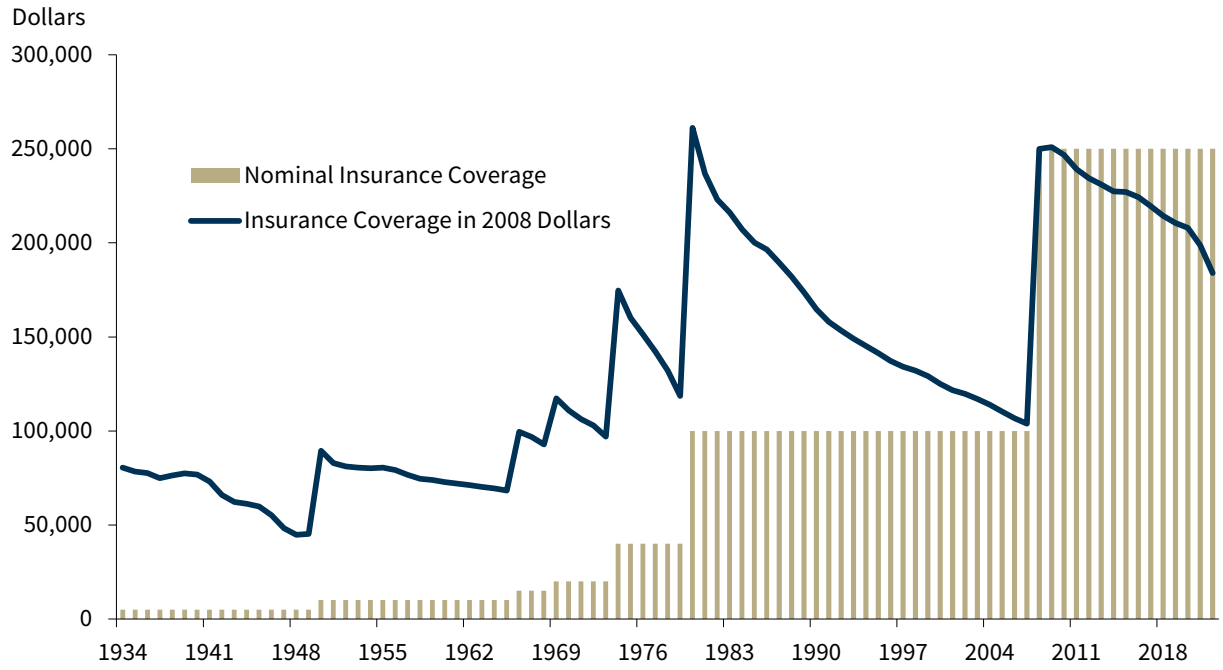
The History of FDIC Insurance Coverage Limits

Congress has increased the SMDIA for FDIC insurance seven times since it was originally set at $2,500 in 1933[29] to keep pace with inflation, maintain depositor confidence, and help smaller institutions. Particularly during the mid-1960s to 1980, there was an added purpose of helping the thrift industry. The statutory changes to the SMDIA are presented in Table 3.1. Given the lengthy period with no increase to the SMDIA by the early 2000s, inflation-adjusted increases to the SMDIA were anticipated under a provision of the Federal Deposit Insurance Reform Act of 2005 (FDIRA).[30] These increases were to begin in 2010, but the increase to $250,000 in 2008, first temporary and then permanent, effectively superseded any such cost-of-living adjustment; it likely will continue to do so for a considerable period absent new legislation, since by statute the adjustment is based upon the prevailing $100,000 level in 2005.[31] Figure 3.1 compares the nominal SMDIA to the coverage level in 2008 dollars (the last

[26] The availability of deposit insurance is not limited to U.S. citizens and residents; any person or entity that maintains deposits in an insured bank receives deposit insurance coverage as provided under the FDI Act.
[27] FDIC. "General Principles of Insurance Coverage." https://www.fdic.gov/resources/deposit-insurance/diguidebankers/documents/general-principles.pdf
[28] On January 21, 2022, the FDIC published a final rule to simplify the deposit insurance regulations for trust accounts. The changes, effective April 1, 2024, will reduce the number of ownership categories from 14 to 13.
[29] The level was set in 1933 and effective in 1934.
[30] See 12 U.S. Code Sec. 1821(a)(1)(F). For a description of this change, see Van Roosebeke and Defina (2022), p. 9.
[31] FDIRA provided that the SMDIA be adjusted every five years and rounded down to the nearest $10,000. Under that provision, in 2010 the inflation-adjusted coverage level would have been $109,716, and it would have rounded down to $100,000; in 2015, the inflation-adjusted coverage level would have been $119,259, and it would have rounded down to $110,000; in 2020, the inflation-adjusted coverage level would have been $130,548

Table 3.1 Congress Has Increased the Standard Maximum Deposit Insurance Amount Seven Times Since 1934	
Year	**Amount ($)**
1934*	2,500
1934	5,000
1950	10,000
1966	15,000
1969	20,000
1974	40,000
1980	100,000
2008†	250,000
Source: FDIC. Note: *The initial coverage limit was $2,500 from January 1 to June 30, 1934. †Temporary increase; made permanent in 2010.	

Figure 3.1 The Real Value of Deposit Insurance Has Fluctuated Over Time and Decreased in Recent Years



Sources: FDIC and Bureau of Labor Statistics (Haver Analytics).
Note: The FDIC implemented the Temporary Account Guarantee program in 2008, which raised the deposit insurance level to $250,000.

time the SMDIA was raised) to illustrate how inflation has affected the SMDIA over time. In addition to changes to the standard coverage amount, Congress has made three changes to the coverage levels of

and it would have rounded down to $130,000; as of February 2023, the inflation-adjusted coverage level was $152,271, but under the statute, the coverage level would not have been due to reset until 2025.

particular types of accounts that increased their coverage above the then-standard coverage level (see below for more details).

1930s[32]

Before the FDIC was made permanent in 1935, Congress originally set the coverage limit for deposit insurance at $2,500 effective January 1, 1934, in the Banking Act of 1933.[33] The limited guarantee was important to ensure passage of the deposit insurance provisions of the law. The temporary plan was to last six months, but Congress extended it for an additional year and in June 1934 raised the coverage level to $5,000.[34] The FDIC supported the increase, and when the Banking Act of 1935[35] made the FDIC permanent, the FDIC recommended retaining the $5,000 limit, which fully insured 98 percent of depositors.[36]

1950–1969

The insurance coverage limit was raised from $5,000 to $10,000 in 1950 in the Federal Deposit Insurance Act (the FDI Act). [37] This increase was viewed as keeping up with inflation and restoring coverage to the same percentage of depositors as had been the case in 1935. The increase was expected to benefit smaller banks and increase public confidence in the banking system. There was consideration of raising the coverage limit to $25,000 in 1963, an increase which the FDIC favored, but Congress did not act. The coverage level was increased to $15,000 in 1966; at the time, the thrift industry was having difficulty attracting depositors and maintaining mortgage financing.[38] An increase in market interest rates had led to reductions in household savings in depository institutions, which was particularly problematic for thrifts. The increase in the limit also accounted for inflation and promoted confidence in the banking system. Just three years later, in 1969, Congress increased the coverage limit to $20,000. Again, the increase helped the thrift industry as it made savings accounts more attractive and so provided liquidity for housing.[39]

1974

The insurance coverage level was raised from $20,000 to $40,000 in 1974.[40] Against the backdrop of significant inflation and tight Federal Reserve policy, rates on open-market instruments increased well above rates paid by insured depository institutions. Both the FDIC and Federal Home Loan Bank Board supported an increase in the coverage level. The FDIC considered the increase a way to help insured banks compete in an increasingly competitive market for savings, with businesses seeking

[32] Information on events from the 1930s through 1980 is largely based on Bradley (2000).
[33] Pub. L. 73-66.
[34] Pub. L. 73-362.
[35] Pub. L. 74-305.
[36] The original permanent deposit insurance plan in the Banking Act of 1933, which was never implemented, created a co-insurance system, with full coverage to $10,000, 75 percent coverage on deposits from $10,000 to $50,000, and 50 percent coverage on deposits over $50,000. The FDIC believed that this plan would have increased the FDIC's liability for a very small increase in the proportion of depositors covered.
[37] Pub. L. 81-797.
[38] Pub. L. 89-695.
[39] Bradley (2000).
[40] Pub. L. 93-495.

higher returns outside insured banks. The House bill favored an increase to $50,000, while the Senate bill set the level at $25,000, so the amount in the law was a compromise. The increase accounted for inflation and a concern that there might have been some decline in confidence in the U.S. banking system, with the notable failure of Franklin National Bank in 1974.[41]

1980

The insurance coverage level was raised from $40,000 to $100,000 by the Depository Institutions Deregulation and Monetary Control Act of 1980.[42] In a period of very high inflation and record high interest rates, the increase in the deposit insurance coverage level was both a response to inflation and an attempt to help depository institutions, particularly the increasingly troubled thrifts, in fighting deposit outflows. The Federal Reserve Board in testimony before Congress supported the increase. However, unlike the other changes to the SMDIA, the FDIC was concerned about the size of the increase and suggested that $60,000 would better serve as an adjustment for inflation, or that if the $100,000 level were chosen it should come with a change in the assessment rate to maintain the adequacy of the DIF.[43]

2008-2010

The SMDIA was increased temporarily from $100,000 to $250,000 in October 2008 by the Emergency Economic Stabilization Act of 2008.[44] The increase was to be in effect until December 31, 2009. In May 2009, the temporary increase was extended from December 31, 2009, to December 31, 2013.[45] But before that extension was passed, Congress had heard from interested parties about making the increase permanent. In both House and Senate hearings in February and March 2009, the industry (both the American Bankers Association and the Independent Community Bankers Association) advocated making the increase to $250,000 permanent, stating that the higher limit increased public confidence and helped community banks garner deposits. Both trade groups argued that adjusting for inflation, the $250,000 limit approximately restored the coverage that the $100,000 limit provided in 1980.[46] The National Credit Union Administration was also in favor of the permanent increase and said a reversion to the old limit would destabilize the industry and affect public confidence.[47] The FDIC stated that any permanent increase in the coverage limit was a decision by Congress but that the FDIC should be allowed to account for any increase in setting insurance premiums. The Dodd-Frank Act made the increase to $250,000 permanent. That increase did not generate significant comment in testimony before Congress, and the provision was not included in the legislation until it reached the House-Senate conference.

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[41] Bradley (2000).
[42] Pub. L. 96-221.
[43] Bradley (2000).
[44] Pub. L. 110-343.
[45] Pub. L. 111-22.
[46] See U.S. House, Committee on Financial Services, Promoting Bank Liquidity and Lending Through Deposit Insurance, Hope for Homeowners, and Other Enhancements, 111th Cong. 1st sess. (Feb. 3, 2009) and U.S. Senate, Committee on Banking, Housing and Urban Affairs, Current Issues in Deposit Insurance, 111th Cong., 1st sess. (Mar. 19, 2009).
[47] Typically, the changes in the SMDIA for FDIC-insured accounts are also adopted for credit unions.

Differential Treatment of Accounts

Congress has several times set the deposit insurance coverage limit for certain types of accounts above the SMDIA. The first time was in 1974 when the statute set the SMDIA at $40,000 and increased coverage for public unit time and savings deposits held by state and political subdivisions to $100,000. This increase benefited banks by allowing them to better compete for public deposits and by freeing pledged assets associated with public deposit accounts. Through the enactment of the Financial Institutions Regulatory and Interest Rate Control Act of 1978,[48] Congress authorized another differential treatment of deposits, increasing to $100,000 the coverage limit for time and savings deposits of individual retirement accounts (IRAs) and KEOGH funds (funds in retirement plans for self-employed individuals, small businesses, and partnerships). Differential coverage for retirement accounts was extended further under the Federal Deposit Insurance Reform Act of 2005, when coverage for those accounts was increased to $250,000, leaving the SMDIA at $100,000 though providing for future periodic inflation adjustments to the SMDIA. The FDIC supported the increase to retirement account coverage and suggested that it be similar to the 2.5 times multiple adopted in 1978.[49]

The Transaction Account Guarantee Program[50]

The most recent instance of differential coverage occurred in response to the financial crisis that began in 2008 and the recession that followed. The FDIC created the TAG program under a systemic risk exception. The program was in effect from October 2008 to year-end 2010. This program provided unlimited deposit insurance coverage to certain transaction accounts for institutions that chose to participate. Congress enacted a similar program, but for all institutions, under the Dodd-Frank Act in 2010. That program ended at year-end 2012.

Background

As the financial crisis deepened in October 2008, the then-administration and bank regulators, as part of efforts to stabilize the financial system, used the systemic risk exception to put in place the Temporary Liquidity Guarantee Program (TLGP).[51] The TLGP included both a debt guarantee program and the TAG program. The TAG program provided unlimited deposit insurance on certain types of transaction accounts; this was the first time the FDIC insured deposits above the statutory coverage limit.

Although at the time no signs existed of large-scale runs on insured depository institutions, anecdotal evidence suggested that deposits were leaving banks viewed as troubled, and that even healthy banks were having deposit outflows. The TAG program was meant to alleviate potential runs and liquidity

[48] Pub. L. 95-630.
[49] See U.S. House, Subcommittee on Financial Institutions and Consumer Credit, Viewpoints of the FDIC and Select Industry Experts on Deposit Insurance Reform, 107th Cong., 1st sess. (Oct. 17, 2001), 7.
[50] This section is largely based on the discussion of the TAG program in FDIC (2017), chapter 2.
[51] FDIC. "FDIC Announces Plan to Free Up Bank Liquidity," press release October 14, 2008, https://archive.fdic.gov/view/fdic/3381.

pressures that might particularly affect smaller banks if concerned business and municipal depositors withdrew funds and transferred them to larger banks.

The TAG Program's Coverage and Participation

The TAG program was voluntary but was first extended to all insured institutions for 30 days without cost, after which they could opt out.[52] After the initial period, more than 7,200 banks and thrifts, or 87 percent of FDIC-insured institutions, remained in the program. The TAG program was initially supposed to guarantee accounts until December 31, 2009, but given the financial crisis and recession, the FDIC was concerned that removing the guarantee too quickly might disrupt deposit funding and cause needless failures from sudden deposit withdrawals. Therefore, the FDIC extended the program twice, first through June 30, 2010, and then through December 31, 2010, when the program ended. Institutions could opt out each time the program was extended.[53] The percentage of insured institutions participating in the program declined with each extension and was down to 74 percent during the final program period. Over time, the average size of institutions remaining in the TAG program declined, with the greatest shift in size occurring at the first extension of the program (Table 3.2.).

Table 3.2 Over Time, an Increasing Proportion of Participating Banks Opted Out of the FDIC's TAG Program, and the Average Size of Those Banks Increased

	Initial Opt-Out	Second Opt-Out	Third Opt-Out
Total Number of Institutions	8,305	8,012	7,830
Number of Institutions Remaining in TAG	7,200	6,406	5,801
Number of Institutions Not in TAG	1,105	1,606	2,029
Number of Institutions Newly Opting Out	1,105	514	441
Percentage of Institutions Not in TAG	13.3%	20.0%	25.9%
Average Size of Institutions in TAG	$1.9B	$796.4M	$535.0M
Average Size of Institutions Not in TAG	$292.5M	$5.0B	$5.0B

Source: FDIC.
Note: TAG is the Transaction Account Guarantee Program. Data are for insured institutions; data for first opt-out as of 12/31/08, for second opt-out as of 12/31/09, and for third opt-out as of 6/30/2010.

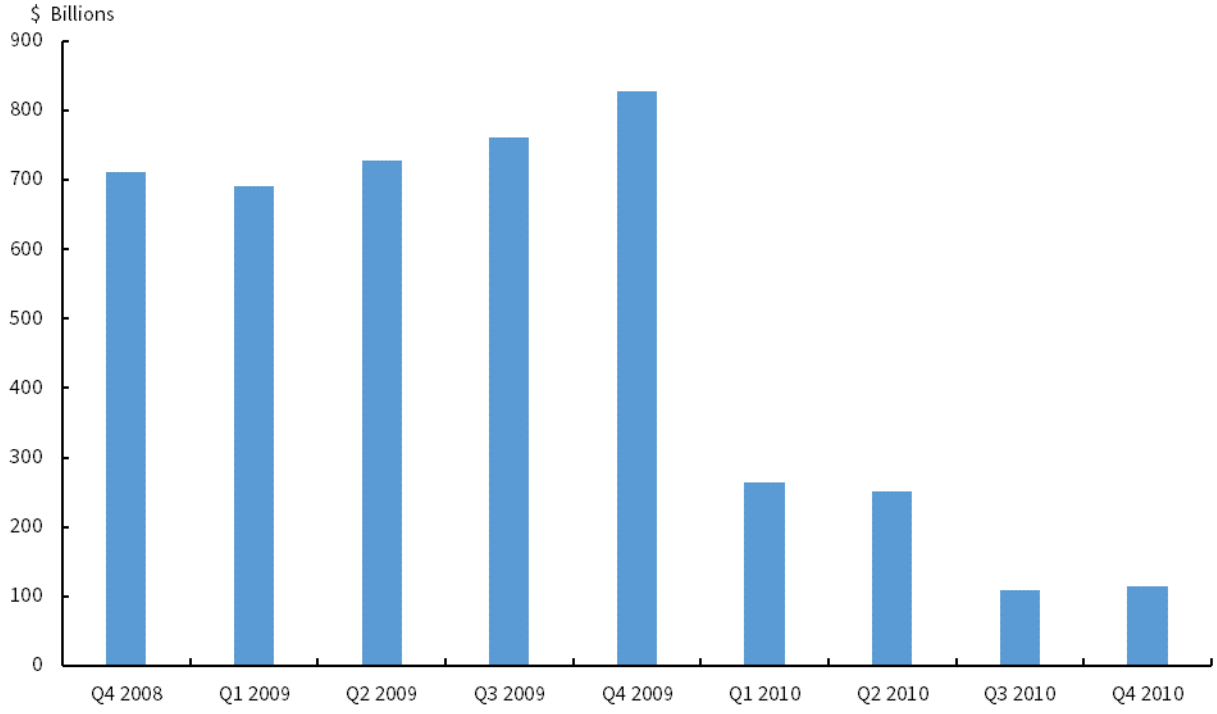
Figure 3.2 shows the amount of deposits covered by the TAG program. TAG coverage peaked at more than $800 billion at year-end 2009. A different temporary account guarantee program was enacted under the Dodd-Frank Act and ran for an additional two years, through December 31, 2012 (see below).

The initial rulemaking for the TAG program defined an eligible account as "a transaction account with respect to which interest is neither accrued nor paid and on which the insured depository institution does not reserve the right to require advanced notice of an intended withdrawal."[54] After receiving public comments, the FDIC extended the TAG to other accounts deemed important to cover: Interest of Lawyers Trust Accounts (IOLTAs) and negotiable order of withdrawal (NOW) accounts, which paid a

[52] 73 Fed. Reg. 64179 (Oct 29, 2008).
[53] 74 Fed. Reg. 45093 (Sep. 1, 2009); 75 Fed. Reg. 36506 (June 28, 2010).
[54] 73 Fed. Reg. 64179, 64182 (Oct 29, 2008).

rate no higher than 0.5 percent.[55] When the TAG program was extended for the second time, the FDIC lowered the allowable interest rate to 0.25 percent. [56]

Figure 3.2 Amounts Guaranteed by the FDIC's TAG Program Peaked at Over $800 Billion at Year-End 2009



Source: FDIC.
Note: TAG stands for the FDIC's Temporary Account Guarantee program.

Fees and Costs

The TAG program imposed fees for opting in; it initially applied a 10 basis point annual surcharge on qualifying accounts over $250,000. When the FDIC first extended the program for an additional six months, the surcharge was changed to a risk-based rate. Depending on an institution's deposit assessment category, it was charged 15, 20, or 25 basis points. At this extension, participating institutions could opt out, effective January 1, 2010. More than 6,400, or 93 percent of participating institutions at year-end 2009, continued in the TAG through June 30, 2010. The program collected approximately $1.2 billion in fees, and as of year-end 2022 TAG losses were estimated to be approximately $1.46 billion.

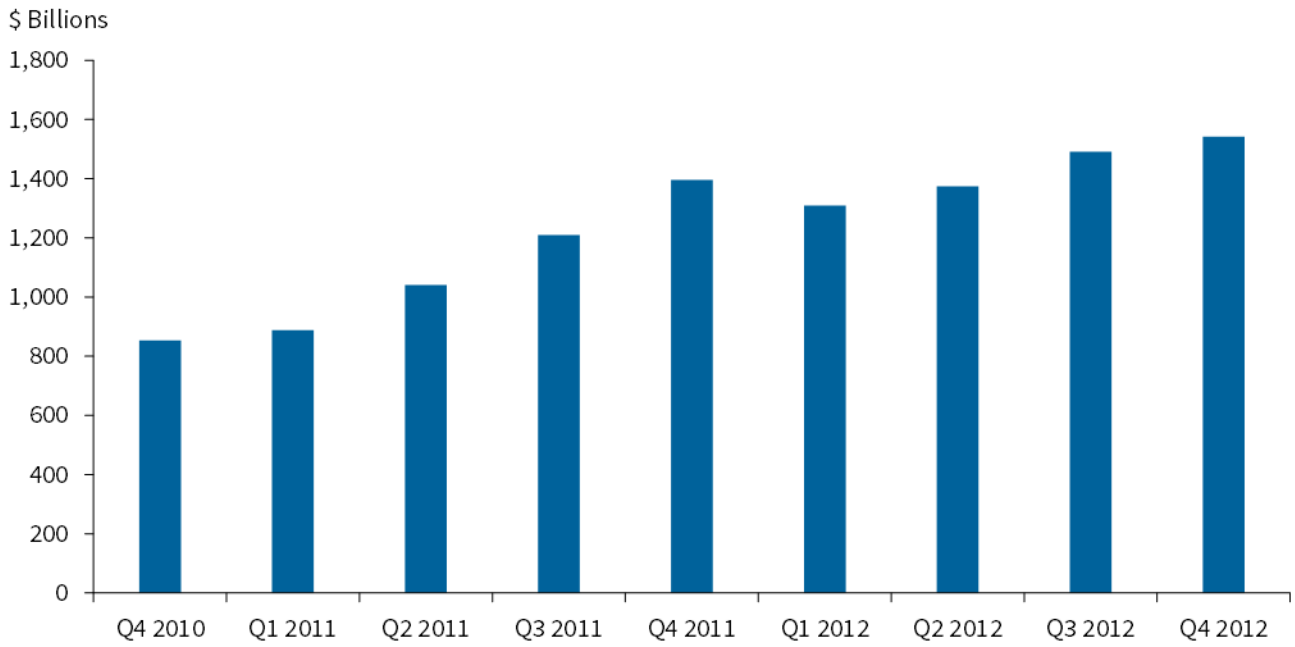
The Dodd-Frank Transaction Account Guarantee Program

The Dodd-Frank Act (Section 343) created a statutory version of TAG, which was in effect from December 31, 2010, when the FDIC's TAG program expired, to December 31, 2012. Unlike the FDIC's program, institutions had no ability to opt out, and initially only noninterest-bearing transaction

[55] 73 Fed Reg. 72244 (Nov 26, 2008).
[56] 75 Fed. Reg. 36506 (June 28, 2010).

accounts were provided with unlimited deposit insurance coverage. IOLTAs (but not NOW accounts) were added by using a provision in a law enacted on December 29, 2010. Also, unlike the FDIC's TAG program, there was no separate fee, but the FDIC stated it would consider the cost for the additional insurance coverage in determining deposit insurance assessments under its risk-based assessment system.[57] Banking industry groups advocated for the TAG program to be extended yet again, seeking to prevent accounts from moving to large banks or money market mutual funds. But an extension did not have sufficient support in Congress, and the program expired at year-end 2012. The amount insured peaked at the program's end in 2012 at more than $1.5 trillion (Figure 3.3).

Figure 3.3 Amounts Covered by the Dodd-Frank Act TAG Peaked at Over $1.5 Trillion at Year-End 2012



Source: FDIC.
Note: TAG is the Temporary Account Guarantee Program under Dodd-Frank.

The Dodd-Frank Act provided that going forward, a debt guarantee program like the one created by the TLGP in 2008 should be permitted only following the determination of a "liquidity event" under the act and with congressional approval. But Section 1105 of the statute specifically stated that a debt guarantee program could not extend to a guarantee of deposits. However, in 2020, as part of the pandemic-related provisions related to economic stabilization, Section 4008 of the CARES Act[58] gave the FDIC authority to back deposits up to any limit and preemptively granted congressional approval for such a program so long as the FDIC guarantee terminated by December 31, 2020.[59] The FDIC did not put such a guarantee in place. However, the statute changed the Dodd-Frank Act provision stating

[57] 75 Fed. Reg. 69577 (Nov. 15, 2010).
[58] Pub. L. 116-136.
[59] Congressional Research Service (2020).

that a debt guarantee program could not extend to a guarantee of deposits, and the law now allows that such a program to include a guarantee of deposits.

Composition of Deposits

Deposits serve two primary functions. First, deposits serve a critical role in the payments system. Households and businesses use deposits to transfer monetary value to settle financial transactions. Second, deposits are a store of value used by households and businesses for saving and investment. Although deposit accounts are not distinguished directly along these dimensions, transaction accounts are generally associated with the payments system function, and savings and time deposits are generally associated with the saving and investment functions.

Figure 3.4 plots the proportion of deposits by account type from 1984 to 2022. In 1984, deposits primarily served an investment function for depositors, as about 72 percent of domestic deposits were held as time deposits (54 percent) or as savings accounts (18 percent). Meanwhile, transaction accounts comprised about 22 percent of deposits.[60] By 2000 and into the financial crisis in 2008, savings accounts more than doubled their share of domestic deposits, largely at the expense of time deposits and, to a lesser degree, transaction accounts. Following the financial crisis, time deposits constituted a diminishing share of domestic deposits in the system, comprising just 15 percent in 2019, while transaction accounts continued to account for less than 18 percent until the COVID-19 pandemic. Savings accounts have accounted for most of all domestic deposits every year since 2003, except 2008 when they accounted for 49 percent of domestic deposits.

Despite their distinctions on regulatory filings, regulatory changes and the economic environment have blurred the distinctions between deposit accounts over time. Historically, regulatory restrictions—such as interest rate caps and withdrawal limits—delineated between the payment and investment functions of deposits. However, amendments to Regulation D and the repeal of Regulation Q have removed some of the historical differences.[61] The repeal of Regulation Q, which limited the rates that banks could pay on demand deposits, evolved over decades. From 1978 to 1986, laws and regulation phased out many of the rate restrictions on deposits that had been in place since the Banking Acts of 1933 and 1935.[62] The remaining limits on rates paid on demand deposits were subsequently repealed in 2011.[63] As a result, some banks today offer interest-bearing checking accounts, with interest rates that rival the industry's average savings accounts rates.

Under the Federal Reserve's Regulation D, depositors with savings accounts were limited in the ways they could access savings account deposits. Under Regulation D, there was a limit of six transactions per month on certain types of withdrawals from savings accounts, such as automatic transfers

[60] Insured depository institutions report transaction accounts on the Consolidated Report of Condition and Income (Call Report), generally defined as a deposit or account from which the depositor is permitted to make transfers or withdrawals, either immediately on demand or with at least seven days' notice. Savings accounts are a subset of nontransaction accounts, which also include money market deposit accounts and time deposits (certificates of deposit).
[61] Cook (1978).
[62] Gilbert (1986).
[63] See 76 Fed. Reg. 42015 (Jul. 18, 2011).

including overdraft payments. One important distinction between account types is that depository institutions must hold reserves against certain accounts (a transaction account) but not against others (for example, a money market savings accounts). However, beginning in 1994, banks began implementing retail sweep programs in which customer reservable transaction accounts were swept into accounts that did not require reserves. By reducing the bank's reserve requirement, the bank was able to invest those funds into interest-earning assets.[64] Although sweeps restructure transaction accounts into two legally separate accounts (a demand deposit accounts and a savings account), account holder liquidity is unaffected. Debits and credits are posted directly to the depositor's account. If the depositor requires more than five withdrawals to meet liquidity needs, the entire balance of the savings account is swept back into checking to comply with Regulation D.[65] Thus, many savings account deposits operate with the liquidity of a transaction account.

Further, as a result of the COVID-19 pandemic, the six-transaction rule in Regulation D was temporarily suspended (and it is still suspended as of April 2023),[66] allowing banks to raise that limit on their savings accounts (if the banks so choose). Consequently, some banks lifted the limit entirely, allowing some savings accounts to serve in practice as checking accounts. In some cases, for example, customers can open both checking and savings accounts at the same bank and set the checking account's overdraft transactions to withdraw money from the savings account. This allows customers to have a checking account through which they can obtain payment services but keep all their funds in the savings account earning the savings account rate.

In addition to changes in regulation, low interest rates following the 2008 financial crisis may have contributed to changes in the compositional function of deposits. Absent the ability to earn yield on deposit investments, the deposit base may have shifted to meet primarily payment services needs. More recently, a shift to a higher interest rate environment may influence depositor behavior to the extent they seek higher yield on transactions or saving accounts increase in response to competition, as is now permitted.

Though they may have led to benefits like increased modernization and innovation, regulatory changes like those mentioned above can complicate deposit insurance reform. For example, they make it more difficult to tailor the deposit insurance limit based on depositor needs by targeting specific account types (e.g., as in the original TAG program, which generally covered noninterest-bearing transaction accounts). If more distinctions between accounts are needed, deposit insurance reform may require additional restrictions for different deposit account types.

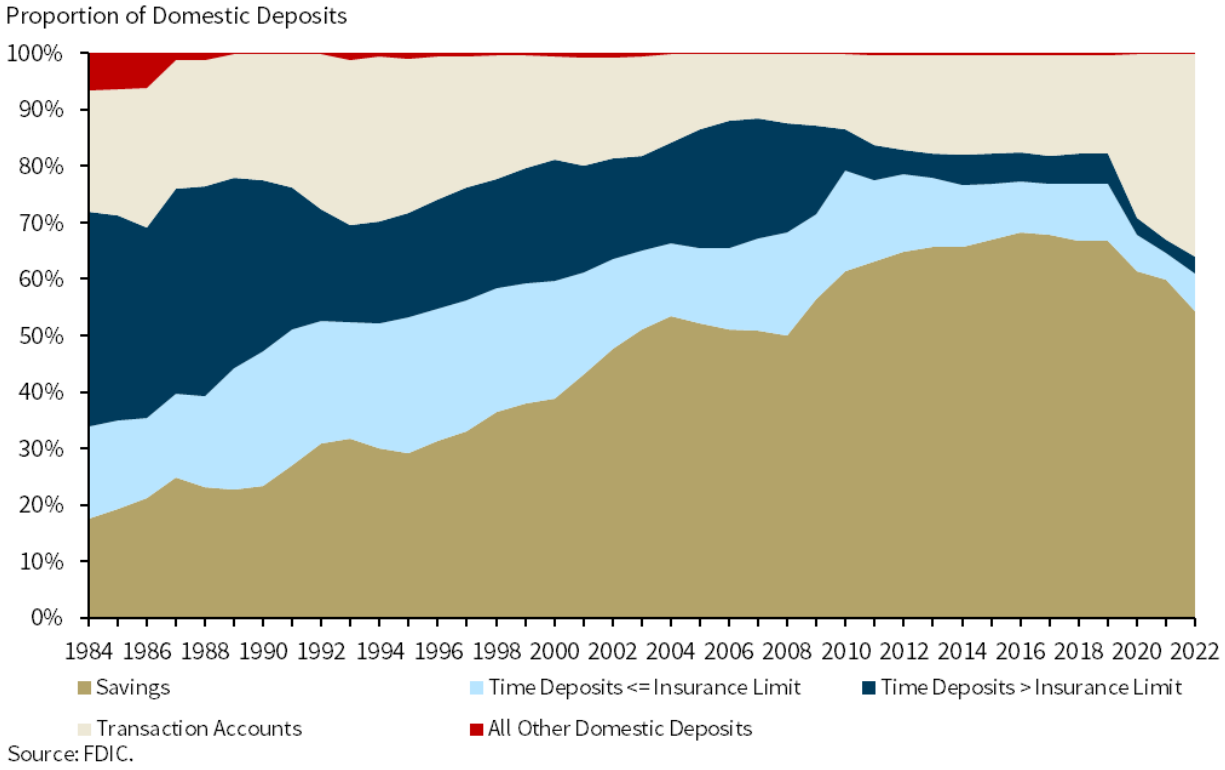
The distinctions between savings accounts and transaction accounts, combined with the comparative amount of time deposits, suggest that deposits primarily functioned as investments into the 1990s. As of 2023, the ability to pay interest on transaction accounts and the ability to withdraw on savings accounts obscure the extent to which depositors use deposits for payments, investment, or both.

Finally, although time deposits are more commonly viewed as investment vehicles, withdrawal penalties are often inconsequential, especially to the extent that depositors have solvency concerns

[64] Edwards (1997)
[65] Gonzalez (2008).
[66] See 85 Fed. Reg. 23445 (Apr. 24, 2020).

about their bank. If time deposits can be withdrawn with little or no penalty, they may also serve multiple functions. If deposit insurance reform evaluates the protection of payment accounts differently from that of investment accounts, clear delineation between account types is warranted (see Targeted Coverage in Section 6).

Figure 3.4 The Share of Domestic Deposits Held in Savings Accounts Increased Prior to 2020



Source: FDIC.

History of Uninsured Depositor Losses

As of December 31, 2022, estimated uninsured deposits of about $7.7 trillion were held at insured depository institutions, which is 43 percent of domestic deposits. Historically, losses to uninsured depositors have been small. In many bank failures, uninsured depositors do not incur a loss, and for the failures in which uninsured depositors incur a loss, the dollar amount of the loss was small in aggregate. The FDIC has many options to resolve failed institutions. Most commonly, the FDIC identifies an acquiring institution to assume some of the failed institution's assets and liabilities. Often, to maintain franchise value, the acquiring institution assumes all of the failed bank's deposits regardless of insurance status and uninsured depositors incur no loss. When the acquiring institution does not assume the uninsured deposits, uninsured depositors receive a claim on the receivership and are paid dividends on that claim from the proceeds of selling any assets that the acquiring institution does not assume.

Table 3.3 highlights historical losses to uninsured depositors over the past three decades divided into two periods. The first period, 1992–2007, covers the post-FDICIA period until just before the 2008 global financial crisis. The second period, 2008–2022, covers the period starting with the 2008 global financial crisis.[67] From 1992 to 2007, when banks failed, uninsured depositors often took losses (43 percent of the time).[68] When uninsured depositors took a loss, the losses were 24 percent from 1992 to 2007. In contrast, from 2008 to 2022, uninsured depositors took a loss in only 6 percent of failures. However, when they took a loss, uninsured depositor losses were 43 percent. The differences across periods may reflect differences in deposit insurance coverage: with higher insurance coverage, paying out insured depositors became a more costly resolution option, and failures with uninsured losses were more likely to represent extreme cases such as fraud. Taking into consideration the failures in which uninsured depositors incurred no loss (the unconditional loss rate), uninsured depositors lost 10 percent in the first period and 3 percent in the second period, or about 6 percent overall.[69]

Table 3.3. Uninsured Depositor Losses and Loss Rates in Failed Banks Have Historically Been Low

	Total Failures	Number of Failures With Losses to Uninsured	Percent of Failures With Losses to Uninsured	Uninsured Losses ($ Millions)	Conditional Uninsured Loss Rate	Unconditional Uninsured Loss Rate
1992–2007	302	131	43%	148	24%	10%
2008–2022	536	34	6%	137	43%	3%
All	838	165	20%	285	28%	6%

Source: FDIC.
Note: Failed banks exclude failures resolved through assistance transactions in which institutions remain open. Information about failed banks and failed bank losses are from the FDIC Bank Failures and Assistance Data at https://banks.data.fdic.gov/bankfind-suite/failures and from FDIC information on payments made to claimants in bank failures. Information about the dividends paid to claimants, including uninsured depositors, can be found in the Dividend Information section of the descriptions on the FDIC's Failed Bank List at https://www.fdic.gov/resources/resolutions/bank-failures/failed-bank-list/.

It is important to note that uninsured depositors at Indymac, with $28 billion in assets at failure, incurred losses on their uninsured deposits.

What's Different Today?

Changes since the 2008 financial crisis have meant that banks, bank customers, and banking regulators face a different financial environment than in the past. Some differences are relevant for understanding the full implications of deposit insurance design or reform.

[67] As discussed earlier in this section, in October 2008, the deposit insurance limit increased to $250,000. Thirteen banks failed in 2008 before the deposit insurance limit increased, but were retroactively covered up to the $250,000 limit when the limit was raised. The remainder of the 536 banks that failed from 2008 to 2022 did so when the $250,000 deposit insurance was in effect.
[68] Failed banks exclude failures resolved through assistance transactions where institutions remain open.
[69] Loss rates are averages across failed institutions and are unweighted by bank size or deposit exposure.

Social Media and Financial Technology

Information sharing today is much easier, faster, and scalable than in the past. At the click of a button, information can be shared with thousands or millions of people. Information that garners attention spreads exponentially, as interested individuals share it further and automated algorithms promote it to viewers.

In parallel, technological advances in the financial sector allow for large financial transactions to occur with unprecedented ease. Depositors can easily set in motion the transfer of millions of dollars, open and close accounts, link bank accounts with other financial accounts, and move funds across asset classes. (In addition, see the discussion below on the upcoming FedNow real-time payments system.)

These changes allow depositors to monitor their banks more easily, potentially increasing the effectiveness of depositor discipline. However, they also exacerbate the potential for panic-driven runs.

Institutional Changes

In response to the 2008 financial crisis, the COVID-19 pandemic, and recent bank failures, the Federal Reserve introduced several lending facilities to provide liquidity to financial institutions and improve financial stability. The availability of loans to meet short-term liquidity needs increases confidence broadly, allowing banks to continue offering credit and alleviating depositors concern for the safety of their deposits.[70]

As part of its response to the 2008 financial crisis, the Federal Reserve also offered interest on reserves that it holds for banks.[71] The interest provides some level of support for financial institutions and allows the Federal Reserve to better control short-term interest rates. Offering interest on reserves increases bank demand (and competition) for deposits and may result in banks offering higher deposit rates to customers.

Relevant Upcoming Changes to the Financial System

Upcoming enhancements to the U.S. payments system (FedNow, launching in July 2023) will modernize transactions by offering instant payments.[72] Customers will be able to send and receive money in seconds, 24 hours a day, 7 days a week, 365 days a year, and funds will settle between financial institutions in near real-time.

On some dimensions, the upcoming enhancements to payment systems are likely to have a positive effect on financial stability. Banks that can receive instant payments may be better able to meet short-term liquidity needs. But processing transactions outside of normal business hours challenges the

[70] Federal Reserve Board "Federal Reserve Board Announce It will Make Available Additional Funding to Eligible Depositor Institutions to Help Assure Banks Have the Ability to Meet the Needs of All of Their Depositors." press release, March 12, 2023. https://www.federalreserve.gov/newsevents/pressreleases/monetary20230312a.htm.
[71] Originally authorized to begin in 2011 under a 2006 statute, the Emergency Economic Stabilization Act of 2008 authorized the Federal Reserve to pay interest on required and excess reserves held by depository institutions.
[72] For more information on FedNow, see https://www.frbservices.org/financial-services/fednow.

ability of supervisors to intervene promptly at the start of a run, possibly diminishing financial stability. Instant payments increase the speed at which changes to bank conditions and bank runs can occur, and the full implications of instant payments are yet to be seen.

Movements toward open banking may also facilitate the likelihood that depositors withdraw funds in response to concerns about bank solvency. For example, as the Consumer Financial Protection Bureau seeks to implement Section 1033 of the Dodd-Frank Act, consumers will have greater access to, and control over, their financial data.[73] Rules that increase customer control of their data are expected to increase competition by enabling customers to switch providers and transfer their account histories without the costs of having to start over. Open banking may improve customer welfare by reducing the monopoly power of providers who have access to consumer data. However, by reducing the barriers to switching providers, depositors may also be more inclined to withdraw funds in response to concerns about bank solvency. Thus, open banking also has the potential to increase the likelihood of bank runs.

[73] CFPB, "CFPB Kicks Off Personal Financial Data Rights Rulemaking," press release, October 27, 2022. https://www.consumerfinance.gov/about-us/newsroom/cfpb-kicks-off-personal-financial-data-rights-rulemaking/

Section 4: Objectives and Possible Consequences of Deposit Insurance

Since the creation of the FDIC in 1933, more than 140 national jurisdictions have adopted deposit insurance systems.[74] Financial stability and depositor protection are the two leading public policy objectives of deposit insurance. However, deposit insurance can also change bank behaviors and lead to market distortions. This section reviews the objectives of deposit insurance and its consequences in the context of U.S. institutions and the regulatory framework. It highlights the important tools, discussed in Section 5, that may be used along with changes to deposit insurance coverage to meet policy objectives while minimizing undesired consequences.

Objectives

In addition to financial stability and depositor protection, deposit insurance objectives may include consistency and transparency and minimizing disruptions from bank resolution. This subsection discusses each objective, which informs the comparison of reform options discussed in Section 6.

Financial Stability

Improving financial stability by preventing bank runs is a primary objective of deposit insurance. Fundamentally, banks are susceptible to runs because they raise funding by issuing liquid deposits, usually available immediately upon demand, to invest in illiquid (or less-liquid) long-term assets such as loans.[75] Long-term assets generally pay banks a higher interest rate than deposits cost the bank, so banks will generally be solvent and profitable if they can hold the loans to maturity.[76] If, however, many depositors simultaneously demand the return of their deposits from a bank and it exhausts its supply of liquid assets (the supply of which is typically rather limited compared with the volume of deposit liabilities), the bank will be forced to sell its illiquid and long-term assets before they mature to meet depositor withdrawals. In selling its long-term assets, especially in a short timeframe, the bank must accept prices for the assets that may be lower than their intrinsic value—that is, the bank takes a loss on the sale. If the bank sells enough assets at a loss, losses exceed the bank's cushion of equity capital and the bank becomes insolvent and unable to meet its financial obligations to

[74] IADI, "Deposit Insurance Systems Worldwide", 2023. https://www.iadi.org/en/about-iadi/deposit-insurance-systems/dis-worldwide/

[75] The reason banks are structured in this way has been the subject of significant academic debate, but a typical explanation is that by pooling the idiosyncratic (or, largely uncorrelated) liquidity needs of many depositors, a bank can provide the needed liquidity for all its depositors without holding as many liquid assets as the depositors would need to hold if they were to provide for their own liquidity individually. By reducing the amount of funding that needs to be held in a liquid form, the bank frees funds to be invested in productive but less liquid loans and projects. These illiquid projects, in turn, provide for economic growth and opportunity. Without banks, many of society's resources would be tied up to provide liquidity, and economic well-being would be lower. See Diamond and Dybvig (1983) for more on this explanation. Alternative explanations are offered by, among others, Fama (1985), Calomiris and Kahn (1991), Diamond and Rajan (2011), and Kashyap, Rajan, and Stein (2002).

[76] For the purposes of this argument, we abstract from the possibility of unexpected asset losses, mismanagement by the bank, or other reasons besides depositor runs that might cause banks to become insolvent or fail.

remaining depositors. Depositors might withdraw their deposits collectively (i.e., run on the bank) because they fear that the bank might be insolvent,[77] but they might also run even on a bank they know is solvent simply because they believe other depositors will do the same.[78] Because banks serve depositors in the order that they arrive,[79] the first depositor to run on a solvent bank can withdraw their full deposit amount. As the bank sells more assets at a loss and becomes insolvent, depositors who are later to run are unable to obtain their full deposit amount. Thus, once a run starts, all depositors want to be as close to the front of the line as possible—the collective expectation of a run becomes self-fulfilling, and the bank fails.[80]

Bank failures, especially failures of otherwise solvent banks caused by runs, impose significant costs on the financial system and the economy. First and most simply, bank runs, and the associated panic, can be contagious among depositors of different banks for purely behavioral and psychological reasons; a run on one bank can spread to others. Second, one bank's funding stress can be transmitted to other banks through various asset prices. Distressed banks might raise their deposit rates to attract or retain funding, increasing the equilibrium rate in the market that all other banks must pay or attracting funds from other banks.[81] Alternatively, banks facing deposit outflows may engage in asset fire sales to fund withdrawals, depressing market prices for those assets and impairing the liquidity and solvency of other financial institutions holding similar assets.[82] Bank runs and bank failures also have real economic costs, especially arising from a loss of credit intermediation by the banks. Banks form relationships with, and learn about, borrowers in their communities, and they fund productive projects by these borrowers using money obtained from deposits. When deposits flee or banks fail, this credit intermediation is disrupted and productive projects might go unfunded, depressing economic activity.[83] If other banks are concerned they might face a run, they may also forgo lending to profitable projects to retain liquidity for precautionary reasons, further limiting credit intermediation.

Beyond general effects on the financial system or economy, bank failures can be painful for individual uninsured depositors or other creditors of failed banks, and for entities exposed indirectly to the bank. Counterparties to banks include individuals and households that invest their savings or maintain liquid funds to pay their mortgages or bills. Without access to their deposits, uninsured depositors may lack the money to make payments and access to the payment system to transmit their money to those with whom they do business. Given the $250,000 limit, the proportion of households unable to pay bills due to losses on uninsured deposits is likely to be exceptionally small and includes only the wealthiest households.

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[77] For more on informationally driven or fundamentals-based bank runs, see, for example, Gorton (1988), Jacklin and Bhattacharya (1988), Calomiris and Gorton (1991), and Goldstein and Pauzner (2005).
[78] See Diamond and Dybvig (1983) for a theoretical explanation of this behavior.
[79] This "first come, first served" type of behavior is sometimes referred to as a "sequential service constraint."
[80] See Murton (1989) for a more detailed presentation of this argument.
[81] For example, see Egan, Hortaçsu, and Matvos (2017).
[82] There exists a rich literature on asset fire sales, including Diamond and Rajan (2011), Shleifer and Vishny (2011), Tirole (2011), Brunnermeier (2009), and Allen and Gale (1994).
[83] For example, see Bernanke (1983).

As the recent bank failures showed, losses to uninsured deposits held in business payment accounts present an important concern. Payment accounts are critical to businesses' ability to pay expenses and their employees. Because many firms' cash flow needs are high, these payment accounts by necessity are often large and uninsured at the current deposit insurance limit. Thus, a disorderly bank failure can result in missed payments on trade credit and lost labor income for employees who have no direct exposure to the failed bank or ability to protect themselves from the risk of the bank.[84] Losses on uninsured business accounts from bank runs can contribute to lost wages, business closures, and job losses.

Deposit insurance removes depositor incentives to run on their bank, thereby preventing runs and avoiding the numerous costs associated with them. Depositors know that their insured funds are safe because the FDIC and the DIF, especially in combination with the full faith and credit guarantee of the U.S. government, are credible backstops for deposits. Depositors can be confident that, if their bank fails, they will have access to their insured deposits without interruption. As a result, insured depositors have little incentive to run on their bank, even if they expect other depositors to do so or if they believe their bank to be insolvent.

Empirically, deposit insurance is highly effective at preventing runs. At a high level, the rarity of bank runs in the United States, especially runs by insured depositors, since the creation of the FDIC is clear evidence of the stabilizing benefits of deposit insurance. At the level of individual depositor behavior, analysis on data from both the United States and abroad provides consistent evidence on the effectiveness of deposit insurance in stabilizing insured deposit funding.[85] Banks facing funding stress originating from uninsured depositors and other creditors may be able to address this funding stress by increasing deposit interest rates to attract additional insured funding.[86] Generally, a higher share of insured deposits in bank funding structures makes banks individually—and the banking system as a whole—less susceptible to runs.[87]

Depositor Protection

Protecting small depositors, who constitute most of deposit accounts, has been an objective of the deposit insurance system since its founding. In hearings preceding the creation of the FDIC, Representative Steagall argued, "The hard-earned savings of the majority of our people who are only

[84] See, for example, "Remarks by President Biden on Maintaining a Resilient Banking System and Protecting Our Historic Economic Recovery," March 13, 2023 (https://www.whitehouse.gov/briefing-room/speeches-remarks/2023/03/13/remarks-by-president-biden-on-maintaining-a-resilient-banking-system-and-protecting-our-historic-economic-recovery/).

[85] Martin, Puri, and Ufier (Forthcoming) and Davenport and McDill (2006) provide evidence from the United States that FDIC insurance stabilizes insured deposits at the level of individual deposit accounts, especially in the face of financial market stress or when depositors have reason to question the solvency of their bank. Brown, Guin, and Morkoetter (2020), Iyer, Jensen, Johanessen, and Sheridan (2019), Iyer, Puri, and Ryan (2016), and Iyer and Puri (2012) provide complementary evidence from foreign countries, specifically, Switzerland, Denmark, and India.

[86] For a theoretical discussion of this possibility, see Egan, Hortaçsu, and Matvos (2017). For empirical evidence, see Martin, Puri, and Ufier (Forthcoming).

[87] For theoretical support, see Egan, Hortaçsu, and Matvos (2017).

able to deposit in one bank must be protected."[88] From the market crash in the fall of 1929 to the end of 1933, about 9,000 banks suspended operation, resulting in losses to depositors of about $1.3 billion.[89] To help reestablish consumer confidence in the banking system, the FDIC was created, and the initial deposit insurance limit was $2,500 per depositor. Increases in the deposit insurance limit have been justified based on "protect[ing] the small depositor."[90] There are several reasons to provide specific protection to small depositors.

First, monitoring a bank for safety and soundness likely requires fixed costs, making it both impractical and inefficient for small depositors to conduct due diligence. Second, monitoring for safety and soundness requires financial, regulatory, and legal expertise that is time consuming and cannot be expected of small depositors. Deposit insurance provides small depositors a mechanism to protect their hard-earned savings, without placing these undue costs and burdens on them.

Third, information is an important component to effective monitoring. Depositors, large and small, do not have access to supervisory information. Large depositors, however, can more easily justify various costs associated with collecting and analyzing financial market reports from private vendors that may be used for monitoring. Finally, information on the safety and soundness of banks is a public good: when monitoring by investors results in changes in bank risk-taking, all creditors benefit. Based on these factors and given the differences in expertise, size, and availability of proprietary information, small depositors are poorly situated to contribute to monitoring their bank for safety and soundness relative to supervisors or larger, institutional depositors.[91]

For small depositors, a low-cost, viable alternative to monitoring is to withdraw their funds from the banking system, which may then affect the health of the economy more broadly. Thus, in providing small depositors a safe vehicle for saving and transactions, deposit insurance promotes confidence in the banking sector and supports the circulation of currency.

Although larger, institutional depositors are better equipped than smaller depositors to perform due diligence, they may also use their resources to expand their deposit insurance coverage beyond the $250,000 limit by using deposit services such as brokered deposits, reciprocal deposits, and sweep accounts. Use of these products shows that there is a demand for deposit insurance protection at higher levels. Further, the presence of brokered deposits, sweeps, and reciprocal deposits demonstrates that the current system already provides deposit insurance coverage for large depositors. However, access to insured deposit coverage above the deposit insurance limit under the current system differs across depositors based on depositor awareness and legal, financial, and regulatory expertise.

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[88] Hearings Before the Subcommittee of the Committee on Banking and Currency, U.S. House of Representatives, March and April 1932, p. 268. https://babel.hathitrust.org/cgi/pt?id=umn.31951d03595099g&view=1up&seq=272&q1=deposit

[89] FDIC (1984), p. 3.

[90] U.S. Senate Committee on Banking and Currency, 1950. Amendments to the Federal Deposit Insurance Act: Hearings on S. 80, S. 2094, S. 2307, and S. 2822 before the Subcommittee, 81st Cong., 2d session.

[91] Blinder and Wescott (2001).

To compare the options, this report focuses primarily on financial stability and consistency and transparency. The report does not separately discuss the role of the options in meeting the depositor protection objectives; however, depositor protection issues, such as prompt access to insured funds after a failure, are mentioned in relevant areas.

The arguments in favor of protecting small depositors may also extend to the protection of business payment accounts. Much like small depositors, employees and trade creditors of a business that uses its deposit accounts for payment services are poorly positioned to understand their exposure to failure of that firm's bank. Surveys suggest that even small, relatively unexpected expenses as little as $400 could cause financial hardship for many Americans.[92] Protecting workers from a sudden wage or job loss resulting from bank runs by protecting the accounts used to pay their wages may therefore yield significant benefits to consumers.

Minimizing Disruptions From Bank Resolution

Deposit insurance coverage has direct implications for the costs associated with bank resolutions. Three key objectives of bank resolution include paying insured depositors promptly, retaining franchise value, and minimizing costs to the insurance fund and banking system. Bank runs can shorten, or eliminate, the time available to the FDIC to implement an orderly resolution and increase the costs of the resolution.

When supervisory authorities conclude that an insured depository institution is operating in an unsafe condition, the FDIC undertakes preparations to resolve the institution should failure occur.[93] These preparations relate directly to the key objectives stated above. The FDIC obtains bank customer and account data from the bank so that it can execute an insurance determination promptly should failure occur, thereby providing insured depositors access to their funds without interruption.

The FDIC aims for a seamless experience for depositors and creditors. In the ideal scenario, depositors maintain almost continuous access to their funds, borrowers experience a quick transfer to another bank without intermediate servicing issues, and neither group particularly notices that ownership of the institution has changed.

Resolving an institution does not happen without considerable planning and preparation before a potential failure. These preparations take place in the lead-up to failure while the bank is still an operating entity. Severe liquidity challenges that induce a bank failure are likely to progress quickly and with little warning. To stop a bank run, and to prevent it from potentially spreading to other institutions, the FDIC must act swiftly to close the bank. Doing so hinders the FDIC from executing its preferred processes to prepare for failure.[94]

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[92] Federal Reserve Board of Governors, Report on the Economic Well-Being of U.S. Households in 2019 – May 2020. https://www.federalreserve.gov/publications/2020-economic-well-being-of-us-households-in-2019-dealing-with-unexpected-expenses.htm

[93] See FDIC (2017), chapter 6, "Bank Resolutions and Receiverships" and FDIC (1998), volume 1, chapter 2, "Overview of the Resolution Process."

[94] Hoggarth, Reidhill, and Sinclair (2004).

Providing insured depositors access to their funds requires the completion of an insurance determination. Full execution of an insurance determination entails substantial manual effort to determine account ownership and associated insurance status. For some account types, full execution of an insurance determination requires manual review of documentation that the bank does not maintain. Simplification of the system or regulation[95] could reduce the costs of the deposit insurance determination and thus lessen administrative costs of the receivership.

An abbreviated lead-up to failure also affects the ability of the FDIC to maximize the franchise value of the failed institution. The FDIC is less able to market the institution to potential acquirers, and interested parties are less able to conduct due diligence. This leads to increased uncertainty that may reduce competition in bidding for the failed bank's assets and may result in lower prices or increases in the cost of the terms offered by the FDIC to potential acquirers, such as more generous cost-sharing agreements. These dynamics increase the cost to the DIF and, ultimately, the banking system that must pay higher assessments to recapitalize the Fund.

Consistency and Transparency

One objective of deposit insurance is to make protections explicit and to provide clear expectations to markets in advance.[96] Differences in market perceptions regarding the potential for uninsured depositor losses can distort incentives and affect competition. Market perceptions may be informed both by bank regulatory and resolution regimes that differ across banks and expectations on the future treatment of uninsured depositors in resolution given previous interventions. A well-designed deposit insurance system that credibly limits the need for government interventions during a crisis provides transparent protection and enables informed decision-making on how to allocate costs accordingly.

Explicit deposit insurance coverage that can be credibly executed in a resolution may increase transparency and allow market participants to operate under fewer assumptions. In addition, even when they expand protection, explicit policies may cause a reduction in risk-taking if they correct distortions based on subjective beliefs about the potential for uninsured depositor losses.[97]

Because of the constant evolution of financial institutions and risk exposures, explicit policies are unlikely to materialize as described for all possible scenarios. However, lawmakers and regulators can strengthen the financial system and prepare for potential shocks through explicit, well-designed policies.

Possible Consequences

Despite its potential financial and economic benefits, deposit insurance may create distortions that undermine or reduce its efficacy in meeting its objectives. Deposit insurance also can affect bank risk-

[95] Some regulations currently applied to large banks through Part 360.9 of the FDIC's regulations, titled 'Large-bank deposit insurance determination modernization,' and Part 370 of those regulations, titled 'Recordkeeping for timely deposit insurance determination.'
[96] Garcia (2000).
[97] Gropp and Vesala (2004), Cutura (2021).

taking and bank funding choices. This subsection examines these unintended consequences of deposit insurance.

Moral Hazard, Market Discipline, and Depositor Discipline

Moral hazard is the incentive to take on greater risk as a result of being protected from the consequences of risk-taking. It is a common concern in insurance markets, including deposit insurance. Deposit insurance eliminates the risk of loss on deposits for insured depositors, which makes depositors less sensitive to bank risk levels, shielding banks (to an extent) from losing deposits. As a result, moral hazard can lead to risk-shifting, with the consequences of excessive risk-taking being borne by the deposit insurer. Absent deposit insurance, depositors have incentives to act as bank monitors. Depositors who are not sufficiently compensated for a bank's risk-taking are incentivized to move their deposits to a different bank offering a better risk-return tradeoff.[98] Thus, banks taking on excessive risk face the choice of increasing the rates offered to depositors or losing deposit funding, a mechanism known as depositor discipline. Deposit insurance generally weakens depositor discipline because insurance reduces depositors' concerns for the safety of their deposits, though evidence is mixed on whether there is a measurable effect on bank risk-taking.[99]

Depositor discipline may result in a proactive reduction in bank risk-taking or may manifest as a reactive punishment to bank risk, without affecting bank risk-taking incentives. While reductions in bank risk-taking from depositor discipline improve financial stability, discipline in the form of a sudden withdrawal of funding and a potential bank run decreases financial stability. Therefore, it is important to focus on the extent to which depositor discipline results in reductions in bank risk-taking when examining the potential consequences of increases in deposit insurance.

The institutional environment, such as the transparency of the accounting system and reporting, bank supervision, and well-defined legal rights, plays an important role in determining bank risk-taking and depositor incentives to monitor banks. Research shows that countries with strong institutional environments are less likely to suffer from moral hazard associated with deposit insurance.[100] As

[98] Park and Peristiani (1998), Jordan (2000), Martinez Peria, Soledad, and Schmukler (2001); Davenport and McDill (2006); Maechler and McDill (2006); Bennett, Hwa and Kwast (2015); Berger and Turk-Ariss (2015); Iyer, Jensen, Johannesen, and Sheridan (2019); Martin, Puri and Ufier (Forthcoming). In addition to interest rates, banks may compete on other dimensions (such as payment services) to attract deposits.

[99] Empirically, there is both evidence that deposit insurance can increase bank risk taking and evidence to the contrary. The relationship between deposit insurance and moral hazard is dependent on institutional factors that differ across time and countries. This dependence can sometimes lead to conflicting conclusions. Thus, drawing implications from other countries or under different sets of laws and regulations should be done with care. Examples of studies that find that deposit insurance increases risk taking include Grossman (1992), Wheelock and Wilson (1995), Hooks and Robinson (2002), Demirgüç-Kunt and Detragiache (2002), Ioannidou and Penas (2010), Lambert, Noth, and Schüwer (2017), and Calomiris and Jaremski (2019). Studies that do not find evidence that deposit insurance increases risk taking include Karels and McClatchey (1999), Gueyie and Lai (2003), and Gropp and Vesala (2004). Some studies find conflicting effects of deposit insurance depending on other factors like the economic cycle or the institutional environment; these include Hovakimian, Kane and Laeven (2003) and Anginer, Demirgüç-Kunt and Zhu (2014). Some studies find evidence of depositor discipline but do not directly establish a resulting effect on bank risk taking, e.g., Karas, Pyle and Schoors (2013); see Bliss and Flannery (2002) for a discussion of this phenomenon in the market discipline literature more broadly.

[100] Demirgüç-Kunt and Detragiache (2002), Hovakimian, Kane, and Laeven (2003).

discussed in Section 5, tools such as risk-based pricing, regulation, and supervision can constrain bank risk-taking. In addition, market discipline from non-deposit stakeholders at the bank can also limit bank risk-taking. Given the prioritization of depositors in the claims structure and their sizes relative to institutional investors, non-depositor creditors and shareholders may play a larger role than depositors in exerting market discipline to constrain moral hazard.[101]

In addition to acting as their own constraints to bank risk-taking, the institutional environment may reduce depositor monitoring incentives and the efficacy of depositor discipline. For example, because monitoring is costly, depositors may rely on bank supervisors or other market participants to expend monitoring effort. Thus, a strong institutional environment both mitigates concerns of moral hazard associated with deposit insurance and reduces the relative role that depositor discipline plays in affecting bank risk.

Several factors limit depositor discipline from effectively controlling bank risk. First, depositors may face significant costs to monitor and discipline banks, as it requires expertise in accessing and evaluating bank financials. Second, savvy depositors who are most likely to impose depositor discipline may be able to eliminate their risk through other means, such as using cash management services to limit their exposure to uninsured deposits. Thus, depositors most equipped to monitor banks may exert little or no depositor discipline in practice. Third, the impact of depositor discipline may be reduced if banks can readily find substitutes for uninsured deposits.[102] For example, if banks can use—or expect that they can use—other forms of funding to meet outflows, then potential withdrawal of uninsured deposits has a smaller effect on bank risk-taking incentives.

Finally, depositor discipline can function only if uninsured depositors have an expectation of possible loss. In most bank failures since 1992, the acquiring bank assumed uninsured deposits in the resolution (see Table 3.3). Consequently, absent a stress event, an uninsured depositor may rationally expect that it is unlikely both that their bank fails and that as an uninsured depositor they would face a loss in the event it did. Further, some uninsured depositors may expect that their deposits will be protected in the event of a bank failure even if not explicitly insured. The infrequency of bank failures with uninsured depositor loss weakens the depositor discipline mechanism in deterring bank risk-taking.[103] However, in some cases, including some high-profile ones, the losses to uninsured deposits have been high. Therefore, although uninsured depositors may not monitor the bank in general, in the context of a stress event, uninsured depositors may choose to run.

Despite its weaknesses, depositor discipline provides a market-based risk deterrent. The threat of a bank run may encourage banks to maintain high levels of transparency and financial stability to attract and retain deposits. To avoid the devastating effects of a run, bank managers may avoid risky actions long before there is any risk of a bank run.

If deposit withdrawals are gradual and do not culminate quickly into a bank run, withdrawals may serve as an early-warning signal to supervisors and other market participants. Once a run is underway,

[101] Sironi (2003), Gropp and Vesala (2004), Anginer, Demirgüç-Kunt, and Zhu (2014), Kandrac and Schlusche (2021).
[102] Ashcraft, Bech, and Frame (2010), Martin, Puri, and Ufier (Forthcoming).
[103] Iyer, Jensen, Johannesen, and Sheridan (2016).

it is likely too late for a bank to correct any mismanagement of risk. In these cases, depositor discipline punishes institutions already in deep trouble, which is likely to impede the ability of supervisors to impose corrective actions and prevent the situation from worsening. In such cases, depositor discipline is detrimental to financial stability.[104] On the other hand, bank runs can end risky behaviors that had gone unaddressed and that could otherwise continue to build if they remained unrectified by supervisors or other market forces. Also, the bank run may prompt stronger controls on similar risk-taking at banks not subject to the run.

Ultimately, moral hazard depends on several factors, of which depositor discipline is just one. Moral hazard associated with deposit insurance is less concerning when institutions are strong and when depositor discipline does not meaningfully drive bank risk management decisions. The risk of moral hazard arising from deposit insurance should be evaluated with comprehensive consideration of the existing institutional controls that limit bank risk-taking.

Changes to Other Bank Funding Sources

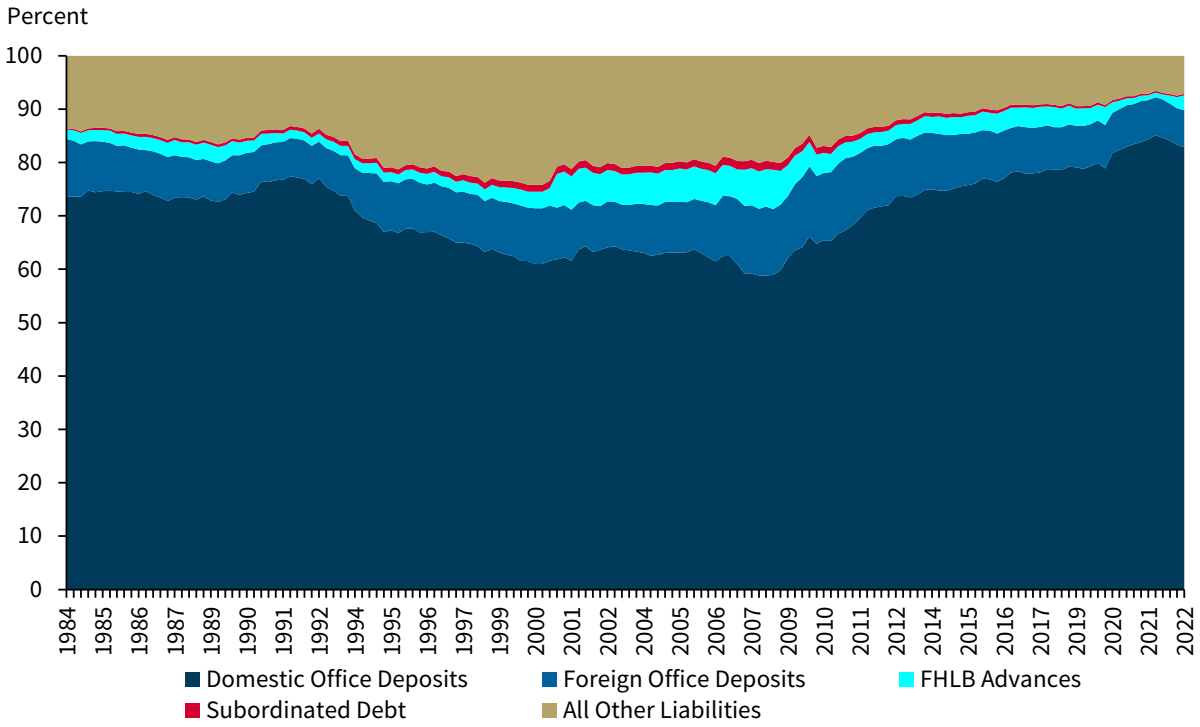
Because deposits are the primary source of funding for banks, changes in deposit insurance coverage can significantly affect bank funding choices. In general terms, increased insurance coverage is expected to decrease the cost and increase the availability of deposits for banks, leading to increased bank reliance on deposit funding and decreased reliance on alternative sources of funding.

Domestic deposits are the largest funding source for banks in the aggregate.[105] Other non-deposit sources of funding include loans from the Federal Home Loan Bank (FHLB) System (known as advances), subordinated debt, borrowing in the federal funds market, discount window borrowing, and many other small sources of funding. Figure 4.1 shows that as of December 31, 2022, domestic deposits represented about 83 percent of aggregate bank liabilities, foreign office deposits represented about 7 percent, and FHLB advances represented about 3 percent. At year-end 2022, bank reliance on domestic deposits was higher than was typical in the past few decades, though domestic deposits decreased in 2022 in association with the recent cycle of monetary tightening. As domestic deposits have declined of late, banks have increased their reliance on FHLB advances. Funding sources other than domestic deposits vary considerably across banks, especially for banks of different sizes.

[104] Flannery and Bliss (2019) distinguish between corrective market discipline and discipline that could take a "wrong turn" toward depositor runs, with little time for corrective action.

[105] Banks also source deposits from foreign offices, though these are not eligible for FDIC deposit insurance. See CFR §330.3(e).

Figure 4.1 Domestic Deposits, Foreign Deposits, and Federal Home Loan Bank Advances Are the Biggest Bank Liabilities



Source: FDIC.

Changes in deposit insurance coverage are likely to affect the liability structure of banks in normal economic times and in periods of financial distress. Increases in deposit insurance coverage may improve the availability and cost of domestic deposits to banks, reducing bank reliance on other sources of funding. This effect might be broadly true at all points in the business cycle, but perhaps especially so in times of turmoil. In periods of banking system stress in the past, bank funding has come under pressure as uninsured depositors and other unsecured creditors moved their funds out of banks and into assets perceived to be safe.[106] An increase in deposit insurance coverage, by expanding the share of insured bank funding, may reduce the degree of funding stress banks face during a crisis and lessen their reliance on emergency sources of funding. Moreover, higher deposit insurance coverage has the potential to make banks beneficiaries of the flights to quality and liquidity that have historically involved funding flows to other financial assets perceived as liquid and government backed.

[106] Acharya and Mora (2015) document that between the freezing of the asset-backed commercial paper market in August 2007 and the broad federal interventions in the banking system in October 2008, investors shifted balances away from large deposits and toward securities perceived to have stronger government support, such as Treasury and agency debt (and MMFs holding these securities). Facing a shortfall in deposit funding, banks increased reliance on the Federal Home Loan Bank System, a government-sponsored entity whose debt is perceived to enjoy implicit government support.

Other Possible Consequences

Deposit insurance can affect competition between banks, competition between banks and nonbank financials, and competition between deposits and other financial assets. Deposit insurance can affect how banks compete with one another, as insured depositors do not need to worry about bank risk. In addition, changes to deposit insurance coverage are likely to affect the interaction between banks and nonbank financials that compete with banks along some dimensions and partner with banks along other dimensions. Nonbank financials may compete with banks on the liability side, creating deposit-like savings or transaction vehicles, and on the asset side, making loans traditionally associated with chartered depository institutions. Changes to deposit insurance may alter the competition between banks and financial assets viewed as substitutes. An increase in deposit insurance coverage would likely make deposits more competitive, decreasing the demand for alternative assets at least to some degree. A discussion of the competitive effects of deposit insurance is beyond the scope of this report.

Section 5: Tools to Support Objectives and Address Possible Consequences

The effectiveness of deposit insurance depends critically on its interaction with other policy tools. Tools can increase the efficacy with which deposit insurance promotes financial stability or may dampen undesirable consequences associated with deposit insurance. Changes to deposit insurance coverage should be made in conjunction with an evaluation of the best associated policy tools.

Bank Regulation and Supervision

Bank regulation and supervision play a major role in promoting financial stability, limiting the moral hazard concerns posed by deposit insurance, and responding promptly to risks that arise. For this discussion, regulation refers to the body of written rules in the Code of Federal Regulations, which have the force of law. Supervision refers to the totality of actions the federal banking agencies can take to enforce the rules and to carry out their respective statutory mandates to ensure the safe and sound operation of banks. This section refers collectively to supervision and regulation as the risk control framework.

This section identifies five areas within the risk control framework that may play critical roles in supporting the objectives and mitigating the undesired consequences of deposit insurance: capital, liquidity, long-term debt, interest rate risk, and growth supervision.

Capital

Capital requirements can minimize the potential for moral hazard and promote safe and sound banking practices by increasing the costs of risk-taking to shareholders, thus increasing shareholder discipline. Higher levels of deposit insurance coverage weaken deposit discipline and increase bank risk-taking incentives. Meanwhile, shareholders disproportionately benefit on the upside of such risk-taking relative to creditors. Higher levels of capital make shareholders more attuned to the downside of risk and so increase shareholder discipline, which mitigates moral hazard. Therefore, to the extent that increased deposit insurance limits erode depositor discipline, capital requirements can be used to mitigate moral hazard concerns.

Recent developments have also focused attention on the definition of capital for regulatory purposes. In accordance with U.S. generally accepted accounting principles (GAAP), an institution must measure and recognize available-for-sale (AFS) debt securities at fair value on the balance sheet, while held-to-maturity (HTM) debt securities are carried at amortized cost. For AFS debt securities, unrealized holding gains and losses are excluded from earnings and reported in a separate component of equity capital: accumulated other comprehensive income (AOCI). AOCI is excluded from regulatory capital for most institutions.[107] Meanwhile, HTM debt securities are not adjusted to fair value in accordance with GAAP and for financial reporting purposes.

[107] AOCI is a component of regulatory capital for advanced approaches banks and other institutions that opted into including it. See Part 324, Capital Adequacy of FDIC-Supervised Institutions. https://www.ecfr.gov/current/title-12/chapter-III/subchapter-B/part-324

Accumulating unrealized losses on debt securities increases the likelihood of a run by uninsured depositors when those losses are large compared to capital. This is because withdrawals coordinated with the sale of these debt securities force the recognition of losses and promptly force a bank into insolvency. For example, SVB's year-end 2022 Call Report reported tier 1 capital of about $17.0 billion; it also reported unrealized holding losses of $2.5 billion on AFS securities and $15.2 billion on HTM securities. None of these losses lowered its tier 1 capital under the regulatory capital regulations.

A more rigorous approach to valuing securities for regulatory capital purposes may induce institutions to either limit their exposure to highly interest-rate sensitive assets or take steps to raise capital, limit dividends, shed securities, or hedge their exposures earlier when interest rates start to increase. If net unrealized holding losses on AFS or HTM debt securities are reflected in regulatory capital, then institutions would have had to take actions to increase their capital or face regulatory restrictions. Future changes to regulatory capital calculations could range from incremental steps such as expanding the recognition of AOCI in regulatory capital to a larger group of banks to more comprehensive changes to the regulatory capital framework. It is possible that the recognition of net unrealized holding losses through the inclusion of AOCI in regulatory capital would still prompt withdrawals of uninsured deposits. However, incorporating AOCI in regulatory capital can promote financial stability by compelling earlier remediation actions and prevent the accumulation of net unrealized holding losses.

Liquidity

Liquidity regulations can complement deposit insurance to support financial stability objectives and are designed to mitigate stability risks associated with funding long-term assets with short-term liabilities. For example, the Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSFR) apply fully to the U.S. GSIBs. Also, the LCR and NFSR apply to institutions with $250 billion or more in assets, with the degree of stringency depending on thresholds related to average weighted short-term wholesale funding, and a subset of banks between $100 billion and $250 billion that meet certain criteria. SVB and Signature, for example, were not subject to the LCR or NSFR rules.

Liquidity regulations can support financial stability objectives to ensure that banks retain sufficient liquid assets to account for the risk of outflows, including uninsured depositor runs. For example, simple limits on uninsured depositor funding for banks, or unstable short-term funding more broadly, can reduce the exposure of banks to runs, while requirements on liquid assets can provide depositors confidence that banks hold sufficient liquidity to meet outflows. Alternatively, regulations like the LCR and NSFR can reduce the mismatch that naturally arises in banks that use short-term liabilities to fund long-term assets.

Interest Rate Risk

The incorporation of interest rate risk as part of capital or liquidity regulations, or through a supervisory approach, can also support financial stability objectives.[108] Interest rate risk for activities

[108] Interest-rate risk management is discussed in 'Interagency Guidelines Establishing Standards for Safety and Soundness' in Appendix A of Part 364 of FDIC regulations. In addition, sensitivity to market risk—include interest rate risk—has been part of the Uniform Financial Institution Rating System since 1997. Supervisors require banks

banks conduct in their trading books are captured, in principle, by trading book capital rules, but no regulation exists that provides an explicit constraint on how much interest rate risk banks can take for exposures held in the banking book.[109] Based on feedback from commenters, the Basel Committee on Bank Supervision did not pursue a regulatory approach but subsequently published principles for the measurement and management of interest rate risk.[110]

Enhanced risk management standards for interest rate risk may reduce risks to financial stability. Evaluating the tradeoffs associated with different options to address interest rate risk within the regulatory and supervisory frameworks is a topic meriting consideration but beyond the scope of this report.

Long-Term Debt

Long-term unsecured debt requirements can support the financial stability objective of deposit insurance in several ways. For example, in 2016, the Federal Reserve published a final rule to require U.S. GSIBs and the U.S. operations of foreign GSIBs to meet a long-term debt requirement and a total loss-absorbing capacity, or TLAC, requirement.[111] As described by the Federal Reserve, the requirement to maintain sufficient amounts of long-term debt, which can be converted to equity during resolution, was intended help facilitate an orderly resolution of an institution in the event of failure.[112]

Although long-term debt requirements have been viewed primarily as a resolution tool and applied to bank holding companies rather than banks, long-term unsecured debt may also support deposit insurance by mitigating moral hazard incentives at banks. For example, a significant increase in explicit deposit insurance coverage could increase incentives for banks to fund themselves with deposits and whatever equity is required, and very little debt. In the case of full deposit insurance coverage, banks may have little incentive to fund their operations with long-term unsecured debt. The scope and cost of the deposit insurance safety net could greatly expand as a result.

In contrast to shareholders, long-term debtholders are asymmetrically exposed to the downside of bank risk-taking; they do not reap the benefits of bank risk-taking and are exposed to losses when bank risk-taking goes wrong. Moreover, long-term debt holders cannot run before the scheduled maturity date, incrementally reducing the bank's exposure to run risk. Their exposure to loss and the

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to manage their interest rate risk exposures and failure to meet standards can subject them to enforcement actions. Federal Register, Volume 61, No. 45, December 19, 1996. https://www.fdic.gov/news/financial-institution-letters/1996/fil96105.pdf

[109] The trading book capital rules only apply to banks with sufficiently large trading accounts.Basel Committee on Bank Supervision. Consultative Document: Interest Rate Risk on the Banking Book. September 11, 2015. https://www.bis.org/bcbs/publ/d319.pdf

[110] Basel Committee on Banking Supervision. Standards: Interest Rate Risk in the Banking Book. April 2016. https://www.bis.org/bcbs/publ/d368.pdf.

[111] Fed. Reg. 2017-00431. https://www.govinfo.gov/content/pkg/FR-2017-01-24/pdf/2017-00431.pdf

[112] On October, 2022 the FDIC and the Board of Governors of the Federal Reserve published an advance notice of proposed rulemaking regarding Resolution –Related Resource Requirements for Large Banking Organizations that sought comment on the advantages and disadvantages of requiring an expanded group of large banking organizations to maintain long term debt. 87 Federal Register 64170.

long-term nature of that exposure give long-term unsecured debtholders strong incentives relative to shareholders to monitor and discipline bank risk-taking by charging banks a premium for risk-taking on their issuances or by refusing to roll over maturing debt. Increased yields on long-term unsecured debt or difficulties in rolling over debt can act as an early-warning indicator for bank supervisors and trigger intervention that may avert the need for a resolution. As an alternative to depositor discipline, which is often exerted in the form of a run, market discipline through long-term debt—through the refusal to roll over long-term debt or through pricing—may promote financial stability.

Either to support financial stability objectives or mitigate moral hazard concerns associated with deposit insurance, the expansion of the application of long-term debt requirements beyond the U.S. GSIBs is worthy of careful consideration as part of deposit insurance reform.

Rapid Growth

Strengthening supervision surrounding rapid bank growth may also support deposit insurance objectives. Rapid growth is generally recognized as a potential indicator for bank risk-taking and the first stage in the development of bank financial distress. Rapid growth may signal an increase in risk-taking for several reasons. First, rapid growth is often coupled with a relaxation in loan standards or an expansion into new lending businesses. Second, rapid growth likely occurs during benign economic environments, and the bank and its borrowers are insufficiently tested in an economic downturn. Third, as was the case with the banks that failed in March 2023, rapid asset growth is often fueled by volatile forms of funding. Compared to a similarly sized bank with stable growth, the funding base at a bank that has grown rapidly is less likely to have long-standing relationships with the bank and may therefore be more inclined to withdraw funds in response to signals of stress.[113]

Deposit Insurance Pricing

Deposit insurance can cause moral hazard as it removes incentives for insured depositors to monitor banks, allowing bank management to take on excessive risk. Risk-based deposit insurance pricing that charges premiums commensurate with the risk assumed by banks can mitigate moral hazard.[114] Risk-based pricing can also promote fairness, whereby banks that pose higher risk pay higher premiums and mitigate cross-subsidization from lower-risk to higher-risk banks.

It is difficult to measure bank risk and price accurately.[115] Data limitations are one of the major challenges. Although quarterly bank financial filings are extensive, they often lack enough detail to accurately price risk. In addition, failures are relatively rare events and are clustered in time. Statistical analyses that rely on past predictive risk factors are less capable of capturing new risks in the system, especially when failures are associated with macroeconomic events. Liquidity risk measurement is especially challenging as bank runs are far fewer compared with insolvency failures.

[113] FDIC (1997).
[114] Ehrlich and Becker (1972), Demirgüç-Kunt and Detragiache (2002), Hovakimian, Kane, and Laeven (2003), Shoukry (Forthcoming).
[115] The goals of risk-based pricing include additional objectives, such as transparency. For the purposes of this report, risk-based pricing is discussed primarily in regard to its ability to affect bank risk-taking.

Moreover, government intervention in recent and past bank runs impedes measuring historical losses that would have occurred absent extraordinary measures.

A risk-based pricing system is unlikely to fully and accurately reflect the risks posed by banks. Despite such challenges, a well-designed system can help measure material risks, identify riskier banks and charge those banks higher premiums, and discourage banks from excessive risk-taking. Changes to pricing based on bank liability structure and interest rate risk may mitigate moral hazard concerns and maintain fairness within a deposit insurance system.

Pricing for Risks in Liability Structure

Bank liability structure can influence the FDIC's risk position in several ways. First, the FDIC's deposit insurance assessment revenue depends on how a bank funds its assets between equity and liabilities. The assessment base used to calculate the deposit insurance premium is average consolidated total assets minus average tangible equity, which approximates a bank's total liabilities. The more a bank funds its assets with liabilities instead of equity, the higher the assessment base and the higher the assessment revenue.

Second, the FDIC's loss exposure is determined by the failed bank liability structure. The National Depositor Preference statute in the Omnibus Budget Reconciliation Act of 1993[116] established the following priority order of receivership claims of creditors if a bank fails:[117]

1. Secured claims
2. Administrative expenses of the receivership
3. Domestic deposit liabilities
4. General creditor claims including unsecured borrowing and foreign deposits
5. Subordinated claims
6. Cross-guarantee claims
7. Stockholders

When a bank fails, secured liabilities such as FHLB advances, repurchase agreements, public deposits, and borrowings from the Federal Reserve Bank discount window have the highest priority claim on the receivership. Assets used as collateral for secured liabilities are unavailable to the FDIC. Then, administrative expenses of the receivership are paid. Insured deposits are paid in full by the FDIC, and then the FDIC replaces the insured depositors in the priority of payments. Domestic depositors have priority over non-collateralized, non-deposit creditors.[118] Then, general creditors are paid, followed by subordinate creditors and finally stockholders.

[116] Pub. L. 103-66, § 3001.
[117] FDIC (2000) and Marino and Bennett (1999).
[118] Under depositor preference, insured depositors (subrogated claims of the FDIC) and uninsured depositors share in losses and incur the same loss rate on their claim.

Based on the priority of the claims, a bank's loss given failure is influenced by its liability structure. Banks with high shares of secured liabilities and insured deposits will result in higher cost to the FDIC compared to banks with identical assets but with lower secured liabilities and insured deposits.

Third, a bank's liability structure can influence its risk-taking behavior. Secured liabilities are collateralized and are first in priority of the claims.[119] As a result, the holders of these liabilities have little incentive to monitor or discipline banks beyond the specific collateral backing their claim. Banks that rely more heavily on secured liabilities and less on unsecured credits subject themselves to less market discipline. In addition, readily available secured liabilities can fuel a bank's high growth strategies, which have been associated historically with increased failure probability. The current deposit insurance pricing system accounts for the effect secured liabilities can have on expected failure losses by including liabilities in the assessment base. Similarly, unsecured liability holders can affect the risk-taking behavior of banks because they have an incentive to impose market discipline on banks by demanding a higher rate when banks assume greater risk (see Regulation and Supervision).

The deposit insurance pricing systems for large banks and highly complex banks include liquidity risk measures to capture these institutions' ability to withstand funding-related stress and the relative magnitude of potential losses to the FDIC should such an institution fail.[120] The funding-related stress metrics for these banks are composed of a core deposit to total liabilities ratio and a balance sheet liquidity ratio. The core deposit metric excludes uninsured, non-brokered time deposits. Meanwhile, balance sheet liquidity metrics measure highly liquid assets relative to potential short-term outflows, including outflows of uninsured deposits. In addition, funding-related stress metrics for highly complex banks include an average short-term funding to average total assets ratio that measures a bank's reliance on short-term funding.[121] The loss severity measure applies a standardized set of assumptions regarding liability runoffs, including uninsured deposit runoff, and the recovery value of asset categories to calculate possible losses to the FDIC.

The measures of a bank's ability to withstand funding-related stress used in pricing do not explicitly account for the liquidity risk posed by banks' reliance on uninsured deposits. Implicitly, funding-related stress is captured in part by including liquidity ("L") and sensitivity to market risk ("S") in supervisory bank CAMELS ratings. Uninsured deposits are a form of unsecured credit that pose liquidity risk to a bank. Ensuring that such risks are appropriately addressed within large and highly

[119] According to Shibut (2002), borrowings from the Federal Reserve Board discount window face potential loss because FDICIA allows the FDIC to charge the Federal Reserve Board for failed-bank losses attributable to discount window borrowings made to undercapitalized banks.
[120] For the purposes of deposit insurance pricing, a large bank is defined as an insured depository institution with assets of $10 billion or more. A highly complex bank is defined as (1) An insured depository institution (excluding a credit card bank) that has had $50 billion or more in total assets for at least consecutive quarters that either is controlled by a U.S. parent holding company that has had $500 billion or more in total assets for four consecutive quarters, or is controlled by one or more intermediate U.S. parent holding companies that are controlled by a U.S. holding company that has had $500 billion or more in assets for four consecutive quarters, and (2) a processing bank or trust company, defined in 12 CFR 327.8(s).
[121] Garnett, Henry, Hoople, and Mihalik (2020).

complex banks could involve changes to the current pricing systems.[122] Changes to account for uninsured deposit risk directly could be made within the scorecards applicable to these institutions or could take the form of a separate adjustment measure that increases a bank's assessment rate to reflect increased risk to the DIF. Adjusting pricing for uninsured deposit risks at large or highly complex banks would be an incremental change and may fit within existing liquidity approaches applied to these institutions.

Pricing Interest Rate Risk

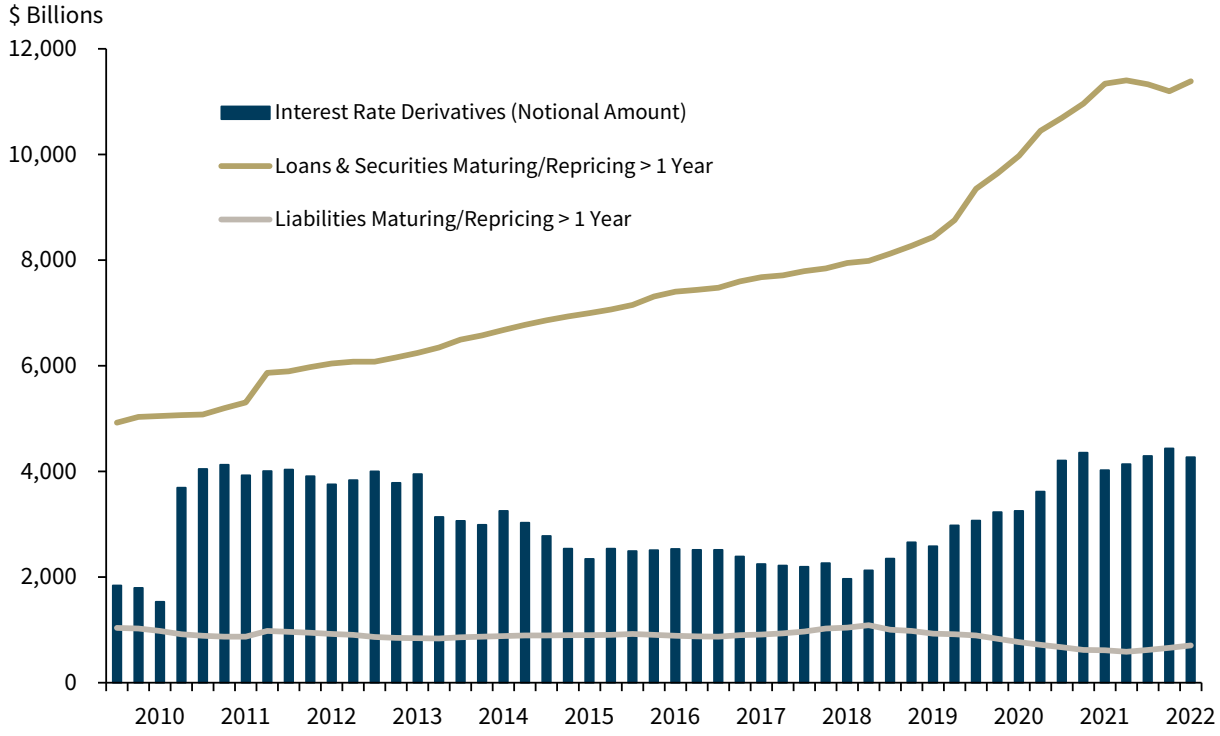
Interest rate risk is the potential for movements in interest rates to reduce bank earnings and capital. Interest rate risk is inherent in banking as banks generally borrow short and lend long. Banks make loans and other investments with longer maturity using non-maturity deposits and other liabilities that tend to have shorter maturities.

Mismatch in asset and liability maturities exposes banks to repricing risk, one type of interest rate risk. The extent of mismatch in asset and liability maturities is important in assessing a bank's exposure to interest rate risk. Aggregate balance sheet information in Figure 5.1 shows that the industry increased its exposure to longer-term assets while reducing its reliance on longer term liabilities, further escalating the mismatch in maturities. While on-balance sheet mismatch in asset and liability maturities is widening, it is possible that the banks are hedging their interest rate risk using off-balance sheet instruments such as interest rate derivatives. Figure 5.1 also shows the aggregate gross notional amount of interest rate risk derivative contracts held for purposes other than trading in the banking sector. While the notional amount of interest rate risk derivative contracts roughly doubled from 2010 to 2022, it has not kept up with the increasing trend in on-balance sheet asset and liability mismatch. Moreover, some portion of interest rate derivatives is likely accommodations to loan customers (for example, to convert a variable rate loan to fixed rate from the customer's perspective) rather than hedges of banks' own investments. The notional amount of interest rate risk derivatives is lower than the difference in long-term assets and liabilities.[123] Overall, Figure 5.1 indicates that bank exposure to repricing risk has increased over time.

[122] Deposit insurance pricing for large and highly complex institutions, 12 CFR Part 327.16(b).

[123] Figure 5.1 provides information on mismatch only for assets and liabilities that mature or reprice in more than a year and excludes those assets and liabilities with less than one year until maturity or repricing. The notional amount of interest rate risk derivatives graphed is for all interest rate risk hedging which can include those for assets and liabilities with less than one year until maturity or repricing. As a result, the shortfall in notional amount of interest rate risk derivative contracts to cover the mismatch is likely to be greater than shown in Figure 5.1.

Figure 5.1 Loans and Securities That Mature or Reprice in More Than 1 Year Rose Dramatically During the Pandemic



Source: FDIC.

Besides repricing risk, there are four other types of interest rate risk: yield curve risk, basis risk, option risk, and price risk.[124] Yield curve risk refers to risk associated with changes in the shape or slope of the yield curve. If the yield curve flattens or inverts so that the short-term interest rate rises while the long-term rate remains the same or falls, then banks face higher funding cost when loan revenue remains the same or falls. Differences in maturity or repricing frequency of assets and liabilities also expose banks to yield curve risk. Basis risk refers to risk associated with unequal adjustments in different market rates. Even when assets and liabilities have similar repricing characteristics, the earnings spread from these instruments can differ because of the index rates used. For example, Treasury rate-based deposit rates can change differently than floating loan rates. Interest rate movements can also expose banks to option risk, which can change banks' cash flow as a creditor or borrower exercises the option to withdraw or pay back debt at different times. For example, a depositor can withdraw funds to invest in higher-yielding instruments when interest rates rise, while a borrower can prepay and refinance a mortgage when interest rates fall. Price risk refers to banks' fair market value instruments changing value to movements in interest rates. When interest rates rise, the value of investment securities declines, causing unrealized losses.

The deposit insurance pricing system could be improved by incorporating interest rate risk metrics, as they are not explicitly included but are implicitly included through the incorporation of supervisory

[124] FDIC, "Sensitivity to Market Risk" in Risk Management Manual of Examination Policies, section 7.1. https://www.fdic.gov/regulations/safety/manual/section7-1.pdf

ratings. Plausibly, price risk of interest rate movements can be incorporated into the system by measuring potential changes to the fair value of the bank's investment securities from movements in the interest rate. Similarly, unrealized losses could be incorporated into risk-based pricing. In contrast, it would be difficult to include metrics to accurately measure repricing and yield curve risk of interest rate movements into the system.

Refinements to deposit insurance pricing can allocate the cost of assessments more appropriately based on the risks taken by institutions and can, to an extent, incentivize more prudent risk-taking by banks. But there are limits to the extent risks can be accurately priced and to the premiums the FDIC can realistically charge. Thus, while pricing is one tool that can account for risk in a deposit insurance regime, the limitations of pricing suggest that it should be part of a joint approach to manage risk-taking incentives alongside other tools discussed in this section.

Fund Adequacy

The FDI Act requires that the FDIC Board of Directors designate a reserve ratio for the DIF, known as the designated reserve ratio (DRR). The reserve ratio is measured as the ratio of the Fund balance (or net worth) to estimated insured deposits. The DRR is set by the Board based on analysis of the risk of losses to the DIF, economic conditions affecting insured depository institutions, prevention of sharp swings in assessment rates, and other factors the Board determines appropriate. The DRR for any year may not be less than 1.35 percent. Generally, if the reserve ratio falls below the statutory minimum of 1.35 percent or is expected to within six months, the FDIC must adopt a restoration plan to restore it to at least 1.35 percent within eight years. Since 2010, the Board has set the DRR at 2.0 percent with the view that the DRR is a long-term goal.

Increases in insured deposits, because of increases in the deposit insurance limit or other changes, decrease the reserve ratio. So any changes to the deposit insurance limit should also consider the effect on the reserve ratio, including whether the minimum reserve ratio, set by law, and the DRR, set by the FDIC Board based on statutory factors, are still appropriate, and the amount of time required to reach these levels. Although precise information on the distribution of account balances is not available, the volume of uninsured deposits relative to the number of accounts suggests that a modest increase in the standard deposit insurance amount is unlikely to have significant implications for the reserve ratio. Eliminating a deposit insurance limit altogether and providing universal deposit insurance would increase the volume of insured deposits by about 70 to 80 percent and decrease the reserve ratio by more than 40 percent, excluding associated inflows that might result from more coverage.[125]

Restoring the DIF to the statutory minimum reserve ratio, absent changes to requirements related to adopting a restoration plan, would require raising deposit insurance assessments on the industry. Because assessments are based on total assets less average tangible equity, or essentially total liabilities, an increase in insured deposits at a bank due to increases in the deposit insurance limit would not inherently result in greater assessment revenue. Instead, assessment rates would likely have to be increased across the entire industry.

[125] Based on the Deposit Insurance Fund balance as of December 31, 2022.

Section 6: Options for Increased Deposit Insurance Coverage

This section presents several options for alternative deposit insurance schemes. The options differ in how much they deviate from the statutory status quo and in their likely effects upon deposit insurance objectives. Of the options considered, the report suggests that Targeted Coverage, which allows for higher or unlimited deposit insurance limits for business payment accounts, has the greatest potential to meet many of the objectives of the deposit insurance system while mitigating many of the undesirable consequences of raising the limit more broadly.

Limited Coverage maintains the existing deposit insurance framework that insures all depositors up to a limit by ownership rights and capacities at the current limit or a higher limit. Given its long history, Limited Coverage is the best tested model of deposit insurance. However, Limited Coverage does little to address the financial stability concerns associated with the events of March 2023 and the broader trends in the banking system.

Unlimited Coverage provides unlimited deposit insurance for all deposits. Although Unlimited Coverage likely provides the greatest financial stability benefits of the options considered, it is also a significant departure from the existing system. In addition to its possible effects on bank risk-taking, Unlimited Coverage may cause significant disruptions to other asset markets and would require a substantial increase in assessments on the industry to support the adequacy of the DIF.

Targeted Coverage considers different coverage across account types, with a focus on providing significantly higher or unlimited coverage to business payment accounts. Because losses on uninsured deposits associated with business payments are most likely to create spillovers, providing higher coverage on these deposits increases financial stability without expanding the safety net more broadly. Relative to investment accounts, business payment accounts are less likely to seek yield and are more difficult to diversify across banks in the current system to obtain full deposit insurance. The major limitations to Targeted Coverage are identifying business payment accounts subject to a higher deposit insurance limit and restricting the ability of depositors to exploit coverage differentials. Although more analysis is warranted, Targeted Coverage provides significantly greater financial stability benefits than Limited Coverage while attenuating many of the drawbacks associated with Unlimited Coverage.

This section also explores additional options that may be considered alongside Limited Coverage and Targeted Coverage in which some depositors remain uninsured. The section reviews voluntary excess deposit insurance, in which individual banks or depositors may choose to insure above the deposit insurance limit. If large concentrations of uninsured deposits remain under Limited Coverage or Targeted Coverage, additional approaches could include requiring collateralization of large, uninsured deposits or limiting their convertibility.

Limited Coverage

An option for deposit insurance reform is to maintain the current deposit insurance framework that provides insurance to depositors up to a specified limit by ownership rights and capacities as discussed in Section 3. Although retaining the status quo deposit insurance coverage limits, increasing

limits but maintaining them at finite levels, or simplifying the deposit insurance system while maintaining limited coverage are technically different deposit insurance structures, many of the fundamental effects of such proposals on the objectives and consequences of deposit insurance are similar. A change to the deposit insurance coverage limit could be of any magnitude—to $500,000, $1 million, $2.5 million, or $10 million, for example.[126] While the benefits and costs of raising the limit vary, the variation is differences in degree not kind. This report does not consider any precise, finite coverage limit and evaluates as one any reform options that maintain the existing deposit insurance framework in which nontrivial amounts of all deposit products are explicitly uninsured.

The existing limited coverage deposit insurance framework is the best tested model of deposit insurance. It has been used in the United States since the founding of the FDIC and is in place in many other countries as well. Maintaining this framework minimizes transition costs and potential broader market disruptions associated with larger departures from the status quo.

The costs associated with a deposit insurance determination associated with Limited Coverage are the same as those in the current system, which can be significant, and relate to financial stability. Consequently, in an option with limited, but an increased, deposit insurance coverage limit, simplification merits consideration. The FDI Act provides depositors with separate deposit insurance coverage at each chartered institution where they hold deposits. The deposit insurance coverage limit is applied to deposit amounts aggregated by different ownership rights and capacities (known as ownership categories) at the same institution.[127] Simplification can also complement the Targeted Coverage option, which is discussed below.

As of May 2023, there are 14 ownership categories that are covered separately by deposit insurance up to the standard maximum deposit insurance amount of $250,000 per institution.[128] Multiple ownership

[126] Expressed as a percentage of per capita GDP, U.S. deposit insurance coverage is the most comprehensive of any G7 peer and amongst the highest of the G20 countries. Current U.S. deposit insurance coverage also exceeds substantially both the current median IADI member coverage and IADI historical average. Using information from the IADI Annual Deposit Insurance Survey of 2022 on coverage levels and the IMF World Economic Outlook, October 2022, for GDP, the average coverage limit of members of the Financial Stability Board is $75,367 and the average coverage to per capita GDP is 193.5 percent. In the United States, the current coverage level of $250,000 is 328 percent of U.S. per capita GDP. This is the sixth largest number of all of the countries who are part of the Financial Stability Board, and the largest of all of the G7 countries. https://www.iadi.org/en/research/data-warehouse/deposit-insurance-surveys/

[127] See 12 U.S.C. § 1821(a)(1)(C). In determining the net amount due to a depositor, the FDIC is required to aggregate all deposits in the insured depository institution which are maintained by a depositor "in the same capacity and the same right". In other words, all deposits that an accountholder has in the same ownership category at the same bank are added together and insured up to the standard insurance amount. The United States is one of the few international jurisdictions that provide deposit insurance on a per ownership category, rather than per depositor, basis. Depending on the organization of the depositor's accounts, this results in a higher deposit insurance coverage level per depositor than the coverage limit would indicate.

[128] The categories are: single accounts, certain retirement accounts, joint accounts, revocable trust accounts, irrevocable trust accounts, employee benefit plan accounts, corporation/partnership/unincorporated association accounts, government accounts, mortgage servicing accounts, public bond accounts, irrevocable trusts accounts with banks as trustee, annuity contract accounts, custodian accounts for Native Americans, and accounts of a bank pursuant to the bank deposit financial assistance program of the Department of Energy. For

categories complicate the resolution process, potentially delay payments to insured depositors, and add uncertainty to the FDIC's ability to provide liquidity to uninsured depositors through an advance dividend. Reducing the number of categories or limiting deposit insurance to a unique depositor identifier (such as a social security number or tax identification number) would reduce some of the challenges of resolution. However, a reduction or elimination in the number of deposit insurance categories reduces the effective deposit insurance limit available to a depositor with accounts in multiple categories.

Simplification may also contribute to depositor protection by reducing barriers to understanding deposit insurance coverage and by reducing asymmetries across depositors based upon their financial, legal, and regulatory knowledge. Clarity on deposit insurance coverage can then help depositors make informed decisions about their deposit choices. Clearer information may further financial stability, as uncertainty about insurance coverage in the event of a bank run is likely to lead depositors to withdraw their funds, even when their accounts may be fully covered.

Financial Stability

As the events of March 2023 revealed, financial stability under the current deposit insurance framework can be improved. Bank runs at Silicon Valley Bank and Signature were reminiscent of runs that occurred before the FDIC's creation. Further, market perceptions of protection of uninsured depositors may have changed following the invocation of the systemic risk exception in March 2023 amid concerns about the potential for bank runs at multiple regional banks. Uncertainty associated with protection of uninsured depositors reduces the transparency and consistency of the deposit insurance system.

Incentives to run are created by the potential loss incurred by depositors. Although increases in the deposit insurance limit reduce run risk from depositors covered by the increase, run risk can be driven primarily by a small fraction of depositors who hold large concentrations of deposits.[129] Even if deposit insurance limits increase, run risk to banks holding the largest deposits persists.

The financial stability benefits of the Limited Coverage option are strongly related to the amount of the increase in the deposit insurance limit. Even with a ten-fold increase in deposit insurance, there are likely to remain large uninsured deposits that can pose financial stability concerns. Thus, additional tools should be considered to further promote financial stability. For example, large, partially covered accounts may need to be subject to other restrictions such as collateralization, limits

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the most common insurance categories, see FDIC, "Your Insured Deposit" https://www.fdic.gov/resources/deposit-insurance/brochures/insured-deposits/. Note that rules for revocable trusts, irrevocable trusts, and mortgage service accounts will change on April 1, 2024. For information on these changes, see "Final Rule on Simplification of Deposit Insurance Rules for Trust and Mortgage Servicing Accounts." https://www.fdic.gov/news/fact-sheets/final-rule-trust-mortgage-accounts-01-21-22.pdf.

[129] In congressional testimony on March 27, 2023, FDIC Chairman Gruenberg noted that the ten largest accounts held $13.3 billion collectively. https://www.fdic.gov/news/speeches/2023/spmar2723.html
In addition to the size of the largest ten accounts, the average account above the insurance limit at Silicon Valley Bank as of December 2022 was over $4 million. Thus, the incentive of depositors to run at Silicon Valley Bank would likely be materially similar whether the deposit insurance limit was $250,000 or even ten times that limit.

to liquidity, or a limited draw schedule that curtails the associated run risk (discussed later in this section).

Because the existing framework of limited deposit insurance coverage is not expected to meaningfully affect financial stability, it is important that this option is considered alongside other available tools to improve upon financial stability.

Such tools include reducing the runnable deposits in the banking system and discouraging uninsured depositors from running even during an impending failure. To discourage the accumulation of uninsured deposits, regulations that specifically target the ratio of uninsured deposits to bank assets would directly affect the bank's willingness or ability to accept run-susceptible uninsured deposits. Extending to other institutions simplified versions of existing liquidity regulations that apply to large institutions may also promote financial stability and limit runs. The supervisory framework can also play an important role in monitoring interest rate risk and subjecting banks to enforcement actions if they fail to remediate risks associated with unstable funds. Moreover, the deposit insurance pricing system could be modified to incorporate additional premiums for concentrations of uninsured deposits, short-term liabilities, or maturity mismatch. More generally, the pricing system could better incorporate risks, such as interest rate risk, that may be associated with financial stability concerns. Explicit collateralization requirements, such as those discussed in Secured Deposits later in this section, could further lower prospective losses for uninsured depositors, decreasing their incentives to run. In addition, limiting the full withdrawal capacity of large, demandable accounts may be considered to promote financial stability when considering limited deposit insurance, discussed in Limited Convertibility later in this section.

Moral Hazard, Market Discipline, and Depositor Discipline

Existing levels of depositor discipline, overall market discipline, and moral hazard are unlikely to be greatly affected by changes to deposit insurance coverage limits that maintain the existing deposit insurance framework. This is especially the case for coverage limit changes that raise the rate by less than several orders of magnitude. For example, an increase in coverage from $250,000 to $2.5 million would directly affect only depositors with accounts in the affected range. Among previously uninsured depositors, those who become fully insured with a limit increase are likely to have been those with the least resources to monitor banks and to affect risk-taking incentives, though uninsured depositors with multimillion dollar balances may be more influential monitors at smaller institutions. Overall, the removal of monitoring incentives for depositors whose accounts become fully insured following a limited coverage change is unlikely to significantly affect other market participants and bank risk-taking behavior.

Broader Market Effects

The competitive effects of increases in coverage limits within the existing deposit insurance structure are tied to the degree of increase. A given coverage increase may affect only a small percentage of consumer accounts, but it may apply to a much larger share of accounts used by businesses. The effects on competing financial products are likely minimal since there are few compelling alternatives to transaction accounts for business purposes.

Consistency and Transparency

The current deposit insurance framework suffers from perceived consistency and transparency issues. Deposit insurance coverage reform options that maintain greater amounts of the existing framework are more likely to perpetuate the existing perceived consistency and transparency issues.

Fund Adequacy

The effects on Fund adequacy would depend upon the extent of changes to the deposit insurance limit. Limited information on the volume of deposits at alternative thresholds makes it difficult to determine the extent to which the DIF would need to increase. By number, the vast majority of deposit accounts are already insured and to the extent that uninsured deposits are heavily concentrated among the largest depositors, the less increases in the limit would affect the DIF. The anticipated effects to the DIF, therefore, are likely modest.[130]

Unlimited Coverage

Extending unlimited deposit insurance coverage to all deposits is a second option for deposit insurance reform.[131] This option would directly and effectively address financial stability concerns. Of the options considered, however, unlimited deposit insurance is likely to have the most dramatic effects on depositor discipline and the most likely to have broader market implications. It would also have the largest effect on the exposure to and adequacy of the DIF. To limit undesirable consequences, unlimited deposit insurance would need to be paired with other tools, and the efficacy of those tools would need to be assessed to ensure that they meet policy objectives.

An additional benefit of Unlimited Coverage is that it eliminates the need for a deposit insurance determination and simplifies the resolution process. Also, as all deposits are insured, there is no need to secure deposits or limit their convertibility and no basis for voluntary excess deposit insurance. Consequently, those options do not apply to Unlimited Coverage.

Financial Stability

While there are various methods to reduce destabilizing bank runs, the most direct way is to remove the incentives for depositors to run. These incentives are inseparably tied to the degree to which depositors are subjected to potential loss in the event of a bank failure. The possibility of bank runs can be almost fully eliminated by expanding deposit insurance to all depositors and deposits. As discussed in the next section, however, increased moral hazard could increase overall risk in the system and affect financial stability.

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[130] For example, FDIC (2000) estimated that a doubling of the deposit insurance limit at the time from $100,000 to $200,000 would be associated with an increase in insured deposits of $270 billion relative to almost $3 trillion in insured deposits at that time.

[131] Proposals for unlimited deposit insurance are not new. Out of the 150 proposals for deposit insurance made in Congress between 1886 and 1933, 80 percent called for insurance of all or nearly all deposits (FDIC 1983, pp. 29-30).

Moral Hazard, Depositor Discipline, and Market Discipline

Although unlimited deposit insurance would promote financial stability through the decreased propensity for bank runs, it also has the potential to exacerbate moral hazard problems, as depositors have no incentive to evaluate bank risk-taking behavior when placing their deposits and minimal incentive to regularly monitor bank risk-taking behavior.[132] Depositor discipline can occur on an ongoing basis to the extent depositors monitor and influence bank risk-taking. For such depositor discipline to be effective, depositors must not only have the incentive to exercise discipline, they also need willingness and expertise to evaluate bank behavior. Depositor discipline can also occur after the fact in the form of bank runs. Depositor discipline in the form of bank runs has significant financial stability costs, but it also puts an end to problems at a bank that may have gone unaddressed. Unlimited deposit insurance coverage would for practical purposes put an end to both types of depositor discipline.

Although unlimited deposit insurance removes depositor discipline, it need not reduce overall market discipline on a bank from non-deposit creditors, such as debt holders and stockholders. It is even possible that non-deposit creditors would perceive themselves to be at increased risk of loss under a system of unlimited deposit insurance coverage and have greater incentives to exercise discipline. This is because the coverage of all depositors, and the operational ease of doing so, may make it unlikely that a systemic risk determination would be warranted.

Another consideration is that unlimited deposit insurance would likely increase banks' incentive to fund themselves largely with deposits and less with uninsured funding sources whose claimants have incentives to monitor risk. On balance, an explicit full deposit insurance guarantee of all deposits would greatly increase banks' ability to access and rely on federally guaranteed funding. With bank runs effectively eliminated, the burden on other parts of the system of controlling large buildups of bank risk would increase. Any underperformance of supervision, regulation, deposit insurance pricing, or other risk control mechanism such as discussed in Section 5 would likely have greater cost to the DIF under a system of unlimited deposit insurance.

Existing tools can support Unlimited Coverage by mitigating the associated moral hazard concerns. For example, increasing capital requirements or expanding long-term unsecured debt requirements may provide meaningful constraints to moral hazard in the absence of depositor discipline with unlimited insurance. In addition, moral hazard concerns under Unlimited Coverage may be addressed

[132] Unlimited deposit insurance will not eliminate bank failures, and depositors still may suffer inconvenience costs associated with failure. These costs may be a reason why insured depositors sometimes run from a bank approaching failure (Davenport and McDill, 2006). A large component of inconvenience costs is likely the possibility of restricted access to deposited funds in the event of failure. Without the need to complete an insurance determination and with an adequately capitalized deposit insurance fund (or a credible commitment from the Treasury to ensure the FDIC can meet all financial obligations), depositors should not experience restricted access to their funds. Since unlimited deposit insurance does not eliminate bank failures entirely, there will still be some inconvenience costs associated with depositors needing to find a new bank on a timeline that is outside of their control during a failure. (These costs are borne by depositors withdrawing their deposits from a bank, but the timing of when these costs are felt is under the control of the depositor outside of a failure.) Thus, despite being greatly reduced through the provision of unlimited deposit insurance, incentives to run will remain. These incentives are likely minimal.

to some degree with interest rate restrictions on deposits. There is longstanding historical precedent for the use of interest rate controls as a tool to constrain bank risk-taking, dating to the establishment of federal deposit insurance in the United States and the Banking Act of 1933, and implemented through Regulation Q (discussed in Section 3). Although general interest rate restrictions on deposits were gradually removed starting with the Depository Institutions Deregulation and Monetary Control Act of 1980 and ending with the repeal of Regulation Q in 2011, they are still used to limit risk-taking incentives of less than well-capitalized banks under the Financial Institutions, Reform, Recovery, and Enforcement Act of 1989. Under a significant expansion of the deposit insurance safety net, it is worth considering whether interest rate restrictions are warranted to mitigate moral hazard concerns.

Broader Market Effects

The competitive effects from a regime change to unlimited deposit insurance are potentially large. Deposits exist within a broad range of competing financial products. Absent accompanying changes in returns, extending deposit insurance coverage to all deposits will make deposits more attractive relative to other products. This would increase customer demand for deposit products and reduce demand for other competing assets. To the extent a significant shift toward deposits occurs, deposit rates and asset prices would adjust to reach a new equilibrium allocation of aggregate investment across products.

Consistency and Transparency

Explicit insurance coverage of all deposits produces a consistent and transparent deposit insurance framework. All depositors know with certainty that their deposits are safe. Expanding insurance coverage to all deposits and depositors minimizes potential differentials in coverage based on a customer's ability or knowledge about the opportunities for expanded coverage, for example, through pass-through coverage.[133]

Fund Adequacy

Unlimited deposit insurance coverage would have significant implications for the size of the DIF. Before accounting for possible deposit inflows, unlimited deposit insurance would increase the size of the DIF required to achieve a given ratio of the Fund to insured deposits by about 70 to 80 percent.[134] The need to increase the DIF would require that the FDIC raise assessments on banks and maintain them at levels significantly higher than their current levels. In addition, unlimited deposit insurance may warrant an adjustment to the designated reserve ratio. FDIC losses would be higher in a failure, other things equal, because there would be no uninsured depositors to take loss. Failures may be less costly if unlimited deposit insurance prevents costly bank runs or more costly if it allows risks on bank balance sheets to go unaddressed for long periods of time.

[133]An important caveat is that unlimited insurance would apply to domestic deposits, retaining the currently explicit absence of coverage of foreign deposits.

[134] As of fourth quarter 2022, the DIF was $125.5 billion, the reserve ratio was 1.27 percent, and estimated insured deposits were $10.1 trillion. To meet the minimum reserve ratio of 1.35 percent the DIF would need to be $136.4 billion. If all of the $17.8 trillion of domestic deposits were insured, everything else equal, then the DIF would need to be $240 billion to reach a reserve ratio of 1.35 percent.

Targeted Coverage

A third option for deposit insurance reform is to offer different deposit insurance coverage across account types, or Targeted Coverage. This option may extend unlimited coverage to some account types and provide limited coverage to others, or it may provide limited coverage across all account types but with different limits. This option may help target financial stability objectives associated with higher or unlimited insurance while maintaining depositor discipline and mitigating disruptions across markets that compete with deposits. Targeted Coverage is analogous to the TAG program discussed in Section 3. For this option, the qualifying accounts could be analogous to or different than those in the original TAG program.[135]

The account types that may merit higher coverage are those used for payment purposes, specifically business payment accounts.[136] Conceptually, deposits have two distinct purposes: payments services and investment. Payments services enable depositors to easily transfer monetary value as part of the exchange of goods and services. In contrast, the primary purpose of deposits used for investment is to provide depositors a store of value and a return on investment. While deposits used for investment have many substitute products against which a depositor can assess a risk-return tradeoff, deposits used for payments services have fewer substitutes. Further, deposits used for investments are not essential to support the daily operations of households and businesses: investors regularly incur losses to investments without prompting significant financial or economic spillovers. In contrast, deposits used for payments are essential for businesses and households to manage cash inflows and outflows. Losses to deposits used for payments—or a delay in access to deposit funds—can abruptly debilitate daily operations.

Business payment accounts are not currently defined in the structure of the deposit insurance system but must be identifiable for the viability of Targeted Coverage. Practically, such accounts may be measurable by first distinguishing the identifier associated with the account: for example, using a tax identification number (TIN) or employer identification number (EIN) rather than a social security number (SSN). In addition, business payment accounts may be distinguished from other accounts using account features. For example, business payment accounts may be defined as those that are demandable and do not pay interest (or do not pay interest above some benchmark). In addition to creating a practical definition to identify business payment accounts, delineating between accounts eligible to receive higher coverage is a major challenge and discussed further below.[137]

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[135] Although not entirely analogous, the European Bank Recovery and Resolution Directive (B provides differential priority in a resolution between natural persons and small businesses. Article 108(1)(a) of Directive 2014/59/EU (BRRD). https://www.eba.europa.eu/regulation-and-policy/single-rulebook/interactive-single-rulebook/100804

[136] The definitions used may broader than business payment accounts, for example, all transaction accounts, such as those used in the TAG. Broader definitions may be more practical to implement or may serve a broader policy object to also include households that require large account balances for transaction purposes.

[137] As a back-of-the-envelope calculation, median monthly income in the United States in fourth quarter 2022 was $4,878 (Bureau of Labor Statistics, not seasonally adjusted, weekly income multiplied by 4.34). Defining small businesses as those with less than 500 employees, a deposit insurance limit of $2.5 million for accounts with either an EIN or TIN (rather than a SSN), would likely cover payroll for a large proportion of small- and

There is also an argument to differentiate business payment accounts from other accounts from an efficiency perspective. It is likely that deposit accounts used for operational purposes are more difficult to maintain across multiple banks to obtain greater deposit insurance coverage. There are also likely large inefficiencies in managing daily inflows and outflows across multiple banks relative to accounts used for investment purposes. Thus, business payment accounts are least able to take advantage of insurance across banks in the current system.

The main challenges of Targeted Coverage are the practical considerations when defining account types that receive higher insurance coverage to ensure that the criteria for qualifying accounts are strictly defined and cannot be easily circumvented, especially given recent improvements in financial technology. For example, individuals, trusts, or estates may exploit account definitions and adopt EINs or TINs to obtain higher coverage under Targeted Coverage. In addition, banks and depositors may find other ways to circumvent restrictions placed on accounts with higher coverage. For instance, a bank may offer accounts with no interest but where loyalty "points" can be accrued and redeemed for gift cards or even cash. Alternatively, or in conjunction, banks could offer lower loan rates to customers who have noninterest-bearing accounts. Banks will be incentivized to pursue these or other innovations to attract deposits. Given the rapid pace of financial and technological innovation, it may be challenging for regulators to stay ahead of new product offerings.

Alternatively, banks may offer accounts with sweep arrangements in which deposits are regularly transferred from one type of account into another in ways intended to combine the advantages of investment-type accounts with the advantage of increased coverage of the transaction account. Deposit sweep arrangements may complicate failure resolution since failing banks may close either during regular business hours or at other times. Though banks may have to provide formal notice to depositors, depositors may not comprehend the implications of sweep programs. For example, some depositors may not read the relevant disclosure documents, or some may agree to sweep programs when opening an account and later forget. The increased complexity may cause some depositors to believe that they have higher insurance coverage in specific accounts when in fact they do not.

Ultimately, the distinction between accounts with higher coverage and other account types should be based on criteria that are easily accessible and distinguishable between accounts, and that are clearly defined and disclosed in ways that depositors understand. Since large amounts of uninsured deposits may remain in banks under this option, it may be appropriate to consider other tools such as those in Section 5 to mitigate the risk of banks runs.

The separation of accounts by function—payments and investments—is a key concept of Targeted Coverage. Consequently, interest rate restrictions (as discussed in Section 3 and in Unlimited Coverage) on accounts with higher coverage may be an important consideration for implementation of Targeted Coverage. Similarly, large deposit accounts that are not eligible for higher coverage should have clear restrictions on withdrawals to maintain a clear separation of payments and investment functions. In delineating accounts, it is important that large deposit accounts do not simultaneously offer insurance coverage, liquidity, and high yield.

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medium-sized business payment accounts. Such a calculation excludes other business expenses which vary by business type, and ignores variation in monthly earnings.

The costs associated with conducting a deposit insurance determination associated with Targeted Coverage are similar to those for Limited Coverage or potentially higher, depending on the how accounts are identified. For example, accounts receiving higher coverage may be viewed as an additional ownership right and capacity over which accounts must be aggregated before applying the deposit insurance coverage limit, which could complicate deposit insurance determinations. As discussed in Limited Coverage, deposit insurance simplification may provide additional benefits when considered in tandem with Targeted Coverage.

Financial Stability

Providing increased coverage to specific types of accounts has several advantages. First, it allows for a form of targeting, in which additional insurance is provided depending on the needs of customers and financial stability objectives, rather than being constrained to using only one limit to serve all account types. The original TAG program served the needs of businesses, nonprofit organizations, government municipalities, and other entities that needed ongoing use of large deposit amounts (e.g., for payroll).[138] In serving these needs, the original TAG program increased financial stability overall and benefited the broader economy.

The primary source of run risk that generates financial stability concerns is demandable deposits, especially those deposits used for operational purposes. Business payment deposits are less easily diversifiable across banks, and business accounts in this category may become very large. Providing greater or unlimited deposit insurance to business payment accounts provides the benefits of higher insurance without extending the guarantee to large depositors whose deposits are used for investment purposes.

Increasing coverage to large deposit accounts with the most demand for liquidity would reduce or eliminate the need for depositors of such accounts to withdraw their funds out of fear for the safety of their deposits and for the continuity of their operations. This would have benefits for financial stability, as these depositors are not expected to discipline risk-taking by demanding a higher return, but instead have a strong incentive to run in response to solvency concerns. Large investment-type deposits, which would remain uninsured, could still expose banks to risk of runs or periods of funding stress if these uninsured funds do not roll over when they mature.

Like Limited Coverage, the financial stability benefits of Targeted Coverage relate to the amount of the increase in the deposit insurance limit, especially as it pertains to demandable accounts. If there remain large uninsured demandable accounts, additional tools to further promote financial stability should be considered. For example, large, partially covered, demandable accounts may need to be subject to other restrictions (such as collateralization or limits to liquidity or a limited draw schedule, discussed later in this section) that limit the associated run risk.

Moral Hazard, Market Discipline, and Depositor Discipline

The primary drawbacks to providing greater or unlimited coverage to specific account types are the potential loss in depositor discipline and resulting implications for bank risk-taking. With respect to

[138] Depositors excluded from TAG program coverage were primarily those holding higher interest-bearing accounts that appear more similar to investors than those using their accounts for ongoing operating expenses.

depositor discipline, operational business depositors may be poorly situated to evaluate the risks on their bank's balance sheet relative to investors, since the primary focus of the owner of a business payment account is running a business. By providing higher insurance coverage to these types of accounts, the deposit insurance system may reduce inefficiencies created by maintaining many business payment accounts across banks and benefit those for whom financial stability concerns are highest. Interest rate restrictions on accounts with higher coverage can also mitigate moral hazard concerns from increased deposit insurance.

With Targeted Coverage, one may conjecture that the loss in depositor discipline would occur for holders only of previously uninsured accounts that are now insured; however, the resulting loss to depositor discipline may apply more broadly. Beyond the standard tradeoffs involved in deposit insurance reform, there are unique advantages and challenges to implementing Targeted Coverage.

Under Targeted Coverage, instead of running in response to bank solvency concerns, depositors may simply move their deposits to an account with higher coverage within the same bank, to the extent they are able. Consequently, depositor discipline is weakened because the deposits do not flee the bank. Though it weakens depositor discipline, the ability to obtain more insurance by moving deposits across accounts within the same bank may increase financial system stability. First, because deposits remain within the same bank, the bank is under less pressure to liquidate assets. Second, panic-driven runs are less likely if depositors can obtain greater insurance by switching account types or transferring funds to a different account within the same bank. Third, the movement of funds to more highly insured accounts can itself serve as an early-warning signal for bank supervisors, managers, and boards to rectify risky behavior that may drive a flight to safety of deposits within the bank.

Broader Market Effects

Increasing or fully insuring only business payment accounts would limit disruptions to other asset markets that compete with deposits as investment vehicles. For example, absent a full insurance option on a business payment account at a single bank, a small or medium-size firm that needs liquidity to meet its day-to-day operations may allocate its funds across multiple banks and substitute products, weighing a combination of safety, convenience, and yield. Given the choice to keep its business payment accounts fully insured, the firm may willingly sacrifice yield, or may even pay a premium, to do so. In contrast, an investor seeking yield may find restrictions on business payment accounts (such as rate caps) insufficient to justify the benefit of insurance. Thus, to the extent that business payment accounts can be distinguished from investment accounts, Targeted Coverage may support banks in their essential role in the payments system while minimizing the distorting effects that unlimited or increased deposit insurance may have relative to other assets.

Consistency and Transparency

Targeted Coverage may increase complexity compared with other options for deposit insurance reform. Even in its most basic form—for example, with two types of accounts (qualifying vs. non-qualifying) and two different limits—differential insurance would naturally generate questions from depositors about the actual insurance limit on their accounts. Because the criteria for qualifying accounts would need to be detailed, many depositors might find the criteria difficult to understand. It

would be important for banks to be transparent about the insurance limits and relevant account details, and new disclosure requirements may need to be considered. Banks may need to clearly and regularly specify to depositors the insurance limit associated with each account type (e.g., at account opening, on their account webpage, and on account statements).

Increased or unlimited deposit insurance for business payment accounts would reduce the role of perceived protection against uninsured depositor losses, providing greater consistency and transparency.

Fund Adequacy

Offering increased or unlimited insurance on only specific accounts would reduce the exposure of the FDIC in a failure, as compared with full insurance on all account types (holding constant the risk of bank failure), though this option would still entail a significant expansion of the DIF. The extent to which the DIF would need to expand would be a function of both how business payment accounts are defined and the extent to which the demand for business payment accounts results in inflows from other asset markets. Although assessments would likely need to increase, it is difficult to estimate to what extent.

Excess Deposit Insurance Coverage

In addition to changes in deposit insurance coverage, there are options that would address different aspects of the current deposit insurance system. These warrant consideration alongside the options for changes in deposit insurance coverage.

Excess deposit insurance, or voluntary coverage for deposits above the insurance limit, may be an option alongside changes to deposit insurance limits. In theory, optional coverage may be provided at the bank or depositor level, and may be provided by the private sector, by the FDIC, or by a combination.

To be credible, an insurer must have the funds to cover the loss event against which it is insuring. Excess deposit insurance would have to address the concentration of deposits in a single institution that is subject to a loss event, the correlation of loss events across small institutions associated with banking crises, and the combination of the two. Absent the federal government backstop, it seems unlikely that private insurers can address those risks sufficiently to provide enough coverage to significantly enhance financial stability. The existing private excess deposit insurance market is limited in scope and coverage and does not address the challenge of industry concentration of uninsured depositors in large institutions.[139] In an optional excess deposit insurance program, banks or depositors who pose systemic risks for which the program is designed would need to opt in for the

[139] Some organizations that offer excess deposit insurance but it is limited in scope, provides limited coverage, or the issuers retain the right to cancel, or all three. At least one such insurer abandoned offering coverage as the financial crisis took hold in 2008. The Deposit Insurance Fund in Massachusetts is a private, industry-sponsored fund that provides excess insurance for all deposits above the FDIC coverage levels. Most member banks are either savings or cooperative banks. As of year-end 2022, member banks had approximately $77.8 billion in deposits, with insured excess deposits of $28.6 billion. The Massachusetts fund had a $487 million fund balance. https://www.difxs.com/DIF/Home.aspx

program to be effective. If large banks or depositors opt out, historical experience is that they may continue to expect support from future interventions but would not bear the associated costs. Coverage that is optional neither changes perceptions about future support nor does it impose a cost on those benefiting from those perceptions.

Accurate pricing of bank risk-taking for deposit insurance is already a challenge. Pricing excess deposit insurance would be an even larger challenge given the adverse selection problem: banks or depositors who opt into an excess deposit insurance system are likely to have different characteristics than banks or depositors who do not opt in. Fair pricing would require that the FDIC account for the decision to opt in, in addition to the typical challenges associated with pricing.

Financial Stability

The effects of excess coverage on financial stability would depend upon the participation of uninsured depositors. If participation is sufficient and funds are available in a timely manner, excess deposit insurance would have significant stability benefits. If there is insufficient participation or payment on excess deposit insurance claims were delayed, however, excess deposit insurance would have limited impact on financial stability.

If excess deposit insurance were offered at the bank level, it is likely that banks most exposed to bank runs would opt in. Thus, voluntary participation has a beneficial aspect of encouraging participation of banks for whom run risk is highest. Banks would have an incentive, however, to opt in when they are experiencing stress or are near failure. For a viable system, eligibility requirements to opt in would be necessary; if some banks are not eligible, they would still be exposed to runs and thereby affect financial stability.

Deposit insurance for an individual depositor at a bank reduces that depositor's incentive to run and reduces run risk at that bank. Similarly, the decision of an individual bank to obtain excess deposit insurance coverage reduces the contagion risk within the banking system. When choosing a level of excess coverage, individual depositors and banks are likely to consider only the benefits of coverage to themselves and are unlikely to consider the benefits they bring to the system when opting in. Thus, the benefits to the system are likely higher under mandatory coverage relative to voluntary coverage.

Moral Hazard, Market Discipline, and Depositor Discipline

The implications of excess deposit insurance on moral hazard, market discipline, and depositor discipline are ambiguous. Depositors who exhaust significant resources to monitor banks may find it preferable to obtain voluntary excess deposit insurance, if offered. If depositors who previously monitored the bank opt into voluntary coverage, excess deposit insurance would have significant effects on depositor discipline, with associated effects on moral hazard and bank risk-taking. But if the least resourced depositors who currently monitor less have strong preferences for insurance and are most likely to opt in, then the effects of excess deposit insurance coverage on risk-taking incentives would be smaller.

If instead excess deposit insurance was offered at the bank level, it is likely that that those banks most exposed to bank runs would opt in. So long as deposit insurance pricing does not perfectly account for the associated run risk, moral hazard is likely to increase for banks most prone to risk-taking.

Tools such as deposit insurance pricing may be used alongside excess deposit insurance coverage to mitigate moral hazard. However, voluntary insurance programs are subject to adverse selection problems that affect other insurance programs: the agents that opt into the insurance program are those for whom the expected benefits of insurance exceed the costs of participation. Fair risk-based pricing for deposit insurance is already a challenge, and adverse selection makes the challenge of fair pricing of voluntary deposit insurance even greater.

Broader Market Effects

Voluntary excess deposit insurance is unlikely to have notable broader market effects. Especially for small banks, there already exist private excess deposit insurance programs for which deposit concentrations are not as significant of a concern as they are in the broader economy. It is unclear that broader market effects are significantly different in the presence of excess deposit insurance.

Consistency and Transparency

Excess deposit insurance likely would not significantly improve the consistency and transparency of the deposit insurance system. Financial stability concerns would continue to motivate perceptions of future interventions of support.

Fund Adequacy

If excess deposit insurance coverage were to be funded by the DIF, then banks who did not opt into the program would share the risk with those that opted in. Given its structure, an excess deposit insurance system would therefore likely be managed in parallel to the DIF and would not have direct implications for Fund adequacy. However, if a separate insurance fund is created for the program, then it would risk being underfunded.

In addition to adverse selection problems across banks, there is also an adverse selection problem across time that would inhibit the adequacy of an excess deposit insurance system. During periods of financial calm, the incentive to participate in a voluntary program are low when compared with periods of economic stress. An excess deposit insurance fund is likely to struggle to maintain adequacy to cover the difference in demand for deposit insurance over the financial cycle.

Additional Options

Under Limited Coverage and Targeted Coverage, large concentrations of uninsured depositors may remain. This section of the report considers two options that may complement those options to help achieve financial stability objectives in the current environment.

Require Secured Deposits for Large Uninsured Deposits

Requiring that short-term liabilities are funded with short-term assets is a commonly proposed solution for solving the financial stability challenges associated with runnable liabilities. Backing short-term liabilities, such as deposits, with safe, short-term assets effectively separates the payments system and credit intermediation functions of banks.

Some specific segments of the deposit market already segment the payments system and intermediation functions of banks. Depending on state or federal law, otherwise uninsured deposits of state, county, or municipal governments, and their political subdivisions, are secured by collateral or assets of the bank.[140] In the event of failure, the FDIC honors valid and enforceable collateralization agreements applicable under law. The value of the collateral, however, may not be sufficient to cover the uninsured amounts at par.

Although the tradeoff between stability and credit intermediation may not justify a collateralization requirement for large uninsured deposits, the experience of public deposits suggests that there may cases where the public interest in financial stability outweigh the associated costs to credit intermediation. The challenges posed by concentrations of large deposits at large institutions suggest that for such depositors and institutions, mandating that uninsured deposits, or possibly those above some larger dollar threshold, be secured by safe assets merits consideration.

Among the benefits of collateralizing deposits for large depositors is that it decreases the depositor's burden of monitoring. Rather than requiring depositors to understand bank financial statements and assess the riskiness of their portfolio, or make conjectures about the likelihood of a systemic risk determination, depositors need only to understand the evaluation of the specific, well-defined collateral backing their deposits. Such an expectation is the norm for custodians of funds at municipal, county, and state governments and can therefore be seen as a reasonable expectation for decision-makers at large firms. If secured depositors are more attuned to monitoring collateral, they may also impose increased haircuts, which may also serve as an early-warning signal to supervisors.

An additional benefit of secured deposits is that they allow private markets to price the risks associated with concentrated short-term liabilities. Banks that issue uninsured deposits would continue to provide liquidity but would expand their balance sheet, and would likely pass those costs to the large depositors. Doing so would discourage the largest depositors from cash hoarding, especially at a single financial institution, and would discourage large depositors from relying on market perceptions of support to earn yield: uninsured deposits used for investment rather than transaction services would likely benefit from investing directly in the desired collateral rather than through the costly expansion of bank balance sheets.

However, secured deposits likely would not entirely solve the problem of runs if an institution is suddenly revealed to be undercapitalized. As in repo markets in 2007–2008,[141] short-term collateralized loans also may be subject to runs. Upon realizing that its financial institution may be undercapitalized, a secured depositor is likely to prefer withdrawal to recouping collateral in a resolution process and incurring the valuation risk associated with the collateral in a failure.

From a competitive standpoint, the collateralization of deposit services for the largest depositors is likely to affect primarily large institutions that hold most of the uninsured deposits. Aggregate large bank credit supply could be curtailed relative to smaller institutions. Whether overall credit supply is reduced depends on the ability of smaller banks and nonbank financial intermediaries to meet the

[140] FDIC, Deposit Insurance for Accounts Held by Government Depositors. https://www.fdic.gov/deposit/deposits/factsheet.html
[141] Gorton and Metrick (2012).

demand. From the perspective of deposit market competition, secured deposits are likely to make small banks less competitive for the largest uninsured deposits given their balance sheet capacity. However, small banks are already less competitive for uninsured depositors, especially the largest depositors who might be targeted by a collateralization requirement. Requiring collateral for large deposits also would limit the capacity of insured institutions to provide the deposits. Requiring the collateralization of large deposits may therefore lead to both reductions in credit supply and a reduced capacity of the system to meet the demand for large deposits. Although both outcomes are consequential, such outcomes may be the result of a current mispricing of the liquidity risk posed by large quantities of uninsured deposits due to market perceptions of support in crisis.

Mandating the collateralization of large uninsured deposits also could have broader market implications. Banks issuing uninsured deposits would have greater demand for safe, short-term assets, thereby driving up the price. Depositors may also find the newly priced deposits unattractive and migrate out of the banking system. Depending on where the large depositors migrate, the associated run risk may migrate with them without improving financial stability.

Secured deposits could also have implications for fund adequacy. While an increase in the deposit insurance limit increases insured deposits and the necessary size of the DIF, converting uninsured deposits into secured deposits would not directly affect the amount of insured deposits or the reserve ratio. However, secured deposits stand ahead of the FDIC in the priority of receivership claims, and so could increase losses to the DIF and uninsured depositors in resolution.

Requiring collateral for uninsured depositors could apply to the entire class of uninsured deposits or for uninsured deposit accounts above some threshold, and could apply at the depositor or institution level. Requiring collateralization of some uninsured deposits could also be applied only to banks with material concentrations of uninsured deposits or other runnable liabilities. While the experience of public deposits is a natural starting point for operationalizing secured deposits, the costs and benefits of any mandate on collateral for uninsured deposits is complex and beyond the scope of this report.

Limit Convertibility of Deposits Above the Deposit Insurance Limit

One possibility to limit the extent to which a run by large depositors can inflict sudden damage to a bank and the broader economy is to limit the full liquidity of large, uninsured accounts.[142] Placing constraints on the ability of large depositors to withdraw funds would be a variation of the bank suspensions that occurred in large numbers before the creation of the FDIC, but such constraints could be more tailored than those suspensions were. Such limitations could apply to deposits above the deposit insurance limit, or at a considerably higher level. They could apply in the normal course of business, or banks could have the discretion to apply them in the face of financial stress; bank supervisors could also determine how to apply the limitations.

[142] Existing tools limit convertibility for money market funds. For example, SEC Rule 2a-7 passed in 2014 allows a money market fund board to impose up to a 2 percent liquidity during stress or temporarily suspect redemptions.
https://www.sec.gov/news/press-release/2014-143

For example, deposit accounts above some threshold could be restricted from withdrawing more than some percentage of their account balance within a specified timeframe.[143] Additional withdrawals would be allowed after the specified timeframe. Thus, the largest depositors would be restricted from liquidating their accounts on demand. Withdrawal requests that approach or exceed the threshold may then also serve as an early-warning signal for supervisors. Thus, large depositors would maintain some skin-in-the-game following large withdrawals, suppressing incentives to incite further panic and maintaining an interest in the franchise value of a bank in resolution.

In addition to reducing the ability of large depositors to run, limiting liquidity for the largest depositors may also induce these depositors to diversify funds more broadly across banks, thereby reducing their concentration at a single bank. A more diversified depositor base may then further contribute to financial stability.

Finally, limiting the liquidity of large uninsured deposits may increase the incentives of the largest depositors to exert market discipline in a manner that reduces bank risk-taking. A large depositor with concerns about bank solvency has an incentive to withdraw funds immediately. If the ability to withdraw funds is limited, large depositors are more likely to retain exposure to the bank in a failure. Consequently, incentives of the largest depositors may be more closely aligned with other debtholders and the resolution authority and may induce those depositors to discipline the bank in a way that threatens its value in a failure event.

For mismanaged and undercapitalized banks, limiting the liquidity of the largest accounts is unlikely to prevent a bank failure. Instead, by slowing the run, the FDIC would have time to resolve the bank through an orderly resolution process, rather than through a costly bank run. Similarly, limiting withdrawals will not necessarily prevent the contagious spread of concerns about banks' health. Knowing that large withdrawals are occurring at some banks may cause large depositors at other banks to do the same. But again, the limitations on withdrawals could greatly slow the speed with which liquidity issues can propagate, supporting financial stability and the orderly resolution of problems.

[143] McCabe, Cipriani, Holscher, and Martin (2012) propose that a small fraction of each MMF investor's balance be demarcated to absorb loss, a "minimum balance at risk," if the fund is liquidated.

Section 7: Conclusion

Deposit insurance reform merits consideration in the wake of bank runs in March 2023 and trends that may have increased the susceptibility of the system more broadly. This report assesses three options for deposit insurance reform, their efficacies to meet the objectives of deposit insurance in the current environment, their broader consequences, and tools that may be used along with each option to maximize their effectiveness. The primary options—ordered for expositional purposes only—are:

> Limited Coverage, maintaining the current system of deposit insurance, potentially increasing the deposit insurance limit;
>
> Unlimited Coverage, fully insuring all deposits; and
>
> Targeted Coverage, substantially increasing coverage to business payment accounts, without significantly changing the limit for other deposits.

Financial stability is a primary objective of deposit insurance. Banks issue demandable deposits to fund long-term assets. When depositors withdraw their funds simultaneously, a bank may be forced to sell assets at a loss, leading to the bank's failure. One bank's failure may lead to contagion if depositors at other banks fear for their banks' solvency and withdraw funds, resulting in cascading bank failures. Depositors who lose access to their funds in bank failures may be unable to pay bills coming due, resulting in financial stress to firms and households and depressing credit and economic activity. Deposit insurance reduces these risks.

In addition to financial stability, deposit insurance objectives include depositor protection, consistency and transparency, and minimizing disruptions from bank resolution. Protecting small depositors has been an objective of the deposit insurance system since its founding, and more than 99 percent of deposit accounts were under the deposit insurance limit as of December 2022. Finally, deposit insurance coverage affects the ability of the FDIC to resolve institutions efficiently. Thus, objectives of deposit insurance reform include the minimization of disruptions associated with resolution.

Deposit insurance is associated with other consequences for the banking and financial system beyond its objectives. Because deposit insurance protects depositors from the consequences of bank risk-taking, they are less likely to withdraw their funds from a bank with poor risk management, allowing risks to build up in the system. However, other creditors and shareholders may continue to play an important role in constraining bank risk-taking in the presence of deposit insurance. Deposit insurance can also affect competition between banks, competition between banks and nonbanks, markets for deposit substitute products, and bank funding choices. Although some consequences are not inherently problematic, the implications should be understood in the context of deposit insurance reform decisions. In addition, increases to deposit insurance coverage affect the adequacy of the DIF and would require increased assessments to the banking industry.

Existing and new tools can complement deposit insurance reform to maximize its effectiveness in meeting its objectives and minimizing consequences deemed undesirable. Bank safety-and-soundness regulation and supervision can, in principle, constrain bank risk-taking and reduce the

likelihood of uninsured depositor runs. Deposit insurance pricing promotes Fund adequacy and the fair allocation of the cost of deposit insurance across banks; to some extent, it also influences bank risk-taking. Requiring collateralization of large, uninsured depositors may reduce run incentives and promote monitoring. Limiting the convertibility of large, uninsured deposits may also reduce bank runs. Each tool has strengths and weaknesses.

This report indicates that Targeted Coverage—significantly increasing deposit insurance coverage to business payment accounts—is the most promising option to improve financial stability relative to its effects on bank risk-taking, bank funding, and broader markets. There are significant unresolved practical challenges to Targeted Coverage, however, including defining accounts for additional coverage and preventing depositors and banks from circumventing differences in coverage. Of the options considered, Unlimited Coverage provides the clearest solution to bank runs, at the expense of more significant implications for Fund adequacy and market disruptions, and the greatest potential of the options for increases in bank risk-taking. Limited Coverage fails to address the financial stability challenges associated with large concentrations of uninsured deposits but has the fewest implications for bank risk-taking and broader market disruptions. This report argues that Limited Coverage and Targeted Coverage may also benefit from simplification of the deposit insurance system but are unlikely to benefit from a voluntary excess deposit insurance system. The options and tools in this report may inform policies that can help the deposit insurance system best meet its objectives in the context of the current challenges.

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