

Why Have Uninsured Depositors Become De Facto Insured?  
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Abstract

The recent failures of Silicon Valley Bank and First Republic have drawn attention to how rare it is for uninsured depositors at a failed bank to bear losses. In this paper, I show that ubiquitous rescues of uninsured depositors represent a recent phenomenon dating only to 2008: for many years prior to that, uninsured depositor losses were the norm. I also show that the rise of uninsured depositor rescues has coincided with a dramatic increase in FDIC costs of resolving failed banks, which I estimate resulted in at least \$45 billion in additional resolution expenses over the past 15 years.

The rise in uninsured depositor rescues has resulted from a shift by the FDIC to almost always resolve failed banks by selling them as a whole (including both insured and uninsured deposits) to an acquiror, generally with a generous subsidy provided by the FDIC. I present evidence to suggest that, despite the FDIC's statutory mandate to use the least-cost means of protecting insured depositors of a failed bank, these whole-bank sales are frequently not the most efficient means of resolving failed banks. Next, I present evidence for two causes of this shift. First, during the 2008 crisis, the FDIC may have initially been forced to sell whole banks to acquirors because it lacked capacity to handle the influx of failures through other means. This may have established an institutional inertia that has maintained the practice long after the exigencies that necessitated it have cleared. Second, I suggest that the FDIC may have experienced mission-creep, taking it upon itself to rescue uninsured depositors whenever possible, even though US law requires the FDIC to seek authorization from the Secretary of the Treasury and the President whenever it deems it necessary to deviate from least-cost resolution methods. I show that such mission-creep has occurred twice in the past, and that Congress has successfully intervened to stop it in 1951 and 1991. Finally, I present a series of reform proposals to address FDIC mission creep and improve resolution efficiency. I estimate these reforms could save tens of billions of dollars in resolution costs while improving incentives of uninsured depositors to monitor the risks of the banks they deposit funds in.

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## Introduction

In the space of less than two months in early 2023, the United States experienced three out of the four largest commercial bank failures in US history, as Signature Bank, Silicon Valley Bank, and First Republic Bank all toppled.<sup>2</sup> Yet, despite these banks having roughly \$300 billion in uninsured deposits at the time of their failures,<sup>3</sup> and despite the failures costing the Deposit Insurance Fund (DIF) of the FDIC an estimated \$31.5 billion, uninsured depositors took no losses in any of the failures.<sup>4</sup> While these results were striking, they were far from unusual. Since 2008, uninsured depositors have experienced losses in only 6% of total US bank failures.<sup>5</sup> In fact, in the course of resolving 539 bank failures since 2008, the DIF has accrued costs of \$131 billion, yet total losses born by uninsured depositors over the same period have been a mere \$190 million.<sup>6</sup> Formally, the United States caps deposit insurance at \$250,000 per account, but in reality the post-2008 financial system comes close to providing de facto total deposit insurance covering all amounts in all accounts.

Rescues of uninsured depositors raise serious concerns about moral hazard as well as fiscal costs. They also risk violating the FDIC's statutory requirement to use the least-cost available resolution method to protect insured depositors.<sup>7</sup> Nevertheless, in response to recent depositor rescues, many legal academics<sup>8</sup> and policymakers<sup>9</sup> have argued that near-universal uninsured depositor rescues are inevitable and thus must be accepted and codified in the form of

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<sup>2</sup> FDIC BankFind Suite. See Appendix, section a, *infra*, for data description.

<sup>3</sup> Call reports data. See Appendix, section a, *infra*, for data description.

<sup>4</sup> For estimates of losses at SVB and Signature, see data discussed in Appendix, section a, *infra*. For First Republic estimated losses, see <https://www.fdic.gov/news/press-releases/2023/pr23034.html>

<sup>5</sup> See Appendix, section a, *infra*.

<sup>6</sup> For total DIF costs, see sources referenced in note 4, *supra*. For uninsured depositor losses, see FDIC, *Options for Deposit Insurance Reform*, (Table 3-3, p.22) available <https://www.fdic.gov/analysis/options-deposit-insurance-reforms/report/options-deposit-insurance-reform-full.pdf> [<https://perma.cc/9ZMT-QS53>] [hereinafter *Options for Deposit Insurance Reform*]. All figures quoted in this paper are in inflation-adjusted 2023 dollars.

<sup>7</sup> See Part I.e, *infra*.

<sup>8</sup> Lev Menand and Morgan Ricks, *Scrap the Bank Deposit Insurance Limit*, The Washington Post, March 15, 2023, available <https://www.washingtonpost.com/opinions/2023/03/15/silicon-valley-bank-deposit-bailout/> (arguing “At this point, the \$250,000 cap is illusory,” and that “Scrapping the cap would serve the public interest in several ways.”) See also Prasad Krishnamurthy, *Virtually All Deposits are Insured Whether U.S. Law Says So or Not. What Should we do About It?* San Francisco Chronicle, May 10, 2023, available <https://www.sfchronicle.com/opinion/openforum/article/bank-deposit-money-insurance-18103044.php> (arguing that “deposits in the United States are insured whether the law says so or not” because “even the most well-intentioned officials cannot credibly threaten to impose losses on depositors when the banking system may be in distress,” and as a result “there should be explicit [unlimited] deposit insurance.”)

<sup>9</sup> Senator Warren Calls for Reform of Deposit Insurance to Ensure Stability of Banking System, July 21, 2023, available <https://www.warren.senate.gov/newsroom/press-releases/icymi-at-hearing-senator-warren-calls-for-reform-of-deposit-insurance-to-ensure-stability-of-banking-system> [<https://perma.cc/H9C6-7DGX>] (arguing, “while my community bank down the street and JPMorgan Chase may have the same official \$250,000 insurance cap on paper, the fact of the matter is, if the two go under water, the government’s throwing the unlimited insurance life vest to JPMorgan Chase” and that Congress should “provide a little more reassurance to the business and nonprofit depositors that their money will be protected by raising the insurance cap in the smaller banks.”); see also Jeanna Smialek, *Push to Insure Big Deposits Percolates on Capitol Hill*, New York Times, March 21, 2023 (noting that “Representative Ro Khanna, Democrat of California, and other lawmakers are in talks about introducing bipartisan legislation as early as this week that would temporarily increase the deposit [insurance] cap on transaction accounts.”)

expanded or total deposit insurance.<sup>10</sup> This paper does not seek to resolve the debate about what level of deposit insurance is optimal, but it shows that the patterns of high FDIC costs and frequent uninsured depositor rescues are by no means inevitable.

First, I show that for much of its history, the US has successfully implemented a system of partial deposit insurance. For instance, from 1992-2007, uninsured depositors took losses in more than half of bank failures. This echoes high rates of uninsured depositor losses during other key portions of US history. Furthermore, when the FDIC has previously strayed towards excessive rescues of uninsured depositors, Congress has successfully intervened twice, in 1951 and 1991, to correct the situation.

Second, I show that it is unlikely that the recent rise of uninsured depositor rescues has been necessary to resolve failed banks efficiently. For instance, from 1992-2007, when uninsured depositor rescues were rare, FDIC resolution costs averaged 10% of failed bank assets. By contrast, from 2008-2022, when uninsured depositor rescues have become ubiquitous, average FDIC resolution costs have nearly doubled, to 18.2% of failed bank assets. This translates to an estimated \$45 billion in additional resolution expenses over the past 15 years. Interestingly, I estimate that only about \$4 billion of this represents direct transfers to uninsured depositors. The remaining \$41 billion comes from newly introduced inefficiencies in the resolution process.<sup>11</sup> The elevation in the FDIC's costs persists well past the end of the 2008 financial crisis. It likewise persists in regression analyses that control for the amount of insured deposits banks have, the quality of bank assets at the time of failure, and the set of institutions available to bid on a failed bank's assets.

Furthermore, the increase in costs that has accompanied the FDIC's switch to near-universal depositor rescues is of roughly the same magnitude as the decrease in costs the FDIC experienced in 1992, when the FDIC began routinely imposing losses on uninsured depositors in response to the introduction, by Congress, of the current least-cost resolution requirement. Interestingly, this drop in costs in 1992 began within just a few months of Congress's intervention, and it occurred in a year in which total assets of failed banks and thrifts (relative to total assets in all banks and thrifts) were greater than the total assets of all failed commercial banks in 2008 and 2009, combined. This suggests that the determinative factor in FDIC resolution costs is the FDIC's willingness to impose losses on uninsured depositors, and not the presence of a financial crisis.

Third, I show that for the vast majority of bank failures, there has not been overwhelming political pressure demanding uninsured depositor rescues. For instance, since 2008, twelve banks with over \$1 billion in assets have failed while leaving their uninsured depositors with losses. Had there been an unlimited political will to rescue uninsured depositors, the FDIC could have, with approval from the US President and other officials, rescued depositors at these banks.<sup>12</sup>

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<sup>10</sup> Some of these arguments, such as by Menand and Ricks, are presented in the context of broader calls for reforms of the banking system. I do not take a position in this article on the advisability of these broader agendas for reform.

<sup>11</sup> In particular, my analyses in Parts II and V.d suggest that the FDIC has an institutional predisposition to rescue uninsured depositors, but a lack of authorization from Congress to do so. My analyses suggest that this leads the FDIC to favor selling failed banks as a whole, which rescues uninsured depositors, but which is often less efficient than selling a failed bank's good and bad assets to separate buyers.

<sup>12</sup> As I describe in Part VI.a *infra*, my analyses suggest that the decisive factor in whether uninsured depositors are rescued is whether, in an auction for a failed bank's assets, the FDIC receives at least one bid that will fully compensate uninsured depositors. If the FDIC receives such a bid, it will almost certainly favor it above any resolution options that do not fully compensate uninsured depositors. But, if the FDIC receives no such bid, the

In the final portion of the paper, I identify two likely factors driving the growth of uninsured depositor rescues and increases in FDIC resolution costs, and I show how these can be addressed. I cannot prove with certainty that these factors have contributed to uninsured depositor rescues and increased FDIC costs, but I present evidence that they are the best explanations currently available. Furthermore, the magnitude of recent changes – an estimated \$45 billion in increased FDIC resolution costs, and an almost complete elimination of risk to uninsured depositors – means that there is a compelling public interest in investigating the drivers of these phenomena, even if perfect causal identification is not possible.

The first likely cause of increased FDIC costs and decreased uninsured depositor losses is a drop in capacity (or perceived capacity) by the FDIC to efficiently recoup on the assets of failed banks. This appears to have led the FDIC to conclude that the only way for it to cost-effectively protect insured depositors is to transfer a whole bank (complete with both insured and uninsured deposits) to another institution, generally at very large cost in the form of an FDIC payment to the acquiring institution. This perception may in part stem from conditions early in the 2008 financial crisis, when staffing limitations may have impeded the FDIC's ability to resolve the number of banks that were failing simultaneously. But this perceived incapacity by the FDIC may have carried over long after the conditions that gave rise to it passed. I show that there are concrete changes that can be made to improve the FDIC's ability, and perceived ability, to efficiently resolve failed banks, thereby enabling resolutions that both cost less and create less moral hazard through uninsured depositor rescues.

The other fixable cause of the growth of FDIC costs and uninsured depositor rescues may be an implicit decision by the FDIC to prioritize protecting uninsured depositors, even when doing so adds significantly to resolution costs. I show that there are reasons of political economy that may lead to mission creep, where the FDIC rescues uninsured depositors more than Congress intended. This political economy analysis is bolstered by clear evidence that the FDIC has twice previously adopted a preference for uninsured depositor rescues, despite a lack of statutory mandate to do so. There is good evidence the FDIC has done so again more recently: publications and staff reports by the FDIC appear to acknowledge that the FDIC uses factors other than the sole statutory mandate of cost to determine how to resolve failed banks, and some current FDIC practices are difficult to reconcile with a commitment to least-cost resolution. I show that this mission creep by the FDIC can be addressed by strengthening the guardrails that Congress put in place the last time it was concerned about FDIC overreach in rescuing uninsured depositors – guardrails that worked well for sixteen years between 1992 and 2007. Finally, I propose additional policy changes, such as increasing the priority of insured deposits in bank receiverships, that would further reduce FDIC losses from bank failures in the future.

Overall, I estimate that the policy changes I propose could have saved tens of billions of dollars or more in costs to the DIF over the past 15 years. While some of this saved money would represent lower recoveries to uninsured depositors, 90% of it would result from reducing inefficiencies in the resolution process, and from reducing subsidies to other parties, including other junior creditors at failed banks and purchasers of failed banks. Thus, even for those who favor total deposit insurance, the analyses in this paper suggest that there are far more efficient ways to protect uninsured depositors than those currently used by the FDIC.

The changes I propose could also have potentially aided financial stability by improving the incentives of uninsured depositors to monitor the safety of banks where they place their

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FDIC will allow uninsured depositors to experience losses, rather than seeking to use other mechanisms, that require approval from officials beyond the FDIC, to rescue uninsured depositors.

deposits, or to move their money into safer alternatives, such as Treasury Money Market Mutual Funds (MMMFs), or sweep accounts based on Treasury MMMFs, if they do not want to monitor banks for safety.

Ultimately, while this article argues for the feasibility and potential benefits of returning to a de facto partial deposit insurance system, it does not conduct a complete analysis of the costs and benefits of a move towards full or fuller deposit insurance. Instead, this article shows that if Congress wishes to move towards a system of fuller deposit insurance, it is critical to debate the pros and cons of such a change, rather than viewing it as a mere formalization of inevitable patterns of depositor rescues.

## **I. Background**

### **a. Prior Literature**

To the best of my knowledge, this is the first academic paper to conduct an in-depth investigation into the causes of two phenomena over the past 15 years: the significant rise in rescues of uninsured depositors and the significant increase in FDIC resolution costs. This is also, to the best of my knowledge, the first academic work to show a repeating pattern of the FDIC trending towards increasing rates of uninsured depositor rescues, followed by a correction from Congress that reverses that trend, followed by an eventual retrenchment by the FDIC towards frequent uninsured depositor rescues.

Several academics, including Prasad Krishnamurthy, Morgan Ricks, and Lev Menand have addressed the recent rise in uninsured depositor rescues in op-ed articles, which argue that uninsured depositor rescues are inevitable and should therefore be codified in the form of expanded or total deposit insurance.<sup>13</sup> Other academics have responded by arguing that universal deposit insurance would be unwise,<sup>14</sup> but have not challenged the factual premises of those claiming depositor rescues are inevitable. The FDIC itself has also recently released a publication exploring options for deposit insurance reform, including the possibility of expanding it or making it universal.<sup>15</sup> This publication, however, contains no discussion of recent increases in costs of FDIC resolutions, and it offers only very cursory speculation as to why uninsured deposit rescues may have grown more frequent.<sup>16</sup>

Beyond these recent discussions of deposit insurance and its reform, this research builds on prior academic work. Rosalind Bennett and Haluk Unal have written two important earlier articles in 2014 and 2015 examining FDIC resolution costs. In one, they document the dramatic drop in resolution costs that followed the passage of the FDIC Improvement Act (FDICIA) in 1991.<sup>17</sup> In the other, they argue that during times of crisis, such as the 1986 to 1991 period they study, it may be more efficient for the FDIC to resolve failed banks itself, rather than attempt to

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<sup>13</sup> Krishnamurthy, *supra* note 8; Menand and Ricks, *supra* note 8.

<sup>14</sup> Peter Conti-Brown, *This Bank Proposal Will Damage Our Economy and Make Voters Even More Resentful*, New York Times (April 5, 2023).

<sup>15</sup> *Options for Deposit Insurance Reform*, *supra* note 6.

<sup>16</sup> The FDIC speculates that this may be due to increases in the nominal amount of money in bank accounts covered by deposit insurance. *Id.* at 22 As I demonstrate in Part III.a, *infra*, this explanation is in significant tension with the available data.

<sup>17</sup> Rosalind Bennett and Haluk Unal, *Understanding the Components of Bank Failure Resolution Costs*, Financial Markets, Institutions and Instruments (2015).

sell them to other banks that may also be heavily stressed and thus unable to offer attractive prices.<sup>18</sup> Many other articles examine predictors of FDIC resolution costs from earlier periods.<sup>19</sup>

Several other articles investigate FDIC resolution costs and efficiency, though their sample periods are short, focusing just on the 2008 crisis. Thus, by design, they do not directly address questions of how and why FDIC costs have changed since earlier periods. João Granja, Gregor Matvos, and Amit Seru study bank failures from 2007 to 2013 and show that FDIC resolution costs are higher when potential acquirors of a failed bank are poorly capitalized.<sup>20</sup> Interestingly though, they find that even among failed banks with the best-capitalized potential acquirors, average resolution costs are substantially higher than the costs I find for banks that failed from 1992-2007, and this holds even for those failures in 1992 when the S&L crisis was still ongoing. Thus, the results from Granja et al., linking FDIC costs to capitalization of potential acquirors, can provide at best a very partial explanation for the dramatic rise in FDIC resolution costs that I document.

More recently, Jason Allen and co-authors argue in a 2023 paper that the FDIC could achieve higher recoveries in auctions of failed banks if it were to provide bidders with more information on how it determines the winning bid.<sup>21</sup> Arnold Cowan and Valentina Salotti do not directly examine FDIC efficiency, but they show that banks that win auctions to purchase failed banks from the FDIC experience increases in their equity value in the form of abnormal stock returns of approximately 3.2%.<sup>22</sup> Finally, João Granja presents evidence that providing more information to bidders in FDIC auctions for failed banks enables the FDIC to resolve the banks at lower cost and to sell more of their assets.<sup>23</sup> In Part I.c, below, I review additional academic literature that establishes the conceptual and empirical foundations of deposit insurance but does not directly address the topics of the recent rise in uninsured depositor rescues and in FDIC resolution costs.

## b. Data

In this investigation, I focus on banks that have failed between 1934, the beginning of US deposit insurance, and 2022. The Appendix, section a, provides details on data sources and

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<sup>18</sup> Rosalind Bennett and Haluk Unal, *The Effects of Resolution Methods on the Loss on Assets from Bank Failures*, Journal of Financial Stability (2014). Conversely, Bennett and Unal find that during periods of financial stability, private-sector reorganizations are more efficient. Yet, the definition they use for private-sector reorganizations covers all P&A transactions in which a private purchaser buys at least 25% of the failed bank's assets (see p.20). Thus, this covers a large number of so-called "insured deposit P&A" transactions, discussed in Part I.e, *infra*, that impose losses on uninsured depositors. In other words, nothing of the findings from Bennett and Unal (2014) examine the question of whether it is cost-effective to fully compensate uninsured depositors during times of financial calm.

<sup>19</sup> See, e.g., Kathleen McDill, *Resolution Costs and the Business Cycle*, Working Paper (2014); John Bovenzi and Arthur Murton, *Resolution Costs of Bank Failures*, FDIC Banking Review (1988); Joseph Blalock, Timothy Curry, and Peter Elmer, *Resolution Costs of Thrift Failures*, FDIC Banking Review (1991); James Marino and Rosalind Bennett, *The Consequences of National Depositor Preference*, FDIC Banking Review (1999); William Osterberg, *The Impact of Depositor Preference Laws*, Economic Review (1996).

<sup>20</sup> João Granja, Gregor Matvos, and Amit Seru, *Selling Failed Banks*, Journal of Finance (2017).

<sup>21</sup> Jason Allen, Robert Clark, Brent Hickman and Eric Richert, *Resolving Failed Banks: Uncertainty, Multiple Bidding and Auction Design*, Review of Economic Studies (2023) [hereinafter *Resolving Failed Banks*].

<sup>22</sup> Arnold Cowan and Valentina Salotti, *The Resolution of Failed Banks During the Crisis; Acquirer Performance and FDIC Guarantees, 2008–2013*, Journal of Banking and Finance (2015).

<sup>23</sup> João Granja, *The Relation Between Bank Resolutions and Information Environment: Evidence from the Auctions for Failed Banks*, Journal of Accounting Research (2013).

construction. Figure 1 plots the number of bank failures per year in the data set I assemble from these sources.

Figure 1: Number of FDIC Insured Bank Failures per Year

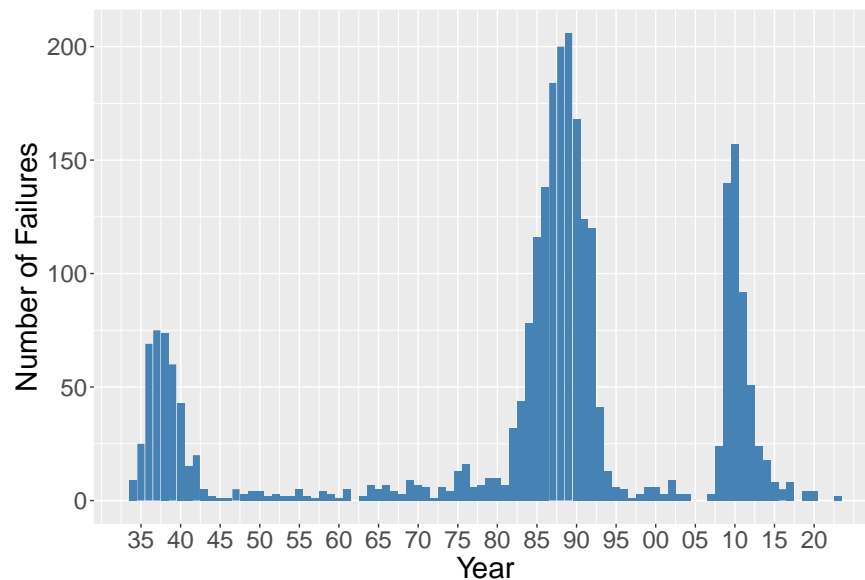


Table 1: Characteristics of Failed Banks

	1992-2007	2008-2011	2012-2022
N Failed Banks	224	413	122
Total DIF Costs (Billions)	\$12.6	\$92.0	\$7.8
Total Assets of Failed Banks (Billions)	\$126.1	\$505.4	\$43.1
Total Insured Deposits of Failed Banks (Billions)	\$103.9	\$362.2	\$34.1
Total Uninsured Deposits of Failed Banks (Billions)	\$7.9	\$47.6	\$3.7
Avg. Assets of Failed Banks (Billions)	\$0.6	\$1.2	\$0.4
Pct Failures with Loss to Uninsured Depositors	62.5%	6.6%	5.7%
DIF Cost, % Total Assets	10.0% (16.0%)	18.2% (24.7%)	18.2% (20.5%)
Uninsured % Total Deposits	7.0% (7.0%)	8.0% (6.1%)	9.9% (5.7%)
Insured Deposits, % Total Assets	82.4% (87.9%)	81.7% (86.8%)	79.3% (89.0%)
Uninsured Deposits, % Total Assets	6.3% (6.5%)	6.2% (5.6%)	8.7% (5.4%)
FHL Loans, % Total Assets	14.3% (2.4%)	13.4% (6.5%)	6.3% (3.4%)
Tier 1 Leverage Ratio	0.1% (1.4%)	1.8% (1.2%)	0.8% (0.9%)
Non-Current Assets, % Total Assets	7.3% (6.8%)	11.2% (12.1%)	11.3% (9.1%)
Other Real Estate Owned, % Total Assets	5.9% (4.4%)	2.9% (4.7%)	4.4% (6.0%)
Income Earned Not Collected, % Total Assets	0.5% (0.7%)	0.4% (0.4%)	0.3% (0.4%)
Brokered Deposits, % Total Assets	3.9% (3.3%)	13.4% (10.7%)	5.0% (2.7%)

Note: For rows with parenthetical numbers, the first number represents the statistic computed as a weighted average, based on total assets, and the second, parenthetical number, represents the unweighted average. All dollar values are given in inflation adjusted, 2023 dollars.



Table 1 presents statistics on the balance sheets and other characteristics of banks that failed during three different time periods between 1992 and the present. Figure 2 shows that uninsured deposits tend to drop by more than half in advance of banks' failures, but that banks still retain a meaningful amount of uninsured deposits (roughly 8.5% of total deposits) as of the final calendar quarter prior to failure. Figure 3 plots losses to the Deposit Insurance Fund (DIF) by size of failed bank from 2008 through 2022. Banks with \$10 billion or under in assets accounted for 66% of all DIF losses.

Figure 2: Change in Uninsured Deposits as Banks Approach Failure

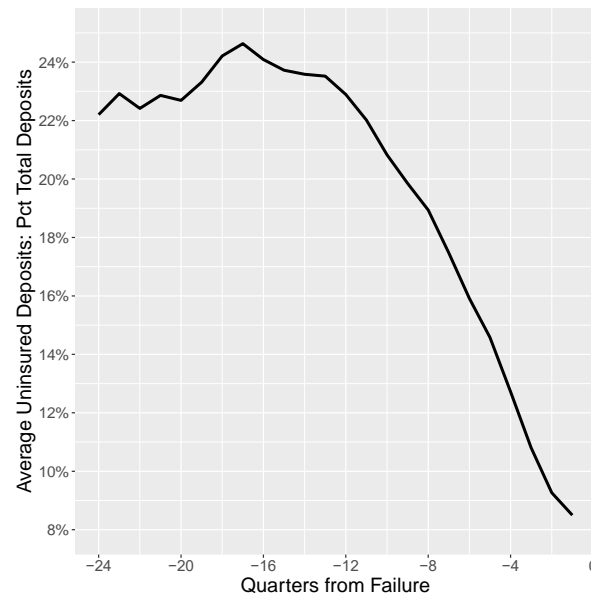
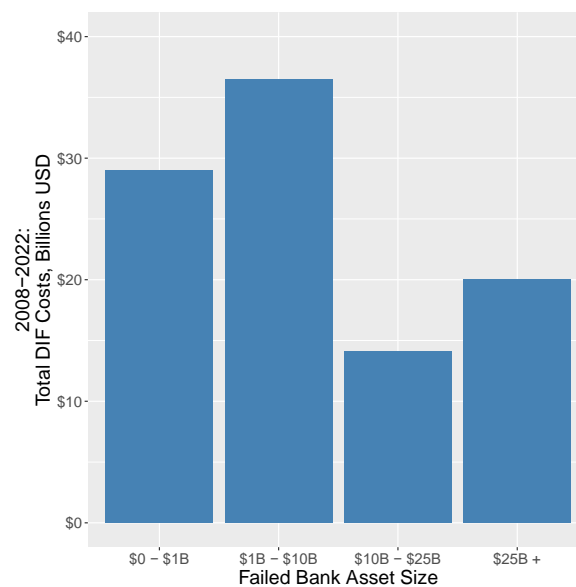


Figure 3: 2008-2022 - DIF Costs by Failed Bank Size



Because this investigation spans nearly 100 years, the real value of dollars varies widely from the start to the end of the sample period. Thus, for all my analyses, and whenever I quote any dollar-value figures in this investigation, dollar figures are expressed in inflation-adjusted terms, given as 2023 US dollars.

Finally, by default in these investigations, I consider results separately both with and without the inclusion of Washington Mutual. Washington Mutual was the largest commercial bank in US history to fail, and had total assets nearly as large as the combined assets of all other banks that failed from 2008-2013. Thus, when computing statistics for a group of failed banks, if Washington Mutual is included in this group, its characteristics will dominate the overall statistics. Separating results based on whether Washington Mutual is or is not included follows the FDIC's conventions in many of its publications. The Appendix discusses more details on this decision and presents robustness results of key analyses over differing specifications.

### c. Economic Foundations of Partial Deposit Insurance

#### i. *Economic Foundations of Deposit Insurance*

In this section, I briefly review the theoretical and empirical literature concerning deposit insurance. The findings in this literature cannot decisively answer whether it is optimal for the US to move to a system of de facto or de jure total deposit insurance. Nevertheless, the literature shows that there is at least reason to doubt that full deposit insurance is necessary (or even desirable) for financial stability. Thus, any move towards full deposit insurance should only occur after a period of robust policy debate.

The work of Douglas Diamond and Philip Dybvig sets a foundation for much of the modern economic research on deposit insurance. Their model,<sup>24</sup> from 1983, shows how banks can contribute to social value by funding long-term assets (those that will not compensate their investors for a significant period of time) with short-term, liquid liabilities – that is, bank deposits. This can generate economic surplus because savers may be more willing to invest their money if they can withdraw their funds at short notice to meet financial needs they will encounter at uncertain points in the future.<sup>25</sup> Nevertheless, the Diamond and Dybvig model shows that the ability of depositors to withdraw their funds at short notice makes banks vulnerable to runs and panics, and thus emphasizes the potential value of deposit insurance in preventing such panics.

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<sup>24</sup> Douglas Diamond and Philip Dybvig, *Bank Runs, Deposit Insurance, and Liquidity*, Journal of Political Economy (1983).

<sup>25</sup> Gary Gorton and George Pennacchi, writing in 1990, take a somewhat different perspective on bank liquidity than Diamond and Dybvig, by emphasizing bank deposits as useful media of exchange, rather than as simply repositories of value that can be redeemed at need - *Financial Intermediaries and Liquidity Creation*, Journal of Finance (1990). In their baseline framework, Gorton and Pennacchi show that if bank shareholders contribute sufficient capital to absorb losses on a bank's loans, then a bank's deposits can become essentially riskless and serve as a medium of exchange – that is, people can pay each other by writing checks, which transfer ownership of those deposits. Gorton and Pennacchi also show, however, that government deposit insurance can create riskless deposits, even if banks are not themselves sufficiently capitalized to ensure the safety of their deposits. Although they do not explicitly argue as such, a straightforward extension of their analysis suggests that deposit insurance allows banks to operate with thinner capital buffers than they otherwise would need to attract deposits. That is, deposit insurance not only dulls the incentives of depositors to demand prudent lending (as in the Calomiris and Kahn framework), it also dulls the incentives of depositors to demand that bank shareholders place a sufficiently large buffer of their own money at risk to absorb losses in the event a bank's loans are not repaid.

Subsequent theoretical work, however, emphasizes ways in which deposit insurance can reduce the incentive of depositors to carefully monitor banks, potentially leading to losses of economic efficiency if bank managers and owners perform worse when not as tightly disciplined. Authors such as Charles Jacklin,<sup>26</sup> Charles Calomiris, and Charles Kahn,<sup>27</sup> argue that if the purpose of banks were simply to give savers the ability to quickly liquidate their investments, then alternatives to deposit accounts, such as owning stock in banks that can be quickly sold, would be economically superior, since with no deposits, there would be no risk of runs. Thus, these later authors argue that the risk of runs that come with bank deposits might be in part a feature, not a bug. Namely, the risk of runs helps to incentivize depositors to carefully monitor banks, which in turn helps incentivize bankers to manage banks prudently.

Empirical work supports some components of this analysis. For instance, there is now significant evidence, over many different time periods, that uninsured depositors play an active role in monitoring and disciplining banks.<sup>28</sup> A number of studies also suggest that jurisdictions that adopt deposit insurance, particularly those with overly high thresholds for the amount of deposits insured in an account, tend to experience more bank failures, rather than fewer.<sup>29</sup> Nevertheless, these studies frequently investigate banking systems with significantly different regulatory environments than the current US system, so there are limitations to the inferences that can be drawn from them. More recent work has developed models and fit them using current US economic data.<sup>30</sup> These investigations tend to find that as one increases the dollar value in each account that is covered by deposit insurance, there are initial large gains to financial stability, but that that deposit insurance at overly high levels contributes to financial instability through the moral hazard channel.

Another line of scholarship highlights that many of the benefits of deposit insurance, both for individual depositors as well as for financial stability, can be achieved by other means that raise fewer moral hazard concerns. For instance, individual depositors who want almost

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<sup>26</sup> Charles Jacklin, *Demand Deposits, Trading Restrictions, and Risk Sharing*. In E. C. Prescott, & N. Wallace (Eds.), *Contractual Arrangements for Intertemporal Trade*, (1987) (pp. 26-47). Minneapolis, MN: University of Minnesota Press.

<sup>27</sup> Charles Calomiris and Charles Kahn, *The Role of Demandable Debt in Structuring Optimal Banking Arrangements*, *The American Economic Review*, Vol. 81, No. 3 (1991), pp. 497-513.

<sup>28</sup> See in particular, Anthony Saunders and Berry Wilson, *Contagious Bank Runs: Evidence from the 1929–1933 Period*, *Journal of Financial Intermediation* (1996); Charles Calomiris and Joseph Mason, *Contagion and Bank Failures During the Great Depression: The June 1932 Chicago Banking Panic*, *American Economic Review* (1997); Andrew Davenport and Kathleen McDill, *The Depositor Behind the Discipline: A Micro-Level Case Study of Hamilton Bank*, *J Finan Serv Res* (2006); Anthony Saunders and Berry Wilson, *Contagious Bank Runs: Evidence from the 1929–1933 Period*, *Journal of Financial Intermediation* (1996); Christopher Martin, Manju Puri, and Alexander Ufieri, *Deposit Inflows and Outflows in Failing Banks: The Role of Deposit Insurance*, Working Paper (2018).

<sup>29</sup> Tyler Goodspeed, *Skin in the Game: Liability Insurance, Extended Liability, and Financial Stability*, Working Paper (2015); Charles Calomiris and Matthew Jaremski, *Stealing Deposits; Deposit Insurance, Risk-Taking, and The Removal of Market Discipline in Early 20th-Century Banks*, *Journal of Finance* (2019); Asli Demirgüç-Kunt and Enrica Detragiache, *Does Deposit Insurance Increase Banking System Stability? An Empirical Investigation*, *Journal of Monetary Economics* (2002).

<sup>30</sup> Mark Egan, Ali Hortaçsu and Gregor Matvos, *Deposit Competition and Financial Fragility: Evidence from the US Banking Sector*, *The American Economic Review* (2017); Eduardo Dávila and Itay Goldstein, *Optimal Deposit Insurance*, *Journal of Political Economy* (2023). One disadvantage of the work by Dávila and Goldstein is that their model misunderstands US law governing deposit insurance, and incorrectly assumes that insured deposits have priority over uninsured deposits. As discussed in Part I.e, *infra*, insured and uninsured deposits have equal priority in US law. Thus, the specific findings by Dávila and Goldstein regarding optimal dollar value of US deposit insurance are not directly useable, but some of the heuristic conclusions of their work may still carry over.

complete safety for deposits above the insured limit can place their funds in Money Market Mutual Funds (MMMFs) that invest only in very short-term loans to the federal government and that allow their investors to quickly and easily withdraw funds, very similar to how they could from a bank account.<sup>31</sup> In fact, many banks offer so-called sweep accounts, that automatically sweep balances beyond a specified limit (such as the FDIC insurance limit) into treasury MMMFs or similar investments at the end of each day.<sup>32</sup> This enables the convenience of checking and savings accounts along with the safety of treasury MMMFs. Similarly, many of the financial stability concerns surrounding bank runs can be at least partially addressed by Lender of Last Resort (LOLR) funding supplied by the Federal Reserve during times of stress,<sup>33</sup> or by a variety of restructuring procedures to allow a bank to continue to operate and serve its customers and counterparties, even after its equity value has dropped to zero.<sup>34</sup> Thus, there may be ways to get many of the benefits of total deposit insurance without as many of the moral hazard costs.

## ii. *Evaluating Theories of Deposit Insurance in Light of the 2023 Banking Turmoil*

The turmoil that has beset the banking system in 2023 also sheds light on the potential benefits of a system of partial deposit insurance in which uninsured depositors bear a meaningful risk of loss. From 2010 through 2022, uninsured deposits flooded the US banking system, making banks flush with cash. Rather than using the bulk of this money to make loans – one of the core, valuable economic functions of banks – US depository institutions instead invested much of it in trillions of dollars of long-term, fixed interest rate securities issued by the Treasury and the Government Sponsored Enterprises.<sup>35</sup> In essence, US banks gambled en masse on interest rates, betting that rates would stay low and that their securities investments would be profitable.<sup>36</sup> For a while, this strategy was successful. But when interest rates rose, banks were

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<sup>31</sup> These in many ways amount to so-called “narrow banks” which many have long advocated for. See George Pennacchi, *Narrow Banking*, Annual Review of Financial Economics (2012).

<sup>32</sup> See, e.g., the description of products offered by US Bank, that first split deposits among multiple banks to achieve \$2.5 million in FDIC protection, and then “simply invests any funds above the \$2.5 million level into a government money market fund.” <https://www.usbank.com/financialiq/improve-your-operations/investments-and-controls/protecting-cash-balances.html> [https://perma.cc/AQU4-BRLA]

<sup>33</sup> See, e.g. Dávila and Goldsetein, *supra* note 30, at 1688, noting that lender of last resort support is often theoretically preferable to deposit insurance, since it can be made contingent on certain states of the world, rather than universally granted. This allows the government to provide support in situations where many banks experience peril due to factors largely outside of their control, while not providing support in situations where an individual bank’s mismanagement has harmed its viability.

<sup>34</sup> For an overview of possible approaches, see Thomas Jackson and David Skeel, *Dynamic Resolution of Large Financial Institutions*, Harvard Business Law Review, 2012.

<sup>35</sup> For instance, in January 2010, treasury and agency securities comprised 12% of all US bank assets, and loans and leases comprised 55%. By January 2022, treasury and agency securities grew to 21% of bank assets, whereas loans and leases dropped to 48% of bank assets. Source: FRED – Federal Reserve Bank of St. Louis, Economic Data, series TOTLL (total loans and leases of US commercial banks), USGSEC (total treasury and agency securities of US commercial banks), and TLAACBW027SBOG (total assets of US commercial banks).

<sup>36</sup> Securities such as those issued by the US Treasury may appear to be very safe investments, since they carry essentially no default risk. Yet, when interest rates change, they can lose a very large amount of their value. For instance, if a bank bought a 7-year treasury security paying 0.5% interest, and then rates increased to 4.5% interest, the bond would lose more than 20% of its value.

hit with trillions of dollars of losses as their fixed rate investments dramatically lost value.<sup>37</sup> These losses precipitated the collapse of Silicon Valley Bank, Signature Bank, First Republic, and others,<sup>38</sup> occasioning roughly \$32 billion in losses to the FDIC in 2023 alone.

Ultimately, these failed banks were brought down when uninsured depositors fled. As regulators' post-mortem assessments have shown, federal banking supervisors themselves were in part constrained by political pressure from taking more aggressive actions to stem unsound banking practices.<sup>39</sup> The uninsured depositor runs on these banks thus forced a discipline on their managers and owners that regulators and supervisors had been unwilling or unable to provide. The losses experienced by shareholders of these banks may help to provide better incentives for shareholders at other banks to demand more prudent risk-management in the future.

From one perspective, these events could be taken as evidence that our current system works adequately to discipline banks, even while providing near total de facto insurance. On the other hand, given my estimates in Part V.d that the FDIC's resolution strategies have cost at least \$45 billion in excess losses over the past 15 years, the fact that we still had these runs on banks might suggest that the US has spent an enormous amount on rescuing uninsured depositors, without even gaining the benefits of preventing runs. At a minimum, the fact that it was runs, not regulators, that forced accountability for Signature, SVB, and First Republic highlights the dangers that could occur if that coverage strays too far towards de facto total insurance, much less de-jure total insurance.

The experience of Credit Suisse, which failed during this same period of market turmoil, is also instructive. A run by its depositors pushed Credit Suisse into failure after the bank had been beset by mismanagement and scandal for years.<sup>40</sup> Yet, in response to this, regulators stepped in before losses to the bank became too extreme, and facilitated a quick sale in which the bank's shareholders and bond holders absorbed the losses from the bank's failure,<sup>41</sup> protecting depositors and in large part taxpayers as well.<sup>42</sup> This shows that bank runs can be managed in

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<sup>37</sup> Erica Jiang, Gregor Matvos, Tomasz Piskorski, and Amit Seru, *Monetary Tightening and U.S. Bank Fragility in 2023: Mark-to-Market Losses and Uninsured Depositor Runs?* Working Paper (2023).

<sup>38</sup> See, e.g., Marc Rubinstein, *The Demise of Silicon Valley Bank*, available <https://www.netinterest.co/p/the-demise-of-silicon-valley-bank> [https://perma.cc/UP28-BPV6]

<sup>39</sup> Michael Barr, *Review of the Federal Reserve's Supervision and Regulation of Silicon Valley Bank*, available <https://www.federalreserve.gov/publications/files/svb-review-20230428.pdf> [https://perma.cc/7V9E-JGV8] (noting a shift towards "a less assertive supervisory approach," p.1, and that "staff repeatedly mentioned changes in expectations and practices, including pressure to reduce burden on firms, meet a higher burden of proof for a supervisory conclusion, and demonstrate due process when considering supervisory actions." p.11). Although Barr's review does not explicitly name him, the timing and source of the "pressure" in his report strongly point towards Randal Quarles, his predecessor in the position of Vice Chair for Supervision, who was appointed in 2017 near the beginning of the Trump administration. For contemporary commentary confirming this interpretation, see John Foley, *Fed's SVB Review Finds There's No "I" in "Blame,"* Reuters, April 28, 2023, available <https://www.reuters.com/breakingviews/feds-svb-review-finds-theres-no-i-blame-2023-04-28/> [https://perma.cc/7GNT-9Y2N] (noting of the report, "If one individual gets subtly thrown under the bus, it's Barr's predecessor, Republican appointee Randal Quarles. Supervisors felt pressure to ease the 'burden' on firms during his tenure, making them less willing to take tough action.")

<sup>40</sup> Marion Halftermeyer and Myriam Balezou, *How Scandal and Mistrust Ended Credit Suisse's 166-Year Run*, March 19, 2023, Bloomberg, available <https://www.bloomberg.com/news/articles/2023-03-19/how-scandal-and-mistrust-ended-credit-suisse-s-166-year-history>

<sup>41</sup> *Id.*

<sup>42</sup> The Swiss government did provide a guarantee of some of Credit Suisse's assets, as part of the sale it arranged to UBS. Yet, UBS did not draw on this guarantee and ended the arrangement several months later. <https://www.reuters.com/business/finance/ubs-terminates-loss-protection-agreement-with-swiss-government-2023-08-11/> [https://perma.cc/8LFP-U6EM]

ways that are minimally destructive, creating less need to prevent them at all costs by instituting total deposit insurance.

Finally, there is at least some reason to believe that the 2023 turmoil would have been less severe, or even averted, had it not been for the de facto, near-total deposit insurance in the years leading up to 2023. For instance, once turmoil beset the banking system and uninsured depositors became concerned about risks to their deposits, hundreds of billions of dollars of uninsured deposits left the banking system in favor of government Money Market Mutual Funds (MMMFs),<sup>43</sup> which provide essentially bank-like services but with meaningfully less risk to large depositors. It seems quite plausible that if uninsured depositors had been more acutely concerned about risks earlier on, then less money would have flowed into the banking system. With less money flowing in, banks may have gambled less on long-term fixed-rate securities, and total banking system losses may have been meaningfully less. Similarly, if uninsured depositors had been more discerning about the risks taken by the banks they were placing money in, it is at least possible that banks would have managed their risks more prudently over the past decade, potentially lessening or preventing the conditions that caused the recent turmoil.

#### d. The Scope of US Deposit Insurance and the Source of its Funding

The US adopted nationwide deposit insurance through the Banking Act of 1933, also known as Glass-Steagall.<sup>44</sup> The FDIC's Deposit Insurance Fund (DIF) is funded through premia charged to insured depository institutions.<sup>45</sup> Premia are set as a percent of total bank liabilities (not just insured deposits) and vary based on the riskiness of the bank.<sup>46</sup> The FDIC monitors the Designated Reserve Ratio (DRR), defined as the ratio of the DIF balance to total insured deposits in US banks. When the DRR drops sufficiently low, the FDIC will increase insurance premia and may institute special assessments.<sup>47</sup> The FDIC also enjoys a line of credit with the US Treasury, currently set at \$100 billion.<sup>48</sup> This provides funding to the FDIC if the DIF balance is inadequate to cover expenses from protecting insured depositors.

Although the DIF is funded by assessments on banks, rather than via direct congressional appropriations, the FDIC's efficiency in using DIF funds is still a matter of significant public interest. The insurance premia the FDIC charges are in essence a type of tax on banks. Ultimately these costs will be borne by some combination of banks' borrowers, depositors, and shareholders. As with any tax, these come with deadweight loss – economic activity that does not occur because the tax renders it unprofitable.<sup>49</sup> Reducing DIF costs could therefore reduce

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<sup>43</sup> Alex Harris, *Cash Stashed in Funds Instead of Banks Fuels US Slump Risks*, Bloomberg, March 30, 2023, available <https://www.bloomberg.com/news/articles/2023-03-30/cash-stashed-in-money-market-funds-not-banks-fuels-recession-risk-in-wake-of-svb>

<sup>44</sup> Deposit insurance was originally a temporary provision of the Banking Act of 1933. It became permanent with the passage of the Banking Act of 1935.

<sup>45</sup> 12 U.S.C.A. § 1817

<sup>46</sup> 12 C.F.R. § 327.5

<sup>47</sup> <https://www.fdic.gov/resources/deposit-insurance/deposit-insurance-fund/dif-fund-management.html>

<sup>48</sup> 12 U.S.C. 1824(a). If the FDIC were to use this line of credit, it would pay interest based on treasury rates, and would repay the borrowing out of future revenues to the DIF.

<sup>49</sup> From some perspectives, it might seem that FDIC insurance premia are simply a fee for a service, and thus do not represent a tax that creates deadweight loss. There are, however, several reasons why the “fee for service” perspective does not fit well here. First, as I discuss in Part V.d, I estimate that FDIC costs, and thus deposit insurance premia, have risen by at least \$45 billion compared to what they would have been had the FDIC maintained the resolution efficiency it had from 1992-2007. I further estimate that the large majority of these excess

this deadweight loss. Alternatively, if one reduced DIF costs and thus DIF insurance premia, then it could become more feasible to impose additional requirements on banks to advance the public interest, such as providing checking accounts with low or no fees to low-income Americans. If the costs of banks meeting these additional requirements is calibrated to match the reductions in insurance premia that come from more efficient use of the DIF, then the total effective taxation of the banking industry could be kept constant, while expanding the range of actions banks take to advance public interests. Thus, whether reductions in deposit insurance premia are viewed as an opportunity to reduce effective taxation, and thus deadweight loss, or as an opportunity to replace unnecessary insurance premia costs with more socially useful demands on bank resources, there is a strong public interest in minimizing DIF expenditures as much as possible.

In setting a cap on the insured value in bank accounts, Congress has long been mindful of the risks of overly expansive coverage. For instance, in a house committee hearing the year before Glass-Steagall passed, representative John Cable argued in support of legislation that provides only partial deposit insurance, stating “A 100 per cent guarantee is not necessary. In fact, such a complete guarantee would encourage laxity on the part of bankers, as they would be inclined to make loans which their ordinary good judgment would tell them were unsafe.”<sup>50</sup> Similarly, as the Senate Committee Report on The Federal Deposit Insurance Corporation Act, 1950 wrote, “It should never be the policy of the Congress to guarantee the safety of all deposits in all banks.”<sup>51</sup>

Over time, Congress has periodically raised the deposit insurance limit, most recently in 2008, when Congress first moved it temporarily to \$250,000,<sup>52</sup> and later made the change permanent as part of the Dodd-Frank Act of 2010.<sup>53</sup> The nominal value of deposit insurance is now 100 times larger than it initially was. Nevertheless, as Figure 3 shows, the deposit insurance limit has been relatively consistent in inflation-adjusted terms, with levels in 2023 roughly equivalent to those in 1976. During the 2008 financial crisis, the FDIC temporarily expanded deposit insurance to cover all domestic noninterest-bearing transaction deposits. This was originally extended from October 14, 2008, through December 31, 2010, and then was codified in Dodd-Frank to extend through December 31, 2012.<sup>54</sup>

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FDIC resolution costs do not come from transfer payments to uninsured depositors. Instead, they come from inefficiencies in the resolution process. These inefficiencies thus clearly represent deadweight loss. Beyond that, unless deposit insurance premia are perfectly calibrated based on (a) the riskiness of banks, and (b) the extent that banks actually wish to purchase more insurance on their uninsured deposits, there will be further inefficiencies and transfers some groups of banks to others. Thus, there is good reason to believe that at least a large majority of the \$45 billion in excess deposit insurance premia costs contribute to deadweight tax loss.

<sup>50</sup> Hearing on HR. (10241) 11362, Subcommittee of the Committee on Banking and Currency, March and April, 1932.

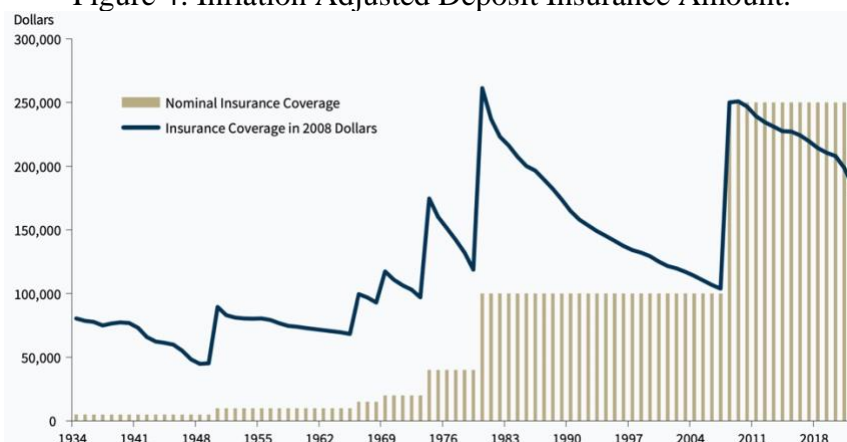
<sup>51</sup> February 10, 1950, Senate Committee on Banking and Currency.

<sup>52</sup> Emergency Economic Stabilization Act of 2008, Public Law 110-343, §136.

<sup>53</sup> Public Law 111 - 203, §335.

<sup>54</sup> <https://www.fdic.gov/regulations/resources/tlgp/>

Figure 4: Inflation Adjusted Deposit Insurance Amount.



Source: FDIC

Deposit insurance applies to accounts, rather than to individuals. Thus, a person or business can have well above \$250,000 in total funds protected by deposit insurance if they split the money over multiple accounts. In fact, special services exist that will automatically split a person's deposit over many banks, thereby enabling them to ensure much larger (though not unlimited) amounts of deposits.<sup>55</sup> Nevertheless, there is still an enormous amount of money in uninsured deposits throughout the US banking system. There are roughly \$7 trillion in uninsured deposits as of 2023, and roughly \$9 trillion of insured deposits.<sup>56</sup> The ten largest US banks comprise both the bulk of total assets and of total uninsured deposits in the banking system.<sup>57</sup> To the extent that these banks enjoy implicit "too big to fail" protection, their levels of uninsured deposits might not appear relevant. Yet, banks with \$50 billion or less in assets still hold roughly \$1.5 trillion in total uninsured deposits,<sup>58</sup> with uninsured deposits comprising on average 31% of total deposits for these banks. Furthermore, as Figure 5 shows, while the fraction of uninsured deposits (relative to total assets) at large banks has stayed relatively stable over the past ten years,<sup>59</sup> that fraction has dramatically increased for banks with under \$50 billion in assets, growing from 18.5% in 2023 to 30.2% in 2022.

<sup>55</sup> For details, see Stephen Gandel, *US Regional Banks Swap \$220bn in Deposits to Soothe Insurance Nerves*, *Financial Times*, May 24, 2023, available <https://www.ft.com/content/5ff8b990-ae08-4cd3-976d-d37a9035d38e>

<sup>56</sup> Data for total insured and uninsured deposits are from the Federal Reserve Board of St. Louis, <https://fred.stlouisfed.org/series/DPSDCBW027SBOG> and <https://fred.stlouisfed.org/series/BOGZ1FL763139113Q>. Data current as of April 1, 2023.

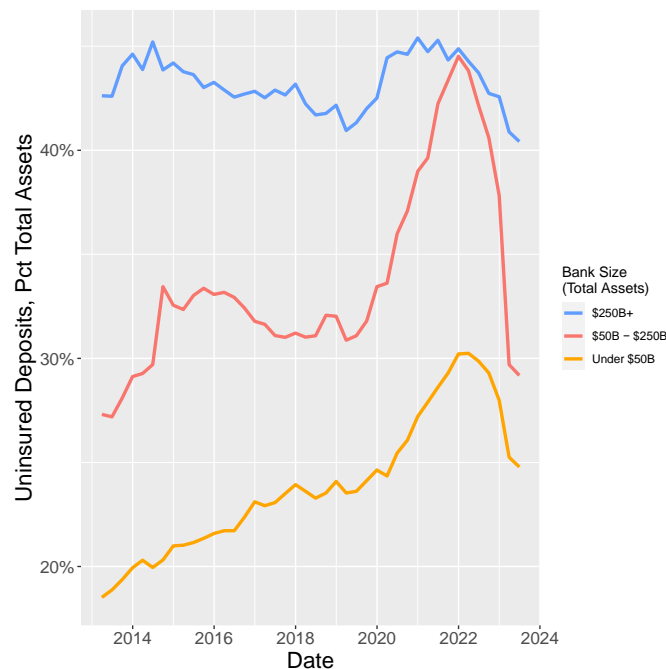
<sup>57</sup> For instance, as of March 31, 2023, based on call reports data, the 10 largest US banks by assets had 52% of total assets among US banks and 64% of total uninsured deposits.

<sup>58</sup> Data from call reports, as of June 30, 2023.

<sup>59</sup> I choose the 10 year window, starting in January 2013, both because it reflects the most recent history, as well as because it avoids the fluctuations in amounts of uninsured deposits that were caused by the temporary expansion of deposit insurance to cover noninterest bearing transaction accounts, a policy that ended as of January 2013. This enables a simpler examination of recent trends.



Figure 5: Uninsured Deposits, Percent Total Deposits – Small versus Large Banks



#### e. FDIC Methods for Resolving Failed Banks

The FDIC has many options for how it can resolve a failed bank and protect the insured depositors of that bank. In this section, I describe those options and show how the resolution method the FDIC uses has a decisive impact on the FDIC's costs of resolution, as well as whether uninsured depositors are rescued. I then describe the laws that govern the FDIC's choice of resolution methods.

##### i. *Options for Resolving Failed Banks*

The FDIC is charged by statute to ensure that insured depositors are made whole in the event of a bank failure.<sup>60</sup> Understanding the specific mechanisms the FDIC can use to achieve this objective is crucial to analyzing recent patterns in FDIC resolution costs and uninsured depositor rescues.

In some respects, the conceptually simplest option for the FDIC is an insured deposit payoff. In this, the FDIC mails checks to all depositors for the amount of their insured deposits, with this generally occurring on the business day following a bank's failure.<sup>61</sup> After mailing checks to insured depositors, the FDIC will operate as the receiver of the failed bank.<sup>62</sup> This means that the FDIC is charged with disposing of the bank's assets to achieve the greatest possible recovery for creditors. The FDIC can maintain ownership of the bank's loans and collect on them itself, it can sell them to a buyer who will then work to collect on them, or it can

<sup>60</sup> 12 USCA § 1811.

<sup>61</sup> FDIC, *Crisis and Response: An FDIC History, 2008–2013*, at 185. Available <https://www.fdic.gov/resources/publications/crisis-response/book/crisis-response.pdf> [Hereinafter *FDIC History*] [<https://perma.cc/8VHZ-VHZU>].

<sup>62</sup> *Id.*

contract with a loan servicing company to collect on the loans on the FDIC's behalf.<sup>63</sup> When the FDIC handles a large number of simultaneous bank failures, as it did during the 2008 financial crisis, it may also create securitizations or other structured finance vehicles to package and sell loans that were owned by failed banks.<sup>64</sup>

Any recoveries from a failed bank's assets go first to the failed bank's secured creditors, then to its depositors, then to other creditors, and finally to equity holders.<sup>65</sup> US law grants equal priority to insured and uninsured depositors.<sup>66</sup> After the FDIC compensates insured depositors, it assumes their place via a right of subrogation.<sup>67</sup> For example, consider a failed bank with \$50 of insured deposits, \$50 of uninsured deposits, and no secured debt. Suppose the bank's assets are sold for \$80. Immediately upon the bank's failure, the FDIC will mail \$50 of checks to insured depositors. The bank's \$80 in assets are then distributed on a pro-rata basis, with half going to the uninsured depositors and half going to the FDIC, which will pursue the insured depositors' claims as if they were its own. In this way, the FDIC will have paid \$50 to make the uninsured depositors whole, recouped \$40 from the sale of the assets, and thus incurred \$10 in total cost. Uninsured depositors will receive a check for \$0.80 on each dollar of uninsured deposits they held.<sup>68</sup> If the recovery for uninsured depositors is uncertain, the FDIC may send them an initial check for a portion of their uninsured deposits, and then pay subsequent "dividends" to the uninsured depositors as it liquidates additional assets of the failed bank.<sup>69</sup>

A second resolution option for the FDIC is known as a purchase and assumption (P&A) agreement. Often, this will be a "whole-bank" P&A, in which all of a failed bank's assets and liabilities are transferred to another bank. As part of a whole-bank P&A, the FDIC will frequently make a payment to the acquiring institution as part of the transaction. For instance, suppose again the failed bank has \$50 insured and \$50 uninsured deposits, no secured debt, and assets the acquiring bank deems to be worth \$80. If the acquiring bank simply took on all the failed bank's assets and liabilities, it would lose \$20 on the transaction. For the acquiror to at least break even, therefore, the FDIC might agree to pay the acquiring institution \$20, which it would receive along with all assets and liabilities of the failed bank. In addition to or instead of making a cash payment to the acquiring bank, the FDIC may agree to a loss-sharing agreement in which the FDIC in essence insures a portion of the failed bank's assets.<sup>70</sup>

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<sup>63</sup> *Id.* at 212-13, discussing how after 2010, the FDIC began using national servicers as its primary asset managers.

<sup>64</sup> *Id.* at 215-18.

<sup>65</sup> 12 U.S.C.A. § 1821(d)(11). Prior to 1993, the law of the state where a bank was chartered determined the priority of distributions, meaning that some states did not privilege depositors over other unsecured creditors. This changed with the Omnibus Budget Reconciliation Act of 1993, Pub Law 103-66, §3001.

<sup>66</sup> *Id.* See also, Edward Brainsilver, *Failing Banks: FDIC's Options and Constraints*, 27 Admin. L. Rev. at 332 (1975).

<sup>67</sup> 12 U.S.C.A. § 1821(g). See also Brainsilver, *supra* note 66 at 332.

<sup>68</sup> A closely related resolution method is an "insured deposit transfer." Here, rather than the FDIC directly mailing checks to depositors, it will contract with another bank to assume just the deposits of the failed bank. See FDIC, *Resolutions Handbook* (Jan 15, 2019) at 20, available <https://ypfsresourcelibrary.blob.core.windows.net/fcic/YPFS/resolutions-handbook.pdf>, [<https://perma.cc/U77H-WHP9>] [hereinafter *Resolutions Handbook*]. A final related resolution method is a "Deposit Insurance National Bank" (DINB), in which the FDIC operates the failed bank for a short period to allow depositors to move their accounts to another institution. See *FDIC History*, *supra* note 61 at 184.

<sup>69</sup> *FDIC History*, *supra* note 61, at 185.

<sup>70</sup> *Id.* at 189. To illustrate such loss-sharing, suppose the failed bank owns loans with a face value of \$100, but the acquiring bank is uncertain how many of those total loans will be repaid. The acquiring bank might agree to take on the assets and liabilities of the failed bank provided the FDIC agrees to absorb some portion of the losses (compared to the \$100 face value) that are realized when trying to collect on the failed bank's loans. In general, the FDIC offers

A third resolution option for the FDIC is a partial-bank or “basic” P&A agreement.<sup>71</sup> Here, the acquiror will take on only a subset of the failed bank’s assets and liabilities. This could include an “all-deposit” P&A, where the acquiror takes all deposits (insured and uninsured), but only a subset of the bank’s assets. Or, it could include an “insured-deposit” P&A, where the acquiring bank honors only insured deposits in full. The acquiring bank in an insured-deposit P&A can take either all or some of the failed bank’s assets. Any assets the acquiring bank does not take on will be left to the FDIC to collect on or liquidate in its role as receiver. If the acquiring bank does not take on the uninsured deposits, then the FDIC will handle them as in an insured deposit payout. Partial-bank P&A deals can also include payments made by the FDIC to the acquiring bank or loss-sharing agreements.

When a bank fails, the FDIC will conduct an auction soliciting bids for P&A deals. Frequently, the FDIC will specify its preference for how to resolve the bank in the form of setting criteria for “conforming bids.” For instance, the FDIC has at times instructed potential bidders that it wants to receive only whole-bank P&A bids with a particular type of loss sharing agreement.<sup>72</sup> The FDIC does not make public the criteria for conforming bids, but it does disclose summaries of bids it receives and whether they were conforming. The FDIC will also still consider non-conforming bids.<sup>73</sup> Nevertheless, the ability to set criteria for conforming bids is a potentially powerful way for the FDIC to shape the outcome of P&A auctions by making clear to bidders which types of bids it will look most favorably on. Given that the FDIC maintains secrecy, even from bidders, about how it will evaluate bids and determine the winner,<sup>74</sup> the criteria for conforming bids can be very influential in shaping the bids the FDIC receives and thus the resolution outcome.

A final option for bank resolutions is a “bridge bank.”<sup>75</sup> Here, the FDIC will operate the bank in receivership for a time, continuing its pre-failure operations but with the FDIC taking the place of a controlling shareholder. This can allow the FDIC more time to decide on an optimal resolution strategy and to market the bank’s assets.

Table 2 summarizes these resolution options and the implications of each for the bank’s uninsured depositors.

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loss sharing agreements during times of financial stress, in which purchasers might otherwise be reluctant to bid on a bank’s assets. For instance, the FDIC began using loss sharing agreements in 2009, began to scale them back in 2011, and ceased them entirely in 2011. See FDIC, *FDIC Resolution Tasks and Approaches; A Comparison of the 1980 to 1994 and 2008 to 2013 Crises*, Report No. 2020-05, at 23. Available <https://www.fdic.gov/analysis/cfr/staff-studies/2020-05.pdf>. [https://perma.cc/KKZ3-BKGJ] [hereinafter *Resolution Tasks and Approaches*].

<sup>71</sup> *Id.* For an example of an agreement for such a P&A deal, see <https://www.fdic.gov/resources/resolutions/bank-failures/failed-bank-list/enloe-p-and-a.pdf>

<sup>72</sup> *Infra* note 126 and accompanying text.

<sup>73</sup> *Id.* at 17.

<sup>74</sup> See notes 148 to 154, *infra*, and accompanying text.

<sup>75</sup> *FDIC History*, *supra* note 61, at 196.

Table 2: FDIC Resolution Options

Resolution Type	Details	Uninsured Deposits
Insured Depositor Payoff/Transfer	FDIC mails checks to insured depositors (or transfers them to different bank), sells off bank assets.	Take Loss
"Whole-Bank" Purchase and Assumption (P&A)	Another bank buys all assets & liabilities	Made Whole
"All-Deposit" P&A	Another bank accepts all deposits + some assets	Made Whole
"Insured-Deposit" P&A	Another bank accepts insured deposits + some (or all) assets	Take Loss

## ii. *The Least Cost Resolution Requirement*

When choosing which resolution method to use, the FDIC is statutorily required to choose the method that will protect insured depositors at the least cost to the FDIC.<sup>76</sup> In practice, this generally means that when a bank fails, the FDIC will conduct an auction, soliciting P&A bids, which can include both whole-bank and insured-deposit bids. Bids will specify which of the failed bank's assets and liabilities the bidder will take on, how much of a payment it proposes the FDIC make to it, and details on the loss sharing agreement, if any, the bidder proposes. The FDIC will then estimate its total resolution costs under each of the bids<sup>77</sup> and select a winning bidder based on whichever bid will protect the bank's insured depositors at the least cost to the FDIC.<sup>78</sup> If the FDIC does not receive any bids that will protect insured depositors for less cost than the FDIC can achieve through an insured deposit payoff, then the FDIC will choose that resolution option. While the FDIC Board has authority to decide between resolution options, and thus to ensure compliance with the least-cost requirement, in practice, the Board delegates the decision to FDIC staff in the vast majority of failed bank transactions.<sup>79</sup>

<sup>76</sup> 12 U.S. Code § 1823(c)(4) ("Notwithstanding any other provision of this chapter, the Corporation may not exercise any authority under this subsection or subsection (d), (f), (h), (i), or (k) with respect to any insured depository institution unless-- the Corporation determines that the exercise of such authority is necessary to meet the obligation of the Corporation to provide insurance coverage for the insured deposits in such institution; and the total amount of the expenditures by the Corporation and obligations incurred by the Corporation ... is the least costly to the Deposit Insurance Fund of all possible methods for meeting the Corporation's obligation under this section."). Other statutory provisions, such as 12 U.S. Code § 1823(d)(3)(D), call on the FDIC to give consideration to "the preservation of the availability and affordability of residential real property for low- and moderate- income individuals" when deciding on how to dispose of the assets of a failed bank. Yet, the "notwithstanding" language accompanying the least-cost resolution requirement in § 1823(c)(4) seems to clearly rule out the possibility that the FDIC is authorized to make decisions on how to resolve a failed bank on criteria other than cost. Thus, these other provisions appear to govern how the FDIC may decide to implement a resolution method that has already been chosen to minimize costs to the FDIC.

<sup>77</sup> For more on this estimation process, see notes 148 to 154 *infra*, and accompanying text.

<sup>78</sup> *FDIC History*, *supra* note 61, at 188.

<sup>79</sup> See Jonathan McKernan, Memorandum to FDIC Board of Directors, August 23, 2023, available <https://www.fdic.gov/news/board-matters/2023/2023-08-29-notice-dis-e-mem.pdf> [https://perma.cc/8BS8-4M6E],

Legislative history suggests that Congress intended a narrow interpretation of the least-cost requirement, considering only the immediate costs of resolving the particular failed bank. The current least-cost test was introduced by the FDIC Improvement Act of 1991, also known as FDICIA. The Senate version of FDICIA allowed the FDIC to consider the impact of the resolution on “economic conditions or financial stability,”<sup>80</sup> such as whether selling a failed bank to another bank would impact market competition and thus lead other banks to fail, increasing losses to the FDIC.<sup>81</sup> This provision was stripped from the final bill. Furthermore, despite this more lenient language in the Senate version, the report by the Senate banking committee nevertheless expressed a need to “prevent unfocused thinking” about the impact of resolution methods on “economic conditions and financial stability” and to “force systemic-risk determinations into [the Systemic Risk Exception requirements].”<sup>82</sup> Similarly, the House report on FDICIA states that the legislation deliberately removed the FDIC’s authority to consider the impact of resolution methods on a bank’s community because this had been used previously to justify “too-big-to-fail” rescues and “[t]he Committee deliberately deleted this clause and strongly intends that the too-big-to-fail policy is hereby abolished.”<sup>83</sup>

### iii. *When Do Uninsured Depositor Rescues Increase or Decrease FDIC Costs?*

It may appear that making uninsured depositors whole would always increase the FDIC’s costs of resolution and thus not be justified under the least-cost test. For instance, consider again the bank discussed above, with \$50 of insured deposits, \$50 uninsured deposits, and assets worth \$80. Before accounting for FDIC insurance, depositors will receive \$0.80 on the dollar for their deposits. If only the insured depositors are made whole, the FDIC will simply need to compensate those depositors for the missing \$0.20 on the dollar, yielding a cost to the FDIC of  $0.20 * 50 = \$10$ . By contrast, if all depositors were made whole, the cost to the FDIC would be \$20.

Nevertheless, it may sometimes be least-cost for the FDIC to resolve a bank in a way that protects uninsured depositors. One such situation is if a bank has vanishingly few uninsured depositors left by the time it fails. In this case, there may be little money to be saved from imposing losses on them, but potentially significant administrative costs in identifying which accounts will bear how many losses.<sup>84</sup>

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(noting that the “Robinson Resolution” adopted by the FDIC Board in 1999, delegates decision making to FDIC staff for failures of banks with under \$1 billion in assets, which covered 88% of failures from 2008 through 2022, and also noting that the Board at times will delegate decision making to staff even for larger bank failures, as it did, for instance, with First Republic in May of 2023).

<sup>80</sup> <https://www.congress.gov/bill/102nd-congress/senate-bill/543/text/rs>

<sup>81</sup> Senate Report on FDICIA, 138 Cong. Rec. S2059-02 (noting “If a failing institution is in a saturated market, the FDIC must consider the effect of consolidating-or failing to consolidate-the institution with another market participant on the likelihood that competing institutions would fail and cause a loss to the insurance fund.”)

<sup>82</sup> 138 Cong. Rec. S2059-02. These comments in the Senate report relate to text that was not included in the final version of FDICIA. Yet, the text that was removed stated, “The Corporation shall not consider how the transaction would affect economic conditions or financial stability *except insofar as the effects would result in quantifiable costs to the deposit insurance fund.*” (emphasis added), available <https://www.congress.gov/bill/102nd-congress/senate-bill/543/text/es>. In other words, the removal of this provision in the final bill arguably even further limits the authority of the FDIC to consider the impact of resolution methods on other banks.

<sup>83</sup> Committee on Banking, Finance and Urban Affairs, House Report on FDICIA, November 19, 1991.

<sup>84</sup> *Resolution Tasks and Approaches*, *supra* note 70 at 19.

If the failed bank has franchise or reputational value, then the benefits gained by preserving that value might also create reasons to compensate uninsured depositors. For instance, suppose that the failed bank will be purchased by another institution that will continue to operate it. If making the uninsured depositors whole (at a cost of \$10 in this example) will increase the value of the bank's assets by more than \$10, then it can be cost-effective to do so. This could occur if the failure to fully compensate uninsured depositors tarnishes the bank's reputation in a way that discourages future business, thus making the bank's intangible assets (e.g., its expectations for future revenue) less valuable.

The mere fact that a bank has some franchise value, does not, however, guarantee that a whole-bank P&A will be the least-cost resolution method. First, the alternative to a whole-bank P&A can simply be an insured deposit P&A, in which most or all of a bank's assets, plus all of its insured deposits, and potentially its uninsured deposits (after imposing losses to reflect drops in the bank's asset value) are all transferred to the acquiror.<sup>85</sup> This may preserve much of a bank's franchise value without the need to expend FDIC funds to fully compensate uninsured depositors. Second, even when comparing a whole-bank P&A to a liquidation alternative, if the whole-bank P&A does not preserve enough franchise value to make up for the added costs of reimbursing uninsured depositors, then the liquidation may still be the least-cost resolution, even though it might result in some destruction of franchise value.

If the FDIC were to use a whole-bank P&A to resolve a failed bank in a situation where it is not the most efficient resolution method, losses to the FDIC can come from several sources. First, uninsured depositors would experience a windfall and the FDIC would experience an unnecessary loss. Second, the whole-bank P&A could compensate other low priority claimants who otherwise would not have received value in another resolution mechanism. Third, the whole-bank P&A could result in windfall profits to the institution that purchases the whole-bank, something that, as discussed above, Cowan and Salotti present evidence for.<sup>86</sup>

Finally, a whole-bank P&A could lead to FDIC losses due to destruction of economic value that comes from misallocation of assets. The FDIC has acknowledged that whole-bank P&As can sometimes be inefficient because "bidders are expected to take almost all the assets even if they would prefer to take only a subset."<sup>87</sup> This can then lead bidders to submit particularly low bids to reflect the low value they assign to assets they do not want. For instance, suppose a failed bank owns \$50 of performing loans and \$50 of "troubled" loans on which borrowers are not making payments. Suppose that the performing loans are worth their face value, but the "troubled loans" are only expected to be worth \$30. A healthy bank might be willing to purchase the failed bank's performing loans and accept its deposits, but have little interest in taking on a large portfolio of troubled assets.<sup>88</sup> Thus, a healthy bank might be willing

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<sup>85</sup> For an example of such a transaction, the FDIC's 2003 annual report mentions the failure of Southern Pacific Bank, which had roughly \$1 billion in assets (\$1.7 billion in 2023 dollars) and was sold to an acquirer that accepted its "insured deposits and a large portion of its assets." See *FDIC Annual Report*, 2003, at 18, available <https://www.fdic.gov/about/financial-reports/reports/2003annualreport/ar03full.pdf>

<sup>86</sup> See Cowan and Salotti, *supra* note 22. In general, the more competitive the bidding process in an auction, the better the price the FDIC will receive, and thus the lower the profits the winning bidder will get. Conversely, if the FDIC depresses interest in bidding, then it can result in higher costs to the FDIC and larger profits for the winners. There is evidence that the FDIC strongly favors one type of transaction – whole-bank P&A – which may depress the pool of bidders who would otherwise be willing to bid on portions of a failed bank's assets in auction. See, e.g., note 126, *infra*, and accompanying text.

<sup>87</sup> *FDIC History*, *supra* note 61 at 191.

<sup>88</sup> For instance, the healthy bank might not want to tarnish its reputation with large numbers of contentious struggles to collect on delinquent loans. The healthy bank might also only have institutional capacity to pursue aggressive

to bid at most \$65 for the bank's assets as a whole. By contrast, if the FDIC could sell the failed bank's performing loans to an acquiring bank for \$50, and sell the troubled assets to an investment fund specializing in distressed debt for \$30, it could be able to recoup \$80 from the transaction.<sup>89</sup>

If the FDIC chooses a whole-bank P&A when it is not the most efficient resolution method, it can also result in allocation inefficiency if the failure occurs during a period of financial turmoil. In this case, the highest value buyers of a bank's assets may be under strain such that they cannot bid at all,<sup>90</sup> or can only submit very low bids (reflecting high risk premia), for the failed bank's assets.<sup>91</sup> By contrast, it may be possible to avoid this allocation inefficiency if the FDIC maintains ownership of a failed bank's assets until economic conditions improve and then sells those assets.

Thus, while the prospect of preserving franchise value might appear to make a compelling argument for keeping failed banks whole, there are many circumstances in which this may not be the least-cost resolution method.

#### *iv. The Systemic Risk Exception*

Achieving the least-cost means of protecting insured depositors is not the only reason to consider making uninsured depositors whole. For instance, suppose that there is a substantial risk that if uninsured depositors of a given failed bank experience losses, then uninsured depositors of other banks will panic and run, thereby leading to more bank failures and greater economic losses. In this case, it might be socially optimal to rescue the uninsured depositors of a given failed bank, even if doing so is more costly than other methods of protecting that bank's uninsured depositors. To be clear, just because losses by uninsured depositors might spark a destructive run does not in and of itself mean that it is optimal to rescue those depositors. The harm from the run would need to be worse than the added costs of rescuing the uninsured depositors, plus the added risks to future financial stability if the rescue worsens moral hazard.

To balance these concerns, Congress created the Systemic Risk Exception (SRE) to the least-cost resolution requirement. The SRE allows the FDIC to deviate from least-cost resolution (for instance, by making uninsured depositors whole) if concerns of systemic risk demand it. To invoke the SRE, the FDIC must secure the support of 2/3 of the board of the FDIC, 2/3 the board of the Federal Reserve, and the Secretary of the Treasury, in consultation with the President of the United States.<sup>92</sup> Since the President can replace the Secretary of the Treasury at will,<sup>93</sup> this in essence requires the approval of the US President.

Congress appears to have succeeded in ensuring that the SRE is not something that is invoked lightly. Since the SRE was created in 1991, it has only been invoked twice to rescue uninsured depositors at failed banks: Silicon Valley Bank and Signature Bank, with both rescues

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collection actions against a set number of borrowers at one time, necessitating challenging organizational adaptation if it takes on a large portfolio of troubled assets.

<sup>89</sup> *FDIC History*, *supra* note 61 at 191 (noting that the highest-value purchaser of a bank's troubled assets may well not be the highest-value purchaser of a bank's healthy assets).

<sup>90</sup> See Granja et al, *supra* note 20.

<sup>91</sup> Cowan and Solotti, *supra* note 22. See also Bennett and Unal, *supra* note 18, and Viral Acharya and Tanju Yorulmazer, *Cash-in-the-Market Pricing and Optimal Resolution of Bank Failures*, *Review of Financial Studies*, vol 21.6 (2008).

<sup>92</sup> 12 U.S. Code § 1823(c)(4)(G).

<sup>93</sup> *Myers v. United States*, 272 U.S. 52; *Seila L. LLC v. Consumer Fin. Prot. Bureau*, 140 S. Ct. 2183 (2020).



occurring in 2023.<sup>94</sup> During the 2008 financial crisis, the SRE was invoked only three times: once to establish a program of industry-wide support,<sup>95</sup> once to support a bank that ultimately declined the support,<sup>96</sup> and once to provide proactive support to Citigroup to prevent it from failing.<sup>97</sup>

Furthermore, after the 2008 crisis, as part of the Dodd-Frank Act, Congress restricted the use of the SRE to specific institutions that have already failed, preventing future usage of the SRE to prevent an institution from failing,<sup>98</sup> or for industry-wide support.<sup>99</sup> Thus, Congress appears willing and able to step in to curtail the FDIC's use of the SRE when it considers such usage has slipped too far in the direction of contributing to moral hazard or accumulating excessive costs.

## II. The Deposit Insurance Cycle

In this Part, I demonstrate that the strictness with which the FDIC imposes losses on uninsured depositors of failed banks has followed a pendulum pattern. The FDIC repeatedly moves towards greater uninsured depositor rescues, only to be reined in by Congress each time. I argue that this sets the foundation for understanding the FDIC's recent moves to protect uninsured depositors in nearly every bank failure since 2008.

To the extent that such uninsured depositor rescues add to the FDIC's costs of resolution, I describe them as a type of "mission creep" by the FDIC, since they represent ventures beyond

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<sup>94</sup> Neither the FDIC nor any other sources, to my knowledge, maintain authoritative lists of instances in which the SRE is invoked. Therefore, to identify a comprehensive list of SRE invocations, I proceed as follows. 12 U.S. Code §1823(c)(G)(iv) requires the GAO to review each determination of the Secretary of the Treasury to approve use of the SRE. I thus use Lexis to search all GAO reports for the text "Systemic Risk Exception." This yields two relevant results: Government Accountability Office, *Regulators' Use of Systemic Risk Exception Raises Moral Hazard Concerns and Opportunities Exist to Clarify the Provision*, April 2010) available <https://www.gao.gov/assets/gao-10-100.pdf> [Hereinafter *GAO Moral Hazard*]; Government Accountability Office, *Preliminary Review of Agency Actions Related to March 2023 Bank Failures*, April 2023, available <https://www.gao.gov/assets/gao-23-106736.pdf>

<sup>95</sup> This was the Temporary Liquidity Guarantee Program (TLGP). It guaranteed certain new debt issued by financial institutions, and temporarily expanded deposit insurance to cover unlimited balances in non-interest-bearing transaction accounts. *GAO Moral Hazard*, *supra* note 94, at 2.

<sup>96</sup> The bank in question was Wachovia. The SRE was approved for use in guaranteeing some of its assets to assist a sale to Citigroup. But Wells Fargo instead purchased the bank without requiring any FDIC guarantee. *GAO Moral Hazard*, *supra* note 94, at 15.

<sup>97</sup> The support included an insurance agreement whereby the FDIC agreed to absorb losses beyond a certain threshold on a pool of mortgage assets owned by Citi. Losses on the pool of assets ended up being far less than the threshold that would have triggered FDIC losses, and Citi terminated the agreement less than a year after entering into it. *GAO Moral Hazard*, *supra* note 94, at 26-27. The FDIC also made two other announcements of plans to use the SRE that never received approval from the Secretary of the Treasury. This does not appear to be due to a decision to reject the invocation, but rather because the assistance was not needed. For one of these instances, the FDIC proposed a support for Bank of America that was similar to the asset guarantees that it provided to Citigroup. The terms of this agreement were never finalized, however, and Bank of America later formally terminated it. *GAO Moral Hazard*, *supra* note 94, at 10. For the other instance, the FDIC proposed a Public Private Investment Program (PPIP) to support for legacy loans, but the program never moved beyond the pilot stage. See Congressional Research Service, *Bank Failures: The FDIC's Systemic Risk Exception*, April 11, 2023, available <https://crsreports.congress.gov/product/pdf/IF/IF12378> noting that the FDIC made five announcements during the financial crisis regarding use of the SRE, but only three of these were approved by the Secretary of the Treasury.

<sup>98</sup> Dodd-Frank, §1106(b), codified 12 U.S.C. §1823(c)(G)(i)(I).

<sup>99</sup> Dodd-Frank, §1104-5, codified 12 U.S.C. §5612, does allow the FDIC to design programs of broad-based market support to assist institutions that have not yet failed. But, these must now be approved via a joint resolution of Congress, which essentially requires Congress to pass a new law authorizing them.



the core mission of the FDIC and the Deposit Insurance Fund, which exist to protect insured depositors. I begin by reviewing theoretical reasons why the political economy of the FDIC may lead to mission creep. I then present historical evidence that appears to illustrate mission creep occurring twice in the past, only to be reined in by Congress each time.

a. The Political Economy of the FDIC

The FDIC may have incentives to rescue uninsured depositors via a whole-bank P&A, even if it is not the least-cost option, because such a transaction is simpler and easier for FDIC staff than other resolution options.<sup>100</sup>

Beyond this, the moral hazard costs of uninsured depositor rescues are uncertain and manifest only in the future, whereas the benefits of preventing runs are more immediate and tangible. By rescuing uninsured depositors, FDIC officials avoid the risk of being criticized for sparking a crisis in the near-term,<sup>101</sup> whereas those officials may well have left their positions before the risks of future crises materialize. Similarly, the benefits of rescuing uninsured depositors are concentrated, but the costs are diffuse.<sup>102</sup> Thus, the FDIC may come under significant criticism from those who lose money in a bank failure, but may receive little credit for using a more efficient resolution method that reduces the need for future premia charged by the DIF. There is no guarantee that the SRE procedure, requiring accountability from higher-level political actors such as the President and Secretary of the Treasury, will fully resolve these political economy dilemmas. But, those actors are more likely to face direct political backlash if their actions in approving a Systemic Risk Exception are viewed as fiscally unwise or as contributing too much to moral hazard.<sup>103</sup> The rarity with which the SRE is invoked lends credence to the constraints these higher-level officials feel.

Whole-bank P&As, which rescue uninsured depositors, may also be appealing to the FDIC for other reasons that are not socially optimal. This is because a whole-bank P&A can better shield the FDIC from criticism, including unfair criticism, for mismanaging failed banks' assets. The protection from criticism stems from the fact that whole-bank P&A makes it almost impossible to prove, ex-post, that the FDIC chose the more costly of two resolution mechanisms.

To illustrate this, suppose for simplicity that a failed bank has only insured deposits, and the value of these is \$100. The bank's assets are of uncertain value. Suppose the FDIC receives a whole-bank P&A bid in which the bidder will accept all the failed bank's assets and liabilities in exchange for a single up-front payment from the FDIC of \$10. Thus, the whole-bank P&A offers the FDIC certainty that resolution costs will be \$10. Suppose the other option for the FDIC is an insured deposit payout. For the deposit payout, the FDIC believes it has a 50% chance of selling

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<sup>100</sup> See discussion in Part IV.c, *infra*.

<sup>101</sup> Such a crisis could be particularly embarrassing to the FDIC if it suggests that there were shortcomings in the FDIC's work as a prudential supervisor to banks.

<sup>102</sup> Mancur Olson, *The Logic of Collective Action: Public Goods and the Theory of Groups*, Harvard University Press (1965).

<sup>103</sup> For instance, according to accounts of unnamed sources involved in the decision-making, although President Biden ultimately approved the SRE designations to rescue uninsured depositors at Silicon Valley Bank and Signature Bank, he was very reluctant to do so for fear of being criticized, as Barack Obama had been, for bailing out banks. See Adam Cancryn, Ben White, and Victoria Guida, *How Biden saved Silicon Valley startups: Inside the 72 Hours that Transformed U.S. Banking*, Politico (March 13, 2023), available <https://www.politico.com/news/2023/03/13/the-emergency-bank-rescue-that-almost-didnt-happen-72-hours-00086868> [<https://perma.cc/PM5A-UQGE>].

the failed bank's assets for \$100 (yielding resolution costs of \$0), but a 50% chance of selling the failed bank's assets for only \$85 (yielding resolution costs of \$15). In this scenario, the insured deposit payout has a \$7.50 expected resolution cost for the FDIC ( $50\% \times \$0 + 50\% \times \$15$ ). Thus, it is clearly the superior option from an ex-ante perspective. But, if the FDIC chooses the insured deposit payout and happens to incur \$15 in resolution costs, then the FDIC could be subject to the (unfair) criticism that it rejected a whole-bank P&A bid with \$10 in costs in favor of a resolution that ended up costing \$15. If the FDIC is concerned about avoiding this type of ex-post criticism, the FDIC could choose the whole-bank P&A bid, even though it is less efficient ex-ante.<sup>104</sup>

While the FDIC likely is always subject to these pressures towards uninsured depositor rescues, there may be certain conditions that make them more likely to dominate its decision-making. If it has been a relatively long time since Congress intervened to constrain uninsured depositor rescues, then the FDIC may be more inclined to drift towards them. Similarly, during periods of financial turmoil, the pressures that can lead the FDIC towards greater rescues of uninsured depositors are amplified. Both of these factors came together during the 2008 financial crisis.

#### b. Patterns of FDIC Mission Creep and Congressional Response

In this part, I show that Congress has acted twice before to rein in the FDIC when it has appeared to favor excessive amounts of uninsured depositor rescues. The history of these interventions, and why Congress has deemed them necessary, conveys two important points for understanding modern patterns of uninsured depositor rescues. First, this history provides corroborating evidence of the political economy theory that the FDIC may have incentives to favor more uninsured depositor rescues than Congress intended. Second, this history shows that uninsured depositor rescues can be reined in.

During the early years following the advent of federal deposit insurance, uninsured depositors experienced losses in most bank failures. For instance, as shown in Figure 6, uninsured depositors experienced losses in roughly 65% of bank failures between 1934 and 1940. Nevertheless, at this early point in history, there was statutory ambiguity as to whether the FDIC was required to use the most cost-effective method in resolving a failed bank.<sup>105</sup> At this

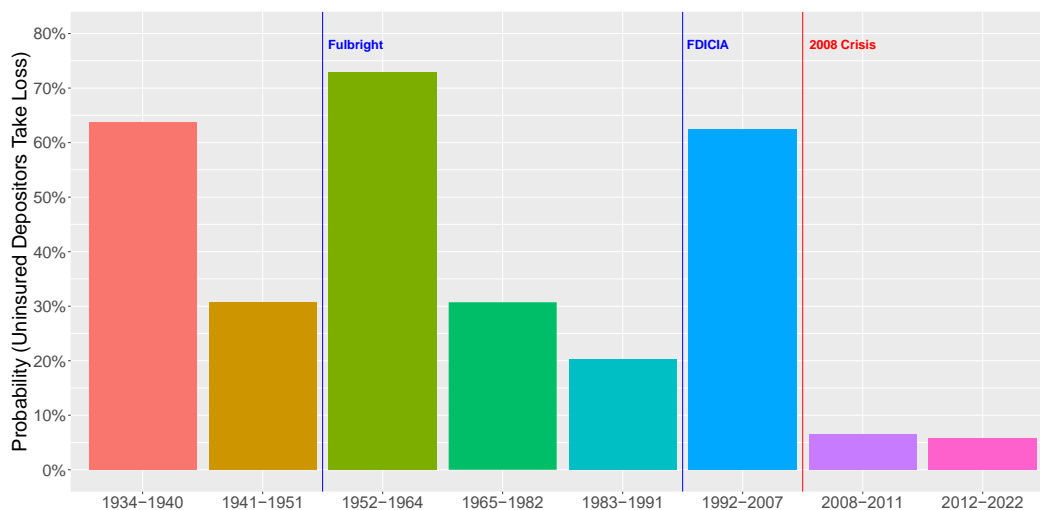
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<sup>104</sup> For computational simplicity, I use a bank in this example with only insured deposits. I show that even with all insured deposits, the FDIC's incentives could lead it to inefficiently choose a whole-bank P&A. The effect could be even stronger for a bank with uninsured deposits. Likewise, the same principles here can lead the FDIC to prefer a whole-bank P&A to an insured-deposit P&A in which the FDIC retains at least some of the failed bank's assets.

<sup>105</sup> FDIC, *The First Fifty Years, A History of the FDIC 1933-1983*, at 86-87, available <https://www.fdic.gov/resources/publications/first-fifty-years/book/first-fifty-years.pdf> [https://perma.cc/E83L-VZDR] [hereinafter *First Fifty Years*]. The ambiguity centered around language first added by the Banking Act of 1935, and later affirmed by subsequent statutes. This language stated that "Whenever in the judgment of the board of directors such action *will reduce the risk or avert a threatened loss to the Corporation* and will facilitate a merger or consolidation of an insured bank ... the Corporation may purchase any ... assets or may guarantee any other insured bank against loss by reason of its assuming the liabilities and purchasing the assets of an open or closed insured bank." (emphasis added). 12 U.S.C. §264(n)(4) – 1940 codification. Senator Fulbright interpreted this to mean that the FDIC could only protect uninsured depositors by facilitating a merger of a failed bank if doing so would "reduce the risk or avert a threatened loss" to the FDIC, and that this in turn required the FDIC to only facilitate such a merger if it would be less costly than an insured deposit payout. The FDIC apparently interpreted the requirements of this section to apply more narrowly, but I have not yet found details of their initial arguments in favor of their interpretation.

time, the only methods used by the FDIC were insured deposit payoffs and whole-bank or all-deposit P&As, with the former resulting in losses to uninsured depositors and the latter not.<sup>106</sup> It is unclear how the FDIC initially interpreted its statutory requirements.<sup>107</sup> By the mid 1940s, however, FDIC staff adopted an interpretation of the Banking Act of 1933 that argued it was not required to account for cost in deciding which resolution method to use.<sup>108</sup> The rates at which uninsured depositors took losses in the event of bank failures dropped dramatically, to roughly 30% over the period from 1941 through 1951. In fact, there were zero failures with uninsured depositor losses from 1945 through 1951 (Figure 7).

Figure 6: Probability of Uninsured Depositor Loss, Given Bank Failure

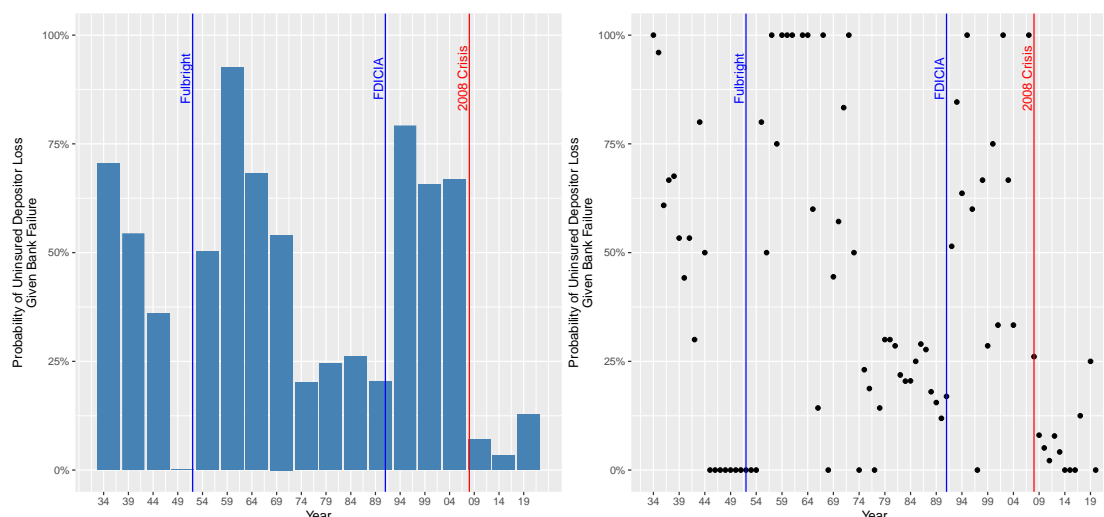


<sup>106</sup> See discussion in Part I.e, *supra*.

<sup>107</sup> I am currently conducting historical research to see if there is evidence of FDIC statutory interpretation in the years immediately following the advent of deposit insurance.

<sup>108</sup> *First Fifty Years*, *supra* note 105 at 86-87. The FDIC justified its preference for rescuing uninsured depositors in part based on an assessment that this better protected the communities in which banks operated. *Id.* The FDIC also expressed a belief that resolutions that fully compensate uninsured depositors can be more economically efficient, *id.*, but when pressed by Senator Fulbright, FDIC could produce little concrete analysis in either the case of specific banks, or for banks as a whole, justifying this asserted belief in the efficiency of resolutions that rescue uninsured depositors. U.S., Congress, Senate, Committee on Banking and Currency, *Hearings before a subcommittee of the Senate Committee on Banking and Currency on the Nominations of H. Earl Cook and Maple T. Harl to be Members of the Board of Directors of the Federal Deposit Insurance Corporation*, 82d Cong., 1st sess., Part 2, September 27 and October 1, 1951. Instead, it appears that it was not until after Sen. Fulbright's intervention that the FDIC began conducting detailed cost assessments of resolution options. *First Fifty Years*, *supra* note 104, at 86-87 (noting that after Sen. Fulbright's intervention, "Chairman Maple Harl wrote to Senator Fulbright and indicated that *in the future* the FDIC would undertake a cost calculation to determine whether an assumption would be cheaper than a pay-off" (emphasis added)).

Figure 7: Probability of Uninsured Depositor Loss (Five- and One-Year Intervals)



In 1951, however, during confirmation hearings for FDIC directors, Senator J. William Fulbright, the chair of the subcommittee overseeing the FDIC, criticized the FDIC's practice of almost always rescuing uninsured depositors, along with the FDIC's lack of analysis of costs of doing so compared to other resolution methods. In response, shortly after the new FDIC Chair, Maple Harle, was confirmed, he wrote to Sen. Fulbright to announce that the FDIC would begin calculating the cost of resolving failed banks via FDIC liquidation and via whole-bank P&A deals, and would choose the least-cost option.<sup>109</sup> Congress later codified this requirement, in 1982, specifying that the FDIC could only choose a purchase and assumption resolution if it was lower cost than an FDIC liquidation.<sup>110</sup> Following Sen. Fulbright's intervention, as Figure 6 and Figure 7 show, the rates at which uninsured depositors of failed banks took losses rebounded to well over 50%, remaining elevated until the mid 1970s.

Despite the success of Sen. Fulbright's intervention, by the time of the Savings and Loan crisis from 1983 through 1991, the rate of uninsured depositor losses had dropped dramatically, down to roughly 20%. This time, rather than the actions of one senator, Congress responded by passing new legislation: the FDIC Improvement Act of 1991, known as FDICIA.<sup>111</sup> Congress passed this explicitly because of concern that too many rescues of uninsured depositors had led to moral hazard among depositors and excessive resolution costs to the FDIC.<sup>112</sup> Prior to FDICIA, the FDIC could only use a P&A resolution if it was less costly than a liquidation. But, among different options for P&A deals that all satisfied this requirement, the FDIC could choose whichever it preferred regardless of cost.<sup>113</sup> FDICIA specified that if there are multiple options for how to conduct a P&A resolution, the FDIC must choose the least cost method among them.<sup>114</sup>

<sup>109</sup> *Id.*

<sup>110</sup> The Garn-St Germain Depository Institutions Act of 1982 (Pub Law 97-320), §111, states that in facilitating a bank merger, "No assistance shall be provided ... in an amount in excess of that . . . necessary to save the cost of liquidating."

<sup>111</sup> Pub Law 102-242.

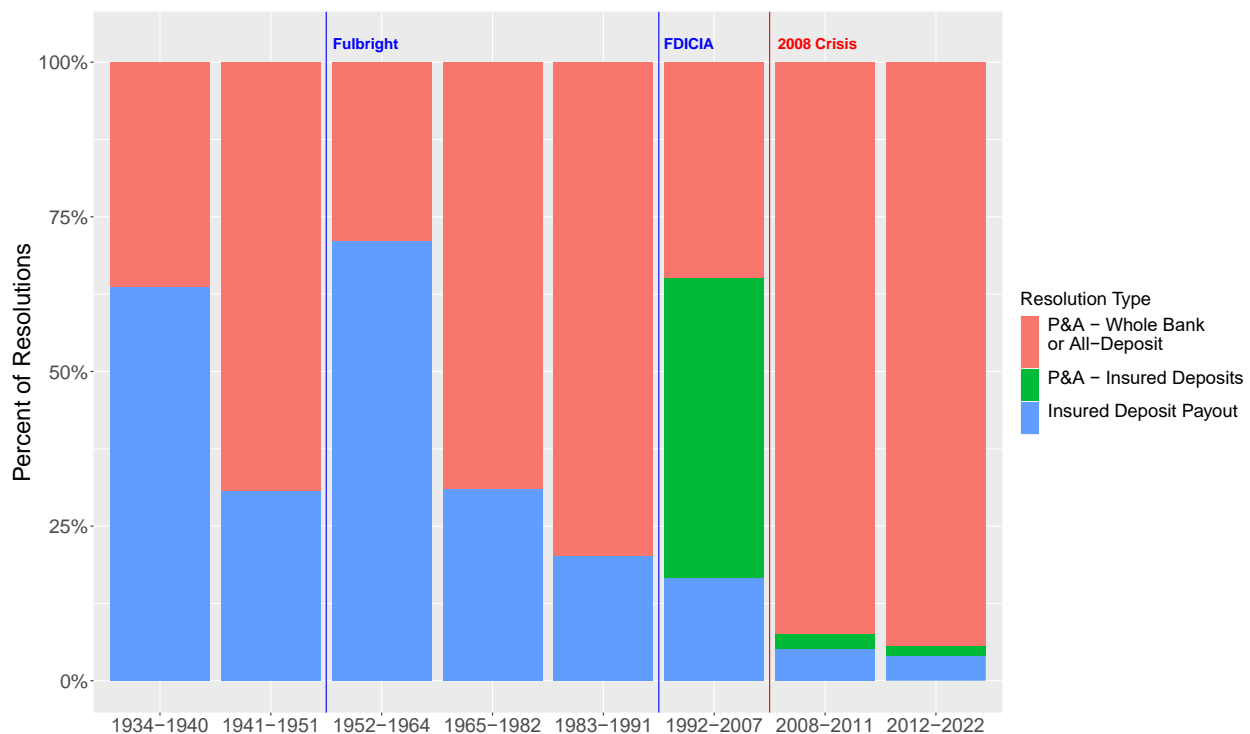
<sup>112</sup> House report on FDICIA, pp.94-95.

<sup>113</sup> Bennett and Unal, 2015, *supra* note 17 at 351.

<sup>114</sup> FDICIA, §141, codified 12 U.S.C. §1823(d).

In response to this, the FDIC began, for the first time, to allow P&A bids for just the insured deposits (plus some or all assets) of a failed bank, rather than only allowing whole-bank or all-deposit P&A transactions, as it had done throughout the rest of its history.<sup>115</sup> As FDIC economist Rosalind Bennett wrote in a paper co-authored with Haluk Unal, “[a]fter FDICIA, the FDIC gave the bidders the option to bid for either all of the deposits or for only the insured deposits *because a least-cost resolution almost always includes imposing losses on uninsured depositors.*” (emphasis added).<sup>116</sup> An FDIC staff report discussing FDICIA also seems to give credence to the political economy theories discussed above, noting that the FDIC “prefer[ed] P&A agreements (as opposed to payouts) for resolving closed banks,” but that “*the scope for acting on its preference was reduced after the LCT [least-cost test] was introduced in 1992*” (emphasis added).<sup>117</sup>

Figure 8: Resolution Types by Time Period

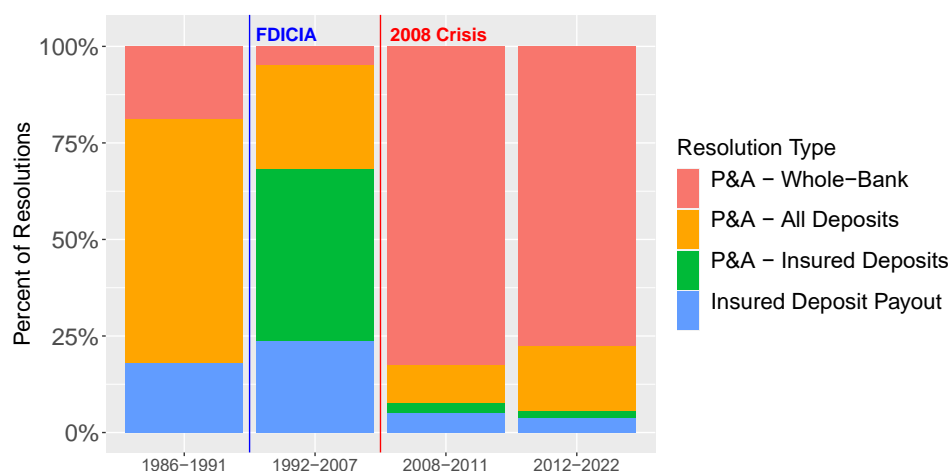


<sup>115</sup> Bennett and Unal, 2015, *supra* note 17 at 352. FDIC data also show no “Insured Deposit” P&A until 1992, after FDICIA is passed. See data description *infra*, Appendix, section a.

<sup>116</sup> Bennett and Unal, 2015, *supra* note 17 at 352.

<sup>117</sup> *Resolution Tasks and Approaches*, *supra* note 70 at 20.

Figure 9: Resolution Types – Distinguishing Whole-Bank vs. All-Deposit P&A

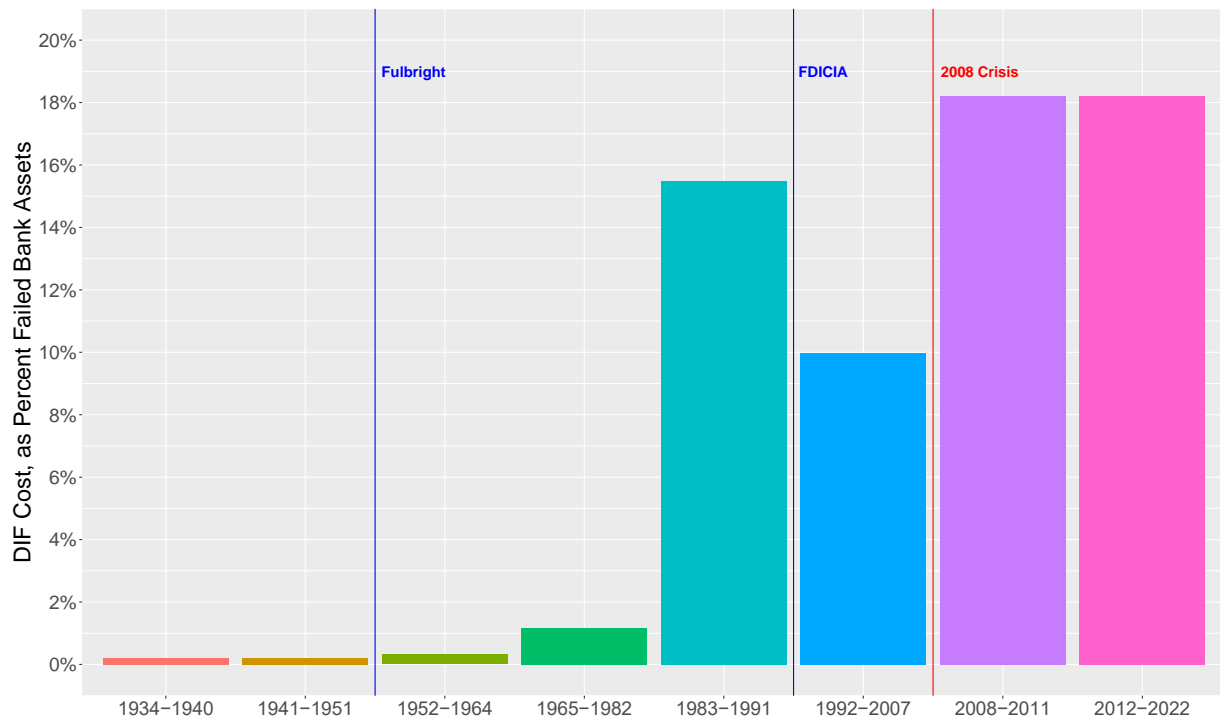


Note: data distinguishing between whole-bank and all-deposit P&As is only available from 1986 onwards.

FDICIA appears to have had a significant impact both in terms of reducing FDIC resolution costs and increasing the extent to which uninsured depositors bore losses in the event of a bank failure. As Figure 8 shows, the portion of bank failures resolved via P&A stayed roughly constant both before and after FDICIA was passed. But post-FDICIA, the rates of whole-bank and all-deposit P&As dropped dramatically (Figure 8), such that most P&A transactions fully reimbursed only insured deposits. This caused the frequency with which uninsured depositors experienced losses in the event their bank failed to increase dramatically, rising from 20-30% of the time pre-FDICIA to roughly 62% of the time post-FDICIA (Figure 6). FDIC costs dramatically declined too. As Figure 9 shows, losses to the Deposit Insurance Fund (DIF) as a percent of failed bank assets dropped, from roughly 15.5% pre-FDICIA to roughly 10% post-FDICIA.<sup>118</sup> The analyses in Part III.b, below, give additional evidence to believe that this cost reduction was caused by FDICIA's least-cost test in particular.

<sup>118</sup> One difference between Sen. Fulbright's 1951 intervention and FDICIA's changes forty years later is that there was no sharp drop in FDIC insurance fund losses after 1951. A likely reason for this is that in 1951, resolution costs were extremely low to begin with, meaning there was relatively less room for improvement on these costs. For details on the reason for these low costs, see note accompanying Figure 9.

Figure 10: DIF & BIF Losses as a Percent of Failed Bank Assets



Note: FDIC costs were very low for failed banks during the first several decades of deposit insurance. This is because US banks at the time pursued relatively safe and simple investment strategies, and the US economy as a whole was remarkably prosperous and stable.

The historical accounts of FDICIA and Sen. Fulbright’s intervention reveal three important facts that shed light on the current state of deposit insurance. First, as I discuss above, there are political economy reasons to believe that the FDIC may have incentives to rescue uninsured depositors more frequently than Congress intended. Although many factors undoubtedly influence the patterns shown in Figure 6 and Figure 9, the figures present a picture that is consistent with the notion that the FDIC’s natural tendencies are to avoid uninsured depositor losses, even when doing so is not the most cost-efficient way to protect uninsured depositors. Furthermore, the FDIC’s own statements explicitly acknowledge its preference for rescuing uninsured depositors, as seen in the FDIC’s interpretative memo from the 1940s, and from its staff report discussing the constraints imposed by FDICIA. Thus, over time, the uninsured depositor loss rate repeatedly drifts downwards, only to be revived again each new time Congress pushes for greater stringency in constraining resolution costs and moral hazard.

The second fact to be gleaned from these analyses is that reform is indeed possible. Despite the natural gravity pulling the FDIC towards uninsured depositor rescues, the US has regularly seen periods where uninsured depositor losses are the norm when banks fail. When the FDIC has strayed from this, Congress has been able to successfully intervene, even if the interventions apparently need renewal every few decades.

The third and final fact to be gleaned is that choosing the right resolution method for a given failed bank plays an important role in determining the costs of the resolution. At least

during the 1992-2007 period, it appears that the FDIC was able to generate substantial cost savings by using some whole-bank P&As, but also many insured deposit P&As.

### **III. The Recent Rise in FDIC Resolution Costs and Depositor Rescues**

I now turn from a broad historical overview of FDIC costs and resolution mechanisms to a focus on resolutions in the most recent historical periods. As I discuss in the introduction to this paper, FDIC costs have risen dramatically since 2008. From 1992-2007, the FDIC's average resolution costs equaled 10% of failed banks' assets. From 2008 onwards, average resolution costs have been 18.2% of failed banks' assets. Had the FDIC maintained the 10% cost from the prior period, resolution expenses from 2008 to 2022 would have been \$45 billion lower. To date, the FDIC has not offered any explanation for this dramatic rise in costs. At the same time as FDIC costs have dramatically risen, the probability that uninsured depositors lose money in the event of a bank failure has nearly disappeared, moving from 63% from 1992-2007 to only 6% from 2008 onwards. In this Part, I show that the rise in FDIC costs, and the parallel rise in uninsured depositor rescues, cannot be explained by either changes in the characteristics of failed banks, or by the 2008 financial crisis. In Part IV, I offer positive hypothesis for what I believe can explain the dramatic rise in FDIC costs.

#### **a. Do Bank Characteristics Explain the Rise in Costs and Depositor Rescues?**

In this section, I use regression analyses to examine whether changes in the characteristics of failed banks, or the pool of available bidders, can explain the rise in FDIC resolution costs and the prevalence of uninsured depositor rescues. In particular, I use linear regressions to predict FDIC losses, as a percent of failed bank assets, and I use logistic regressions to predict the probability that uninsured depositors will lose money in a bank that has failed. I use a suite of control variables in these regressions that measure failed banks' asset quality, amount of insured and uninsured deposits, and the pool of potential bidders. These controls are based on those used in existing literature on FDIC resolution costs. I describe the controls in more detail in the Appendix, section b.

Table 3 presents the regression analyses, and section c of the Appendix provides robustness results across variations on the main specifications. The results in Table 3 use data on all failures of FDIC-insured banks from 1992 (when the least-cost test was first introduced) through 2022. The key predictor variables are indicators for the 2008-2011 period, and for the 2012-2022 period. Thus, the analyses are testing whether these periods are significantly different from the 1992-2007 period, even after controlling for a host of observable characteristics of failed banks. The first two columns of Table 3 show the results of a linear regression to predict FDIC losses (as a percent of failed bank assets). These regressions are weighted by total bank assets. The latter two columns show the results of a logistic regression to predict the likelihood that uninsured depositors will experience a loss. These regressions are weighted by total uninsured deposits.<sup>119</sup> All regressions use robust standard errors clustered by year.

The first column of Table 3 shows an 8.2\*\*\* percentage point increase in FDIC losses in both the 2008-2011 and 2012-2022 periods, which mirrors the basic summary statistics in Table 1 (and Figure 9). The second column of Table 3 adds control variables and shows that the effects

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<sup>119</sup> A small and relatively consistent proportion of banks (roughly 5%) in each period have no uninsured deposits at the time of failure. Thus, they are omitted from these regressions.



associated with the 2008-2011 and 2012-2022 periods get even more pronounced. In particular, the coefficient estimates rise, indicating 12.6\*\*\* and 10.9\*\*\* percentage point increases in FDIC resolution costs in the 2008-2011 and 2012-2022 periods, respectively. At least one key driver of this is the fact that, as shown in Table 1, failed banks from 2008 onwards have had meaningfully higher capital ratios than failed banks in the earlier period. In general, a higher capital ratio at the time of failure should reduce FDIC losses, since there is more shareholder wealth to serve as a loss-absorbing buffer. So, for FDIC losses to instead increase is more surprising, and this is reflected by the fact that the coefficient estimates for the 2008-2011 and 2012-2022 periods rise after including controls such as capital ratios.

Turning to the probability of uninsured depositor losses in the third and fourth columns of Table 3, we see large negative coefficients associated with the 2008-2011 and 2012-2022 periods, indicating that the likelihood of uninsured depositor losses has significantly dropped in these later periods, even after controlling for bank characteristics. Adding control variables modestly diminishes the size of the coefficients in columns three and four, but they remain very large and statistically significant.

To the best of my knowledge, the FDIC has not offered any convincing explanation<sup>120</sup> for the rise of uninsured depositor rescues. In one recent publication on options for deposit insurance reform, the FDIC speculates that the dramatic drop in uninsured depositor losses, “may reflect differences in deposit insurance coverage [in 2008-2022 time period]: with higher insurance coverage, paying out insured depositors became a more costly resolution option,”<sup>121</sup>. Put another way, if there are a small enough number of uninsured depositors, then there is little value to be gained from imposing losses on them. Yet, as Table 3 shows, even after controlling for insured and uninsured deposits, there is still a very large reduction in the probability of uninsured depositor losses in the 2008-2011 and 2012-2022 periods. This finding is not surprising. As Figure 4 shows, there has been relatively little change in the inflation adjusted value of deposit insurance between time periods, and as

Table 1 shows, the amount of insured deposits in failed banks has likewise not fluctuated substantially.

Overall, the results of these analyses suggest that it is difficult to explain the recent, dramatic changes in FDIC costs and uninsured rescues based on observable characteristics of banks or the pool of potential bidders. In the next section, I investigate whether less observable aspects of the 2008 financial crisis might explain changes in FDIC resolutions.

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<sup>120</sup> The FDIC has offered several theories for the rise of whole-bank P&As (which make uninsured depositors whole) during the financial crisis. I discuss these in notes 129 to 138, *infra*, and accompanying text, and in Part IV.c and Appendix, section e, *infra*. I show that the reasoning to support the rise of whole-bank P&As is questionable, and in any event, is unable to explain why whole-bank P&As would persist past the end of the 2008 financial crisis.

<sup>121</sup> *Options for Deposit Insurance Reform*, *supra* note 6, at 22.

Table 3: FDIC Losses & Probability of Uninsured Depositor Losses

	<i>Dependent variable:</i>			
	FDIC Loss as Percent Total Assets		Prob(Uninsured Loss)	
	(1)	(2)	(3)	(4)
2008-2011	0.082*** t = 2.952	0.126*** t = 7.573	-2.032*** t = -2.863	-1.927*** t = -5.403
2012-2022	0.082*** t = 3.576	0.109*** t = 3.612	-4.319*** t = -6.606	-3.095*** t = -4.357
Log (Total Assets)		-3.830*** t = -3.931		-23.323*** t = -3.332
Log (Total Assets) <sup>2</sup>		1.033*** t = 4.828		8.546*** t = 2.914
Insured Deposits, % Total Assets		-0.158** t = -2.067		-1.724 t = -0.742
Uninsured Deposits, % Total Assets		-0.072 t = -0.373		-2.191 t = -0.652
Tier 1 Leverage Ratio (T1LR)		-0.633** t = -2.279		4.860* t = 1.891
Non-Current Assets, % Total Assets		0.546*** t = 3.107		0.667 t = 0.411
Other Real Estate Owned, % Total Assets		0.549*** t = 4.523		5.874 t = 1.280
Income Earned Not Collected, % Total Assets		11.089*** t = 2.771		-52.395 t = -0.542
Brokered Deposits, % Total Assets		0.251*** t = 3.459		3.791*** t = 3.177
log(N Eligible Acquirer + 1)		0.108* t = 1.824		1.808*** t = 5.253
log(N Very Eligible Acquirer + 1)		-0.153*** t = -3.329		-2.076*** t = -5.999
Weight by Adjusted / Psuedo R <sup>2</sup> Observations	Total Assets 0.047 759	Total Assets 0.514 759	Uninsured Deposits 0.014 695	Uninsured Deposits 0.034 695

Note:

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
(Robust t statistics below coefficients, clustering by year)

#### b. Can the 2008 Financial Crisis Explain the Rise in FDIC Resolution Costs?

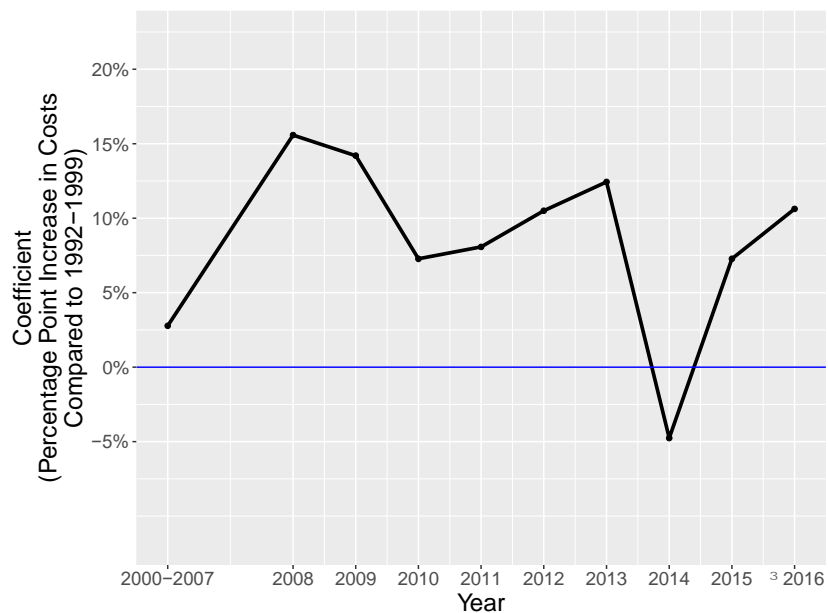
In this section, I examine whether the 2008 financial crisis might explain the recent rise in FDIC costs. First, I note that while the 2008 financial crisis obviously led to a large increase in the number of banks failing, because I measure costs as a percent of failed bank assets, an increase in number of failed banks need not increase costs as I measure them. In other words, much of the way the 2008 crisis contributed to costs is already accounted for by the way I measure those costs.

Beyond this, many of the ways one would anticipate the financial crisis impacting FDIC resolution costs can already be explicitly controlled for in regressions. For instance, a financial crisis may deplete the availability of eligible bidders for a failed bank's assets, and it may cause

bank asset quality to drop. Table 3 shows that these factors are indeed highly predictive of FDIC costs: when I add them to the regression, the adjusted  $R^2$  moves from 0.047 in column (1) to 0.514 in column (2). Yet, Table 3 also shows that a large increase in FDIC resolution costs persists, even after explicitly controlling for these factors. This result may be relatively intuitive. If, for instance, bank supervisors intervene to shut down troubled banks once asset losses have reduced their capital to a consistent threshold, then even though a financial crisis may increase the number of failed banks, it may not necessarily affect their asset quality at the time of failure.

Another reason it is difficult for the 2008 financial crisis to explain rising FDIC costs is that elevated costs persist well past the end of the financial crisis. As Table 3 shows, the rise in costs in the 2012-2022 period is nearly as large as that in 2008-2011 period. Furthermore, this result is not simply an artifact of the time windows I selected. To illustrate this, I run a regression identical to that of model (2) in Table 3, but rather than use indicators for just two separate periods (2008-2011 and 2012-2022), I use coefficient estimates for each year from 2008 through 2015, and then a final indicator for all resolutions from 2016 through 2022. I plot the yearly coefficient estimates from this in Figure 11. Each of these coefficient estimates measures the elevation, in percentage points, of FDIC costs compared to the base rate from 1992-2007. While the plot shows a drop in costs for a single year, 2014, all other coefficient estimates in Figure 11 show costs elevated by roughly 7.5 percentage points or more compared to the 1992-2007 period. Given that the base rate of costs in 1992-2007 was 10%, each yearly coefficient represents a near doubling of FDIC costs, or more. At most, Figure 11 might show a very minor trend of reduced costs post-crisis, but even this is far from obvious.

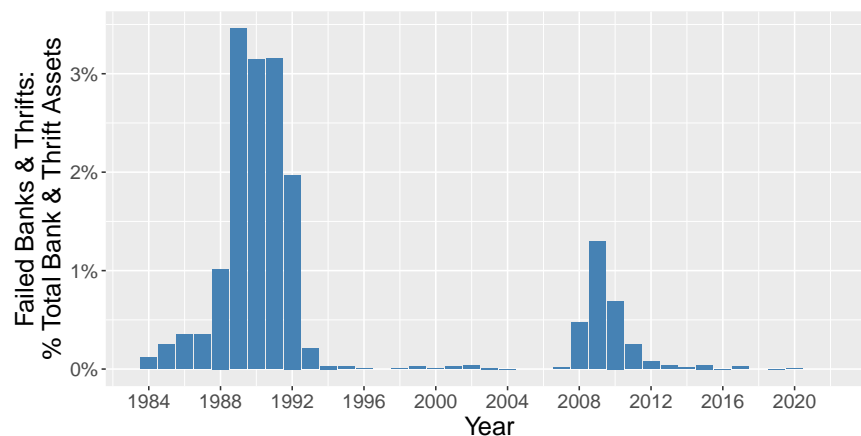
Figure 11: Yearly Coefficient Estimates in FDIC Cost Regression



A further reason to doubt that the 2008 crisis can explain a significant amount of the FDIC's growth in resolution costs comes from the experience with the country's prior banking crisis, from the mid 1980s through the early 1990s. This crisis shows that it is possible to have low resolution costs during a financial crisis, but only if the FDIC vigorously pursues cost-effective resolution techniques.

The crisis in the 1980s and early 1990s had fewer spillovers to the broader economy than the 2008 crisis, yet it was still a serious banking crisis. For instance, as Figure 9 shows, from 1983 through 1991 FDIC costs (as a percent of failed bank assets) were roughly 16% - nearly as high as the 18.2% average costs during the crisis that began in 2008. Furthermore, as Figure 12 shows, total assets of failed banks and thrifts, as a percent of total banks and thrifts, were much higher in the 1980s and early 1990s, than they were in the crisis that began in 2008. Yet, despite this seemingly severe crisis, and the high resolution costs from 1983-1991, when the FDIC began, in 1992, to use the least-cost-test as required by FDICIA, FDIC resolution costs dropped to only 8% of failed bank assets. This suggests that high resolution costs need not always accompany serious banking crises.

Figure 12: Failed Bank and Thrift Assets as a Percent of Total Bank and Thrift Assets



One might wonder whether the lower costs in 1992 were due to that year occurring towards the tail end of the banking crisis. Yet, 1992 was still a year of serious stress on the financial system. For instance, more banks and thrifts failed in 1992, as a percent of total bank and thrift assets, than in all of 2008 and 2009 combined.<sup>122</sup>

To further disentangle whether the low costs in 1992 were due to FDICIA's introduction of the least-cost test, or due to lesser severity of the banking crisis at that point, Table 4 conducts a series of analyses of how FDIC resolution costs changed in time windows very close to the passage of FDICIA. Each column of Table 4 presents the results of a linear regression to predict the FDIC's resolution costs as a percent of a failed bank's assets. All regressions use the suite of control variables included in Table 3 and discussed above. Each regression also includes an indicator variable for the Post-FDICIA period, which begins on January 1, 1992, when the FDIC first became subject to the least-cost requirement. Importantly, the FDIC did not begin to implement other key provisions of FDICIA, such as Prompt Correct Action, until 1993.<sup>123</sup>

The first column of Table 4 compares the year prior to the enactment of the least-cost test to the year following it. It measures a 5.6\*\*\* percentage point drop in resolution costs in the one-year period following the introduction of the least-cost requirement. The second column of Table

<sup>122</sup> Failed bank and thrift assets equaled 3.15% of total bank and thrift assets in 1991, and in 1992, the figure was 1.97%. By comparison, for 2008-2009, total failed bank and thrift assets equaled only 1.77% of total bank and thrift assets, and for all of 2008-2013, the figure was 2.83%. Data on total bank and thrift assets are from the FDIC's BankFind Suite, discussed in the Appendix.

<sup>123</sup> <https://home.treasury.gov/news/press-releases/rr1417>

4 repeats this exercise, using 6-month intervals on either side of the enactment of least-cost resolution. This shows a 2.5 percentage point reduction, though it is not statistically significant. The third column accounts for the fact that although the FDIC was required to begin using least-cost resolution principles on January 1, 1992, it appears to have taken some time to fully adjust the FDIC's resolution practices. For instance, in the first three months of 1992, the FDIC used only 2 insured-deposit P&A deals, out of 35 total resolutions (5.7%), whereas over the second half of 1992, the FDIC used 31 insured deposit P&As, out of 65 total resolutions (48%). Thus, the third column of Table 4 compares the second half of 1991 (immediately prior to the enactment of the least-cost requirement) to the second half of 1992 (the seventh through twelve months following the enactment of the requirement). It shows a 7.9\*\*\* percentage point reduction in FDIC costs associated with the enactment of the least-cost resolution requirement. The fourth column repeats this exercise, comparing the six months prior to FDICIA (the second half of 1991) with the second half of 1992 through 1993, and finds a 7.7\*\*\* percentage point reduction in FDIC costs.

Table 4: FDIC Resolution Costs, Pre- and Post-FDICIA

	<i>Dependent variable:</i>			
	1-Year Pre/Post	6-Months Pre/Post	FDIC Loss as Percent Total Assets 6-Months Pre v. 7-12 Months Post	6-Months Pre v. 7-24 Months Post
	(1)	(2)	(3)	(4)
Post-FDICIA	-0.056*** (0.0001)	-0.025 (0.017)	-0.079*** (0.015)	-0.077*** (0.021)
Controls from Table 3	yes	yes	yes	yes
Observations	244	127	115	158
Adjusted R <sup>2</sup>	0.748	0.857	0.875	0.838

Note:

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
(Robust standard errors below coefficients, clustering by year)

A final concern with these analyses is that 1992 occurred towards the end of the banking crisis of the 1980s and early 1990s. Thus, it is possible that the results in Table 4 reflect costs that were already trending downwards as the crisis tapered off. To address this possibility, Figure 13 repeats the analyses from model (3) of Table 4, but computes yearly coefficient estimates extending back four years prior to the advent of the least-cost requirement.<sup>124</sup> Here, the base level for the yearly factor variable is set to 1991, the year prior to the least-cost test's advent. The results show no evidence that FDICIA was passed at a time when FDIC resolution costs were already trending downwards.

<sup>124</sup> The one difference in the analysis is that the controls in Table 3 that measure the number of potential acquirers depend on values of risk-weighted assets, and these were not available prior to 1990. Thus, I omit those controls.

Figure 13: Pre/Post FDICIA Resolution Costs, Yearly Coefficient Estimates



Overall, the analyses in this section suggest that it is difficult to attribute much, if any, of the FDIC's elevated costs to the 2008 financial crisis. While the crisis obviously increased the number of bank failures, and thus the dollar value of FDIC costs, there is little evidence that the rise in FDIC costs as a percent of total failed bank assets can be attributed to the crisis. First, I show that many of the ways that the crisis would potentially impact costs are already explicitly controlled for in my regressions to predict costs. Second, I show that FDIC costs remain substantially elevated well past the end of the financial crisis, and there is at most tenuous evidence of a minor reduction in those costs after the end of the crisis.

Finally, I show that in 1992, during the last banking crisis, FDIC costs, as a percent of failed bank assets, were quite low. This belies the notion that financial crises need always increase FDIC costs measured as a percent of failed bank assets. Furthermore, my analyses suggest that those costs in 1992 were not low simply because the prior banking crisis may have been less severe than the 2008 crisis. Indeed, for much of the crisis in the 1980s and early 1990s, FDIC resolution costs were comparable to those from 2008 onwards. Instead, the evidence suggests that costs were low in 1992 in large part due to the advent of the least-cost requirement.

Interestingly, the results in Table 4 suggest that introducing that requirement reduced FDIC costs by roughly five to eight percentage points, which roughly matches the magnitude of cost increases the FDIC experienced in 2008. This in turn raises the possibility that the high FDIC costs that began in 2008 may be attributable more towards a de facto abandonment of that least-cost test, rather than by the advent of the financial crisis. In Part IV.a, below, I examine that possibility in greater depth.

#### IV. What Can Explain Changes in FDIC Costs and Depositor Rescues?

##### a. FDIC Mission Creep?

This historical analyses in Part II.b show that there is precedent for the FDIC being led, through mission creep, to rescue uninsured depositors even when this increases resolution costs for the FDIC. In this section, I present contemporary evidence that mission creep may explain

the recent rise in FDIC costs and uninsured depositor rescues. Although none of this evidence can conclusively prove this is the case, there is good reason to believe that this is the best explanation currently available.

*i. Statements by FDIC and Staff*

The first and in some respects most direct reason to believe that the FDIC has developed a preference for rescuing uninsured depositors, even when it is not least cost, comes from the FDIC's own statements. For instance, despite recognizing the potential inefficiencies in whole-bank P&A discussed in Part I.e,<sup>125</sup> the FDIC acknowledged that "by the middle of 2009, whole bank [P&A] with loss share became the dominant FDIC franchise marketing option, *and often the only one offered to potential acquirers*" (emphasis added).<sup>126</sup> For the FDIC to make a categorical decision such as this to favor whole-bank P&A is difficult to square with a careful, case-by-case application of least-cost analysis.<sup>127</sup> This echoes the quote I discuss in Part XX, above, that acknowledges that FDICIA's least-cost test reduced the FDIC's "scope for acting on its preference," for whole-bank P&A (which rescue uninsured depositors).<sup>128</sup>

FDIC staff reports suggest that the FDIC at times favored whole-bank P&As because of a belief that "a quick sale was advantageous ... because of its effect on long-term financial stability."<sup>129</sup> This preference for quick sales drew on a theory by John Bovenzi, the FDIC's Chief Operating Officer during the financial crisis, that failing to immediately sell assets of failed banks could contribute to a "lost decade" as had occurred in Japan.<sup>130</sup> According to this theory, if the FDIC retained significant assets for later sale, it could depress markets throughout the economy, due to anticipation of future price drops that could occur when the FDIC eventually sold those assets.<sup>131</sup>

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<sup>125</sup> See *supra*, notes 85 to 91 and accompanying text.

<sup>126</sup> *FDIC History*, *supra* note 61 at 195.

<sup>127</sup> As I discuss in notes 72 to 74 *supra*, and accompanying text, bidders are allowed to submit non-conforming bids, but there are clear disincentives to do so.

<sup>128</sup> *Supra* note 117.

<sup>129</sup> *Resolution Tasks and Approaches*, *supra* note 70 at 21.

<sup>130</sup> *Id.* at 21 ("Senior FDIC staff believed that a quick sale was advantageous to the FDIC because of its effect on long-term financial stability and operational simplicity.") The publication does not explicitly name the "Senior FDIC staff," but this quoted passage includes a citation to a book written by John Bovenzi, former COO of the FDIC, in which he discusses the importance of selling failed bank assets quickly in order to prevent a "lost decade," as in Japan. Thus, this leaves little doubt about the identity of the "Senior FDIC staff," or the reasoning behind the decision. For the book and page numbers cited by the FDIC report, see John Bovenzi *Inside the FDIC: Thirty Years of Bank Failures, Bailouts, and Regulatory Battles*, 2015, Wiley, p.59-60 ("There was a great deal of short-term pain [when selling off assets from failed S&Ls in the US during the 1990s], but once real estate markets hit bottom and the overhang of government-owned assets was gone, those markets quickly recovered. The experience was a striking contrast to what unfolded in Japan, which had a similar set of problems. Assets from insolvent financial institutions were held for long periods of time in the hope that economic conditions would improve, but the Japanese economy didn't recover. Instead, it suffered through two 'lost decades.'")

<sup>131</sup> *Id.* at 21, noting quick asset sales "allowed markets to recover quickly after the potential short-run drop in asset prices. Managing large volumes of assets for an extended period theoretically could mitigate short-term asset-price volatility, but it would extend the period of market disruption." See also note 132 *infra*.

Such considerations are clearly outside the scope of what the FDIC is authorized to consider, unless it invokes the Systemic Risk Exception.<sup>132</sup> Even apart from that, there are serious problems with the FDIC's reasoning that selling assets immediately was necessary for financial stability. Indeed, it seems to characterize the type of "unfocused thinking" that the Senate Banking Committee envisioned FDICIA would prevent.<sup>133</sup> For instance, if the FDIC were concerned about the "financial stability" implications of markets anticipating its eventual sale of assets, it could simply commit to hold some of them to maturity, using private servicers to collect on them, as it did for many of the assets it acquired during the financial crisis.<sup>134</sup>

Furthermore, even if the FDIC were to eventually sell the assets in the market, the magnitude of assets in question makes it doubtful that anticipation of their sale could cause the type of economic damage the FDIC said it sought to prevent. For instance, if the FDIC had followed its resolution practices from 1992-2007, it would have imposed losses on uninsured depositors at banks with roughly \$279 billion in total assets between 2008 and 2013.<sup>135</sup> Yet, the FDIC and the RTC (Resolution Trust Corporation) handled failed banks and thrifts with \$322 billion in assets, using methods that imposed losses on uninsured depositors, over a comparable period from 1988 through 1993. This certainly did not spark a "lost decade" in the United States.<sup>136</sup> Similarly, the magnitude of assets in question pales in comparison to, for instance, the roughly \$1.5 trillion in mortgage-backed securities the Federal Reserve took onto its balance sheet at this time as part of its quantitative easing program,<sup>137</sup> or the \$2.3 trillion in new mortgage originations occurring in year 2009 alone.<sup>138</sup>

The fact that the FDIC acknowledged adjusting its resolution strategy based on these "long-term financial stability" concerns, without obtaining SRE approval, suggests that the FDIC was deviating from the least-cost resolution requirements imposed by Congress. Furthermore, the fraught reasoning by the FDIC echoes the Senate banking committee's concerns about "unfocused thinking" and highlights the importance of having an independent check, through the SRE process, on FDIC theories for why it should deviate from least-cost resolution.

## *ii. Changes in FDIC Costs and Resolution Methods*

As I show in Part III, above, the rise in costs cannot be explained by observable factors or the 2008 financial crisis. Similarly, the FDIC has offered no explanation for the dramatic rise in its costs. By contrast, a move to near universal rescues of uninsured depositors would naturally be expected to increase FDIC costs, both through the transfer payments made directly to those depositors as well as through efficiency losses that can occur if the near exclusive use of whole-bank P&As results in suboptimal asset allocation.<sup>139</sup> Furthermore, the analysis of FDICIA in Part

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<sup>132</sup> If the FDIC could use concern about impact on broader asset prices to justify a resolution method for a given bank, then it would essentially neutralize the entire framework of the Systemic Risk Exception. For more details, see Part I.e., *supra*.

<sup>133</sup> See *supra*, note 82 and accompanying text.

<sup>134</sup> *FDIC History*, *supra* note 61, at 212-13.

<sup>135</sup> To compute this, I note that from 1992-2007, the total assets of banks that failed and that experienced uninsured depositor losses equaled 53% of the total assets of all banks that failed during the period. Applying this 53% to the \$529 billion in total failures from 2008-2013 yields \$279 billion.

<sup>136</sup> For additional reasoning, see Appendix, section d.

<sup>137</sup> <https://fred.stlouisfed.org/series/WMBSEC>.

<sup>138</sup> p.54 <https://www.fdic.gov/analysis/quarterly-banking-profile/fdic-quarterly/2019-vol13-4/fdic-v13n4-3q2019-article3.pdf>

<sup>139</sup> For more detail on these efficiency losses, see notes 85 to 91, *supra*, and accompanying text.



III.b suggests that a willingness by the FDIC to use resolution methods that impose losses on uninsured depositors can reduce FDIC costs by five to eight percentage points, which is of roughly the same size as the recent increase in FDIC costs that has accompanied a seemingly near-total abandonment of resolution methods that impose losses on uninsured depositors.

Similarly, as Figures 5 and 6 show, FDIC resolution methods have shifted dramatically, to essentially always favor whole-bank or all-deposit P&A deals that rescue uninsured depositors. If it was least-cost for uninsured depositors to bear losses in 63% of resolutions between 1992 and 2007, and indeed, if, as an FDIC economist herself wrote, “a least-cost resolution almost always includes imposing losses on uninsured depositors,”<sup>140</sup> then one wonders what has fundamentally changed since then to render it least-cost to impose losses in only roughly 6% of resolutions since 2008. The FDIC has not offered any convincing explanation for why its resolution methods have recently changed,<sup>141</sup> and the analyses in Part III, above, suggest that changes in observable factors cannot explain it.

By contrast, this shift in resolution methods is precisely what one would expect had the FDIC indeed experienced mission creep. Indeed, the earlier history depicted in Figure 8 suggests that dominant use of whole-bank P&As has characterized each earlier period of mission-creep (in the 1940s and 1980s), when the FDIC explicitly acknowledged that it chose resolution methods for reasons other than cost-minimization. Conversely, each time Congress has induced the FDIC to prioritize reducing resolution costs (in 1951 and 1991), the FDIC has shifted towards methods that impose losses on uninsured depositors.

Overall, this evidence is admittedly circumstantial. Nevertheless, FDIC costs and resolution methods have shifted very dramatically, and there are no other available explanations for these changes. By contrast, changes in costs and resolution methods are precisely what would be predicted by theories of mission creep.

### *iii. Conditions Currently Necessary for Uninsured Depositor Losses*

In some respects, what is even more striking than the FDIC’s shift to almost always rescue uninsured depositors, are the conditions that appear to hold in the rare instances when the FDIC does impose losses on uninsured depositors. It appears that since 2008, with only two exceptions, the only time the FDIC has ever imposed losses on uninsured depositors is when it has no other option than to do so. The FDIC generally posts on its website bids that it receives in auctions for the assets of failed banks that it resolves.<sup>142</sup> Of the 38 banks that have failed since 2008 in which uninsured depositors took a loss (out of 536 total failures), only two show that the FDIC received, and rejected, a bid for a whole-bank or all-deposit P&A that would have protected uninsured depositors.<sup>143</sup> Although the FDIC has only very limited bid information for

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<sup>140</sup> Bennet and Unal, 2015, *supra* note 17, see also *supra* note 116 and accompanying text.

<sup>141</sup> See *supra*, note 120, and accompanying text, addressing the explanations the FDIC has offered.

<sup>142</sup> There is some ambiguity because the FDIC, in response to inquiries I have made, has refused to confirm or deny whether the bid information on its website is complete. In banks that the FDIC has resolved through insured depositor payoffs or bridge banks (both of which impose losses on uninsured depositors), the FDIC lists no P&A bids as having been received. Furthermore, the leading study on bidding in FDIC auctions (Allen et al), likewise proceeds with the understanding that these resolutions did not receive any P&A bids. But, barring explicit confirmation from the FDIC, it is impossible to conclude this for certain.

<sup>143</sup> These banks are Washington Federal Bank For Savings, <https://www.fdic.gov/resources/resolutions/bank-failures/failed-bank-list/wafedbank-bid-summary.html> and The Enloe State Bank, <https://www.fdic.gov/resources/resolutions/bank-failures/failed-bank-list/enloe-bid-summary.html>

failures prior to 2008, the fact that insured-deposit P&As were so much more common during the 1992-2007 period suggests that the FDIC more frequently rejected whole-bank P&A bids during that period. If the FDIC imposes losses on uninsured depositors only when it cannot find a single whole-bank or all-deposit P&A bid, then it gives further reason to question whether its decisions are currently being guided by a rigorous implementation of the least-cost test.

*iv. Absence of Mechanisms to Prevent Mission Creep*

A final reason to be concerned about FDIC mission-creep is an absence of mechanisms to prevent mission creep, and to facilitate independent verification of the reasonableness of the FDIC's least-cost determinations. During the early 2000s, the FDIC's Office of Inspector General (OIG) reviewed failed bank resolutions with some frequency to ensure that they complied with the least-cost test requirement. Of the 27 bank failures from 2000 through 2007, at least two<sup>144</sup> (7.4%) were subjected to least-cost audits, and the OIG conducted an additional general review of the FDIC's least-cost compliance.<sup>145</sup> From 2008 to 2022, by contrast, there were 536 bank failures, with only a single least-cost audit,<sup>146</sup> which occurred in 2011.<sup>147</sup> Although one should be cautious about reading too much into this, it is at least disappointing to see the disappearance of least-cost audit reviews during the period in which FDIC resolution costs have ballooned.

Relatedly, the FDIC is strikingly secretive about its methods for determining which resolution method will be least-cost. The FDIC's website provides essentially no meaningful information on the details of the models and assumptions used to produce the necessary valuations,<sup>148</sup> and when I have contacted the FDIC to ask for further details, they have refused to provide them. (I am currently in the midst of submitting FOIA requests on the subject). The FDIC has refused to confirm or deny whether they have received any P&A bids for the bank failures that result in insured deposit payouts, thus making it impossible to verify whether, since 2008, the FDIC has *ever* rejected a P&A bid in favor an insured deposit payout. And, the FDIC does not disclose the conditions for conforming bids in FDIC auctions, which makes it difficult for the public to assess what types of resolution methods it preferentially steers bidders towards.

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<sup>144</sup> FDIC Office of Inspector General, *Least Cost Decision of Superior Bank and Liquidation of Remaining Receivership Assets*, Audit Report No. 02-002, available <https://www.fdic.gov/oig/a-rep02/02-002-508.html> [<https://perma.cc/7VT3-LTDW>] (Feb 8, 2022); FDIC Office of Inspector General, *Asset Valuation Review (AVR) Process for Sinclair National Bank*, Audit Report No. 02-017 (April 30, 2002), available <https://www.fdic.gov/oig/a-rep02/02-017-508.html> [<https://perma.cc/WXL9-EEAT>]

<sup>145</sup> FDIC Office of Inspector General, *Audit of the Least Cost Test Model*, Audit Report No. 01-025, (Dec. 13, 2001) available <https://www.lexissecureditiesmosaic.com/gateway/fdic-oig/audit-reports/01-025.pdf> [<https://perma.cc/RR45-7T6L>]

<sup>146</sup> FDIC Office of Inspector General, *The FDIC's Franchise Marketing of AmTrust Bank*, Audit Report No. 11-005, (March, 2011) available [https://www.fdicogov.gov/sites/default/files/reports/2022-08/11-005AUD\\_0.pdf](https://www.fdicogov.gov/sites/default/files/reports/2022-08/11-005AUD_0.pdf) [<https://perma.cc/ANM8-YAT6>]

<sup>147</sup> The FDIC's OIG enjoys a large amount of independence from the other portions of the FDIC. Nevertheless, OIG and FDIC are in regular communication and can collaborate on setting priorities for OIG and the FDIC.

<sup>148</sup> The FDIC produces a "resolutions handbook," but it describes in only the most general terms their procedures. For instance, the handbook states "A market value is also estimated for each asset [of a failed bank], which reflects a secondary market cash sale value representing the net present value of projected cash flows discounted at the current market investor yield for that asset type." *Resolutions Handbook*, *supra* note 68 at 11. While this might sound like an expansive explanation, it provides no meaningful detail on the specific methods and parameter estimates that will be used in the valuation, and thus no meaningful ability to check the reasonableness of the FDIC's procedures.

Remarkably, the FDIC keeps secret its valuation methodologies even from the banks that bid to acquire some or all of a failed bank's assets and liabilities. The FDIC tells bidders that it will select the least-cost bid, but it does not describe how it will estimate the costs it will accrue under different bids.<sup>149</sup> For instance, it does not specify how it estimates recoveries it will obtain on any of the bank's assets that are not purchased in an insured deposit P&A, nor how it will value different options for risk-sharing agreements.<sup>150</sup> As Jason Allen and coauthors argue, this makes it difficult for bidders to know how appealing their bids will be to the FDIC. Thus, even a motivated buyer who wants to win an auction will not know what kind of bid will be most favored by the FDIC. Allen et al. argue that this ambiguity results in significantly worse quality bids and thus higher resolution costs to the FDIC.<sup>151</sup>

One possible justification for keeping the FDIC's valuation methodologies secret is that disclosing them could enable bidders to discern the FDIC's cost of liquidating a failed bank. This in turn could lead bidders to submit bids just one dollar better than this "reservation price," for the FDIC. There are, however, challenges with this explanation. First, if the concern were to avoid conveying information to bidders in an auction, much of this could be resolved by simply releasing the FDIC's calculations some period of time after an auction has concluded. Indeed, Congress appears to have intended such a delayed release approach. FDICIA requires that the FDIC retain documentation on its valuation methodologies for five years following each bank failure, and the legislative history of FDICIA<sup>152</sup> indicates this is because Congress intended the information to be available via FOIA.<sup>153</sup> Additionally, the literature on auction theory generally does not view secrecy in reservation price to be necessary for optimal auctions,<sup>154</sup> particularly when there is an expectation for many bidders, which is typical of FDIC auctions.

To be clear, the FDIC's secrecy by no means implies a deliberate attempt to hide its operations from review. At the same time, the lack of independent verification (by either the public or the FDIC's OIG) makes it harder to maintain confidence that the FDIC's resolution practices minimize costs, and it provides fewer opportunities to correct deviations in least-cost adherence that may occur.

#### v. Summary

The analyses in this section present significant evidence that FDIC mission creep is the best available explanation for the recent rise in FDIC resolution costs and in uninsured depositor rescues. First, there is a documented history of such mission creep in the past, with the FDIC

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<sup>149</sup> *Resolving Failed Banks*, *supra* note 21.

<sup>150</sup> *Id.* The FDIC's responses to my email inquiries also confirm this.

<sup>151</sup> *Id.*

<sup>152</sup> 138 Cong. Rec. S2059-02.

<sup>153</sup> I am currently in the process of submitting FOIA requests to obtain this information.

<sup>154</sup> See, e.g., Paul Milgrom and Robert Weber, *A Theory of Auctions and Competitive Bidding*, *Econometrica* (1982); John Riley and William Samuelson, *Optimal Auctions*, *American Economic Review*, Vol. 71, No. 3 (1981). Some work on auction theory, such as Riley and Samuelson 1981, presumes that the auctioneer can set a reserve price that is more favorable to it than the auctioneer's true valuation, and shows this is an optimal strategy. It is ambiguous whether the FDIC would be statutorily permitted to do this, although there is a reasonable argument that it could, since it minimizes costs in expectation. If the FDIC were not allowed to do this, then the argument for disclosing its valuation methods would become more ambiguous. Ultimately, given the tens of billions of dollars at stake in efficient FDIC resolutions, what is needed is for the FDIC to conduct a detailed analysis of its auction strategy and to publish that analysis so it can be subjected to rigorous review. If the FDIC believes that secrecy is necessary, the public at a minimum deserves a rigorous justification, something which the FDIC has yet to provide.

twice previously acknowledging that it favored resolutions that rescue uninsured depositors, even when they are not least-cost. Second, recent statements by the FDIC and in its staff reports seem to directly confirm that the FDIC has recently used considerations other than cost in choosing resolution methods. Third, the FDIC's dramatic increase in resolution costs and near universal rescues of uninsured depositors are precisely what one would predict would occur if the FDIC were to experience mission creep, and there are no available alternative explanations for these changes. Fourth, the fact that the FDIC appears to essentially only be willing to impose losses on uninsured depositors when it fails to receive any bids for whole-bank or all-deposit P&A lends further credence to the notion of an implicit FDIC preference for rescuing uninsured depositors whenever possible. Finally, the elimination of least-cost audits by the FDIC, and the secrecy about the FDIC's calculation methods, remove channels that could otherwise help to prevent the mission-creep that history shows the FDIC is predisposed to. While none of these factors can conclusively prove that the FDIC has recently experienced mission-creep, together they make a strong case that mission-creep is the best available explanation for the dramatic changes in the FDIC's costs and resolution methods.

b. Political Demands Beyond the FDIC?

As I argue above, there are good reasons to believe that the political economy of the FDIC may lead it to favor uninsured depositor rescues, and that this incentive by the FDIC may explain recent changes in FDIC resolution behavior. Another possibility, however, is that the FDIC might simply be responding to a broader political consensus favoring uninsured depositors rescues that could extend well beyond the FDIC. If this were the case it would suggest, at a minimum, that efforts to reform FDIC practice might be a fruitless endeavor, since they would never garner sufficient support to be enacted. In this section, I investigate whether the recent rise of uninsured depositor rescues reflects new political forces beyond the FDIC that now demand that uninsured depositors never experience a loss. I find that there is little evidence of a broad consensus favoring universal uninsured depositor rescues.

The biggest reason to doubt that there is overwhelming political pressure to make uninsured depositors whole is that even in the 2008-2022 period, there are numerous instances in which uninsured depositors have not been made whole. Although the frequency of this has dramatically dropped (from uninsured depositors taking losses in 63% of failures from 1992-2007, to uninsured depositors taking losses in 6% of failures from 2008-2022), with 536 failures from 2008-2022, this still leaves a fairly large number (38 in total) of bank failures where uninsured depositors have experienced losses. Had there been an overwhelming political consensus to protect uninsured depositors in these instances, the FDIC could have (with approval from the Secretary of the Treasury, the US President, the Federal Reserve Board, and the FDIC Board), engineered rescues of the depositors under the Systemic Risk Exception (SRE). Instead, the SRE has only been invoked a handful of times to support individual banks.<sup>155</sup>

Of the failed banks where uninsured depositors took losses, many were relatively small. Indeed, it is not surprising that there would not be a sufficiently large constituency to demand each of those small banks be rescued. There have, however, also been relatively large banks to fail and see uninsured depositor losses. IndyMac was the sixth largest US bank failure in history,<sup>156</sup> with \$42 billion in inflation-adjusted assets at the time of its failure, and its uninsured

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<sup>155</sup> *Supra* notes 94 to 97 and accompanying text.

<sup>156</sup> See Appendix, section a, *infra*, for description of data.

depositors received only half of their deposits when the bank failed in 2008.<sup>157</sup> Beyond IndyMac, there were 11 other banks with \$1 billion or more in assets that failed between 2008 and 2011 and saw their uninsured depositors not made whole. These failures include Silverton Bank with \$5.9 billion in assets and Silver State bank with \$2.7 billion in assets. Thus, rather than an overwhelming political mandate to always rescue uninsured depositors, what appears to be happening, as I argue in Part IV.a, is that the FDIC will essentially always prefer to rescue uninsured depositors if it gets a whole-bank or all-deposit P&A bid, but if it does not receive any such bid, then it will still allow the resolution to proceed with uninsured depositor losses.

During the financial crisis, the FDIC did invoke the SRE to advance broader programs to preemptively support financial institutions in precarious positions.<sup>158</sup> Yet, with the Dodd-Frank Act, Congress curtailed this power, allowing the FDIC in the future to only invoke the SRE for specific institutions that already failed.<sup>159</sup> Such a move by Congress is in tension with the notion of a limitless political will to protect uninsured depositors at all costs.

A second reason to doubt that political pressures make uninsured depositor rescues unavoidable is based on historical precedent. As described in Part II.b above, the United States has regularly gone through periods in which losses to uninsured depositors are the norm, rather than the exception. Eventually, these periods end, but it appears to be through a process of gradual agency drift, rather than from dramatic public outcry to quickly put an end to losses by uninsured depositors. It is of course possible that something has now fundamentally changed in American politics, such that uninsured depositor losses are no longer politically palatable. Perhaps this could be due to traumas associated with the 2008 financial crisis. Yet, as shown in Figure 6, the populace was apparently willing to tolerate high probabilities of uninsured depositor losses, conditional on bank failure, in the immediate aftermath of the Great Depression. The Great Depression was far more destructive than the 2008 financial crisis, in that it saw losses to bank depositors more than 100 times greater than those that occurred during the 2008 crisis.<sup>160</sup> So, there is reason to doubt that political sentiment would now be dramatically less tolerant of losses to uninsured depositors than it was in the aftermath of the Great Depression.<sup>161</sup>

### c. Reduced FDIC Resolution Capacity (or Perceived Capacity)?

In this section, I consider a final possible explanation for the growth in FDIC resolution costs and uninsured depositor rescues: changes in the FDIC's capacity, or perceived capacity, to efficiently dispose of the assets of failed banks. These changes may have led the FDIC to believe that whole-bank P&As were its only viable resolution option.

One way that FDIC capacity could be limited is through staffing shortages. For instance, the FDIC acknowledges that while whole-bank P&As may be inefficient, they are faster and easier for FDIC staff to administer, and the FDIC struggled with staffing shortages during the

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<sup>157</sup> <https://closedbanks.fdic.gov/dividends/bankfind/Dividendindex?fin=10007>

<sup>158</sup> *Supra* note 95.

<sup>159</sup> *Supra* note 99.

<sup>160</sup> *First Fifty Years*, *supra* note 105 at 3 (noting \$23 billion in lost deposits, in inflation adjusted terms, from 1929 through 1933) cf. *Options for Deposit Insurance Reform*, *supra* note 6, at 22 (showing \$190 million in depositor losses, in inflation adjusted terms, from 2008 to 2022). On a per-capita basis, losses in the Great Depression would be even greater still compared to those during the 2008 crisis.

<sup>161</sup> In Part V.e, *infra*, I address the special case of very large financial institutions, and unique political considerations that accompany their potential failure.

early parts of the financial crisis,<sup>162</sup> which may have led them to select whole-bank P&As even if they were more costly.

There is at best mixed evidence in support of the notion that lack of staffing capacity materially contributed to the rise in FDIC resolution costs and uninsured depositor rescues. According to the FDIC, staffing in the Division of Resolutions and Receivership increased from 219 in 2007 to 2,110 in 2010 before declining modestly in 2011 and 2012.<sup>163</sup> On the one hand, this increase of staff between 2008 and 2010 mirrors a drop in FDIC resolution costs over those same years, as depicted in Figure 11. Yet, as Figure 11 also shows, resolution costs (that cannot be explained based on observable factors) then rose significantly from years 2011 to 2013. This is at least unexpected given that the FDIC had by those years presumably reached optimal staffing levels. In similar, unreported analyses assessing the probability of uninsured depositor rescues, I find that the yearly coefficients meaningfully grow in magnitude between 2008 and 2010, suggesting that rescues become even more common (after controlling for observable factors) as FDIC staffing is increasing. Thus, there is relatively little evidence that lack of staffing was a dominant factor in determining FDIC costs or uninsured depositor rescues during the financial crisis, but it is plausible that staffing played at least some role.

Another factor that may have pushed the FDIC towards whole-bank P&As is that such transactions “conserve[] cash for the FDIC.”<sup>164</sup> With a whole-bank P&A, the FDIC is able to sell all of the assets of the bank at once, rather than needing to wait to recoup value on the assets over time as the FDIC either sells them or collects payments on the loans until they mature. The FDIC believed immediate recovery on assets was important because “the FDIC’s cash position ... was under pressure during the early stages of the crisis.”<sup>165</sup>

The 2008 financial crisis certainly created a liquidity squeeze unprecedented in recent history. For many institutions, taking a loss on asset recoveries to preserve liquidity is a sensible decision. Yet, for an agency of the US government to lose on the order of \$45 billion or more, due to liquidity constraints, is astonishing. The US government is almost certainly the most liquid institution in the entire world. The Federal Reserve can literally create money out of thin air,<sup>166</sup> and at this time, was doing so to provide trillions of dollars of support for the financial system via quantitative easing.<sup>167</sup> Given the FDIC’s ability to borrow from the US Treasury at need,<sup>168</sup> it is hard to understand why the FDIC would have felt liquidity constrained in the first place. The FDIC provides justifications for why it did not want to draw on the Treasury line of credit, but they do not appear to be well reasoned.<sup>169</sup>

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<sup>162</sup> *FDIC History*, *supra* note 61, at 180.

<sup>163</sup> *Resolution Tasks and Approaches*, *supra* note 70, at 28.

<sup>164</sup> *Id.* at 190.

<sup>165</sup> *Id.* at 185.

<sup>166</sup> Anna-Louise Jackson, *Quantitative Easing Explained*, *Forbes* (Mar 18, 2023), available <https://www.forbes.com/advisor/investing/quantitative-easing-qe/> [https://perma.cc/EFZ5-C6J3]

<sup>167</sup> *Id.*

<sup>168</sup> At the outset of the financial crisis, the FDIC had a statutory ability borrow up to \$30 billion from the US treasury to cover shortfalls in the DIF needed to resolve failed banks, *supra* note 48. In May 2009, Congress amended the law to give the FDIC a \$100 billion line of credit, and a temporary authorization to seek up to \$500 billion through 2010 (*FDIC History*, *supra* note 61, at 157, footnote 14).

<sup>169</sup> One reason was that the FDIC was concerned about needing to pay interest on borrowed money (*FDIC History*, *supra* note 210, at 151). This is hard to understand, given FDIC borrowing costs are to be based on market rates for US treasury securities, *supra* note 48, and these rates were roughly 0.5% annual for 1-year bonds and 1.5% annual for 3-year bonds in 2009. The *FDIC History* also says that the agency felt it was important for the DIF to remain “directly industry funded.” (*supra* note 61, at 161). It is very hard to see why this should matter at all to the FDIC,

Even if staff capacity or liquidity constraints of the FDIC help explain why it felt forced to choose sub-optimal resolution techniques during the financial crisis, they do not explain why the pattern of high costs and nearly ubiquitous uninsured depositor rescues has persisted well after the end of the crisis. One possibility may be organizational inertia. If the FDIC got into the habit of almost always resolving failed banks with whole-bank P&A transactions, and perhaps if the staff experienced with other methods retired and took other jobs, then it may have simply become the normal and expected way to handle bank failures.

Another possibility is that a temporary shift towards whole-bank P&A transactions during the financial crisis may have resulted in a selection-bias problem affecting the FDIC's evaluation of resolution options going forward. If the FDIC only imposes losses on uninsured depositors at the banks that are in such poor condition that they receive zero whole-bank or all-deposit P&A bids, then the set of recent transactions resolved via insured deposit P&A and insured deposit payouts can look much worse than failed banks overall. For instance, during the period from 1992 – 2007, the FDIC resolved 63% of bank failures with resolutions that imposed losses on uninsured depositors, and the weighted-average costs to the FDIC for resolutions with uninsured depositor losses was 11.3% of bank assets. From 2008-2011, the FDIC resolved only 6% of banks via methods that imposed losses on uninsured depositors, and the average losses on these were 36% of failed banks' assets. It is likely that selection effects play a large role in explaining these much worse results for resolutions with uninsured depositor losses during the later period.<sup>170</sup>

If the FDIC then simply assumed going forward that *any* resolution that imposed losses on uninsured depositors would likely result in costs on the order of 36% of failed bank assets, then it could establish a self-perpetuating loop in which only the banks in the worst condition are resolved using methods that impose losses on uninsured depositors, and thus these methods appear suitable only if no other option is available. Because of the FDIC's strict secrecy regarding its valuation methods, it is not yet possible to confirm whether this is the case (I am in the midst of submitting FOIA requests to hopefully better investigate). Nevertheless, this could explain how capacity limits (real or perceived) during the financial crisis could have carried over to impact resolution methods well past the crisis.

## V. Policy Proposals

### a. Preventing FDIC Mission Creep

FDICIA's least-cost requirement was very effective for the 15 years following its passage in constraining FDIC resolution costs and excessive uninsured depositor rescues. Thus, the policy task is simply to restore this effectiveness. As a first step, Congress should mandate that the GAO conduct regular audits of the FDIC to assure its compliance with least-cost resolution

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even harder to see why it should be a matter of least-cost consideration, and even harder still to see how it could justify the \$45 billion additional costs that I estimate (see Part V.d *infra*) the FDIC incurred over the past 15 years due to decreased resolution efficiency. Finally, the FDIC suggests that borrowing from the Treasury might have confused the public about the FDIC's ability to make good on its deposit insurance commitment. (*FDIC History*, *supra* note 61, at 157). If the FDIC was genuinely choosing more expensive resolution means because it feared that drawing on its Treasury line of credit would spark a panic among depositors, then this would fall clearly within the purview of the Systemic Risk Exception, which requires approval from political actors beyond the FDIC.

<sup>170</sup> Bennett and Unal, *supra* note 17, raise precisely this possibility when examining FDIC losses on resolutions during the S&L crisis.

requirements.<sup>171</sup> Ironically, such a requirement was included in the original FDICIA legislation,<sup>172</sup> but it was removed by Congress a few years later as part of an omnibus bill to remove over 100 GAO auditing requirements.<sup>173</sup> Thus, as of now, current GAO auditing of the FDIC's compliance with the least-cost test appears to be very minimal.<sup>174</sup>

A more radical solution would be for Congress to set limits on the bidding process in auctions for failed banks. In particular, Congress could specify that bids may only include offers for the insured deposits of banks, plus whatever portion of a bank's assets a bidder wishes to acquire. After a winning bidder has been determined, that bidder could then determine whether they wish to use their own money to fully compensate uninsured depositors. In this way, if compensating uninsured depositors does indeed preserve enough franchise value to make the cost worthwhile, then the winning bidder can take that action. But, the FDIC will not be able to preferentially choose bids simply because they will make uninsured depositors whole.<sup>175</sup> Given what appears to be a near century-long pattern of repeated agency drift towards a desire to rescue uninsured depositors, a solution such as this might be needed to ensure continued statutory fidelity.<sup>176</sup>

Congress should also consider increasing transparency requirements for FDIC implementation of the least-cost test, such as by requiring public disclosure details of the

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<sup>171</sup> For instance, Congress could specify that the GAO must audit the FDIC at least once every three years. These audits should draw on people with the necessary expertise to assess whether, for instance, the FDIC's estimates of recovery on assets under different resolution scenarios are accurate and reasonable. They should also work to search out whether the FDIC may use subtle or indirect methods to steer bidders in auctions for failed bank assets towards the FDIC's preferred resolution methods.

<sup>172</sup> Pub Law 102-242 §141, 105 STAT. 2276.

<sup>173</sup> Pub Law 104-316 §106, 110 STAT. 3830.

<sup>174</sup> See, e.g. the GAO audit of the FDIC for years 2019 and 2020, available <https://www.gao.gov/assets/gao-21-284r.pdf>, which makes only one reference to "least cost" (on p.52), with this occurring in a paragraph describing background information on the FDIC's procedures, rather than giving any details of audit activities. Beyond this, the report at most notes that it found, "with respect to the DIF and to the FRF, no reportable noncompliance for 2020 with provisions of applicable laws, regulations, contracts, and grant agreements we tested" (p.1), but it provides no details for any examination of, for instance, whether the FDIC uses reasonable assumptions to evaluate the costs of bids to resolve a failed bank, and thus whether the FDIC's practices are well tailored to comply with the least-cost resolution requirement.

<sup>175</sup> For an illustration of how this would work, consider again the example from Part I.e, of a bank with 50 insured deposits, 50 uninsured deposits, and assets worth an uncertain amount. Suppose that the winning bidder submits a bid that values the assets at \$80. That \$80 would then be distributed according to the normal rules of priority, described in Part I.e. Namely, \$40 would go to the uninsured depositors, \$40 to the insured, and the FDIC would contribute \$10 from the DIF to fully compensate the insured depositors. By default, the winning bidder would then acquire all assets, all insured deposits, and the uninsured deposits, with their amounts reduced by 20%. If the acquiror found it worthwhile to fully compensate the uninsured depositors in that instance, they could do so, but it would be their prerogative. Presumably, they would make this determination at the same time they acquired the failed bank, such that when it opened following the acquisition, uninsured depositors could be immediately informed that their accounts would be fully honored.

<sup>176</sup> In some instances, not compensating uninsured depositors can add to resolution costs, because it can be difficult to identify precisely which deposits are or are not insured. Nevertheless, this should not pose a significant impediment. First, these administrative costs of identifying which depositors are insured are likely quite small compared to total resolution costs. Indeed, such uncertainty did not appear to create a large impediment to imposing losses on uninsured depositors from 1992-2007. Second, if uncertainty about which deposits are insured or not is indeed adding substantially to resolution costs, and frequently leading the FDIC to use sub-optimal resolution strategies, then that suggests the need for improved record keeping requirements on banks to prevent sub-optimal resolutions that are costing the DIF tens of billions of dollars.



valuation methods and assumptions that it uses to select between resolution alternatives.<sup>177</sup> Similarly, the FDIC should disclose its criteria for conforming bids, and disclose any bids that it receives on resolutions it handles through means other than P&A, rather than its current policy of refusing to confirm or deny that any P&A bids were received for such resolutions.

Additionally, the FDIC should enhance the data it provides to make it easier for outside analysts to assess how well it complies with least-cost resolution requirements. This should include information on the balance sheets of failed banks as of the time the banks failed, rather than as of the quarter before failure, as the FDIC currently does. Furthermore, this information should include more precise details than are currently available on the amount of secured debt banks have and the value of uninsured deposits that are subject to setoffs, something that can effectively render such deposits insured.<sup>178</sup> The FDIC should also disclose, in standardized, machine readable format, details about what recovery other creditors receive in failed bank resolutions, and on how many and what type of assets are sold or retained by the FDIC.

The prior success of Sen. Fulbright's intervention and of FDICIA gives reason to expect that reforms such as these can be effective at dramatically reshaping FDIC resolution practices. In this way, it should be possible to significantly reduce FDIC losses as well as unnecessary rescues of uninsured depositors that risk threatening financial stability through reduced depositor discipline.

#### b. Improving FDIC Capacity (or Perceived Capacity) for Resolutions

To the extent that lack of staffing led the FDIC to favor whole-bank P&A transactions, there could be efficiency gains from taking steps to address this. For instance, The FDIC could pre-identify and interview pools of qualified individuals not in government service but who could be open to temporarily moving to the FDIC when needed. The FDIC should be equipped to offer substantial hiring bonuses during crisis periods so that it can quickly attract high-quality staff for DRR.

Another obvious source of potential staffing and asset management personnel resources comes from the staff of failed banks themselves. If the FDIC is concerned that it does not have the staff capacity to manage the assets of failed banks itself, and if national asset servicers have limited additional capacity (as was the case during portions of the 2008 crisis), then a potentially attractive option is for the FDIC to expand its use of bridge banks. In this way, the FDIC retains the employees of the failed bank who were already employed managing that bank's assets. This can help the FDIC to avoid needing to use a whole-bank P&A when it is otherwise inefficient to do so. Also, for those assets the FDIC does retain, using the failed bank's staff to continue managing those assets can help prevent the FDIC from needing to sell the assets immediately, as it felt compelled to do during the 2008 crisis due to lack of servicing capacity.<sup>179</sup> Using a

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<sup>177</sup> As discussed in Part IV.a, there is some possibility that this could reduce FDIC recoveries by conveying information about its reservation price in auctions. Nevertheless, as I outline in Part IV.a, it is unlikely that this would seriously increase FDIC costs. Furthermore, there is good reason to believe that FDIC mission creep is a much more serious threat to resolution costs. Thus, if greater transparency prevents such mission creep, than any losses from conveying information about the FDIC's reservation price in auctions may be worthwhile expenditures.

<sup>178</sup> If for any reason bank's own information systems do not make it readily possible to report this information, then the FDIC should issue new regulations requiring banks to clearly track this. While this may add some compliance costs, they will almost certainly pale compared to the excess \$45 billion in costs, and subsequent insurance assessments, that I estimate have occurred due to the FDIC's drop in resolution efficiency.

<sup>179</sup> *FDIC History*, *supra* note 61, at 207.

bankrupt company's existing staff to continue its operations during restructuring proceedings is the norm in non-bank commercial bankruptcies, and it works extremely well there. The FDIC should seriously consider making this a more common option in bank resolutions, particularly during times of crisis when staffing and loan servicing are in short supply, and when selling a failed bank's assets (in whole or piecemeal) is apt to result in the most severe losses due to liquidity constraints and risk premia among potential buyers. In order to facilitate the operation of such bridge banks, the FDIC should be equipped to offer retention bonuses, as needed, to ensure key personnel remain with the bank.

To the extent that the FDIC's problems are driven by lack of *perceived* capacity – in particular, either due to a difficult-to-justify unwillingness to draw on the Treasury line of credit, or due to the potential problems of valuation models being affected by selection bias, the best cure may simply be greater transparency and oversight. It seems astonishing that the FDIC would have chosen far more costly resolution methods on account of not wanting to draw on its line of credit with the Treasury. But, if this was the case, then surfacing this fact sooner rather than later could have helped correct the situation and saved substantial losses to the DIF. Similarly, if there are flaws such as sample selection bias in the FDIC's current valuation methodologies, then surfacing those can likely help lead to their correction.

### c. Additional Reforms

Beyond fixing problems that may have arisen in the 2008 crisis, there are other policy changes with potential to reduce FDIC costs and lessen the moral hazard associated with uninsured depositor rescues. For instance, in this article I have argued in favor of the FDIC disclosing more information about its valuation practices in the interests of transparency and accountability. As Jason Allen and co-authors argue, if the FDIC tells bidders how it estimates its losses under different bid scenarios, then those bidders may be better equipped to make more competitive bids, and the costs of resolution to the FDIC could be substantially reduced.<sup>180</sup>

The FDIC has also been considering the possibility of opening bidding on failed banks to wider ranges of institutions – in particular by making it easier for private equity firms to acquire failed banks.<sup>181</sup> Although this is obviously a complicated decision,<sup>182</sup> if it has the potential to meaningfully reduce FDIC resolution costs and uninsured depositor moral hazard, then those factors should be accounted for in evaluating the possibility.<sup>183</sup> Another option to increase bids

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<sup>180</sup> *Resolving Failed Banks*, *supra* note 21.

<sup>181</sup> FDIC, *Private-Equity-Backed Acquisitions of Failed Banks, 2008–2013*, Report No. 2021-01, at 15 (June 2021), available <https://www.fdic.gov/analysis/cfr/staff-studies/2021-01.pdf> [<https://perma.cc/ED58-4ES3>] [Hereinafter *PE Acquisitions*]

<sup>182</sup> In theory, PE investors in banks may have greater incentives to increase risk-taking at those banks in order to benefit more from potentially underpriced deposit insurance and other forms of indirect subsidies. At the same time, to the extent that this occurs, it may be useful in revealing gaps in bank regulation and supervision. In other words, if the bank regulatory and supervisor system cannot constrain the risk-taking incentives of PE investors, then the sensible response may be to reform the regulatory and supervisory systems, rather than to keep PE investors out. This is especially true since PE investors may simply be one of many groups of shareholders with incentives to push the boundaries of bank risk-taking. For diverse perspectives on the impact of PE investors in banks, see Robert DeYoung, Michal K. Kowalik, and Gokhan Torna, *Private Equity Investment in U.S. Banks*, Working Paper (2021); Emily Johnston-Ross, Song Ma, Manju Puri, *Private Equity and Financial Stability: Evidence from Failed Bank Resolution in the Crisis*, Working Paper (2021).

<sup>183</sup> The FDIC and other banking regulators have already made some accommodations to make it easier for PE-affiliated firms to acquire failed banks. See *PE Acquisitions*, *Id.* In theory, the FDIC and other regulators could

for failed banks is to relax requirements for how large, relative to the failed bank, a potential acquiror needs to be in order to bid in an auction for that bank.<sup>184</sup>

A final reform that Congress should consider is to change the priority of claims in failed bank resolutions. Currently, both insured and uninsured deposits have equal priority. This means that both groups share pro-rata in the value of a failed bank's assets, and the FDIC compensates uninsured depositors for any losses they experience after this pro-rata distribution. This is not the only way to arrange deposit priorities. European countries generally give priority to insured depositors over uninsured deposits.<sup>185</sup> What this means is that the entirety of a bank's uninsured deposits would become available as a loss-absorbing buffer before the FDIC takes any loss on a failed bank. Given that the goals of the deposit insurance system are ostensibly to protect insured depositors (a) at minimum fiscal cost, and (b) while inducing the least moral hazard, giving priority to insured depositors seems advantageous on both accounts. Namely, it allows the FDIC to offer the same level of protection of insured depositors as is currently the case, but at lesser resolution cost. This can also reduce moral hazard. Uninsured depositors would be placed at a greater likelihood of losing a larger amount of their money in the event of a bank failure. These depositors would therefore have a stronger incentive to diligently monitor their banks, or to move their money to places such as treasury MMMFs. As I outline in Part I.c, above, moving more funds away from commercial banks and towards MMMFs offers potential advantages for financial stability.

#### d. Estimating Cost Savings from Policy Proposals

I now turn to estimating potential benefits of the policy changes I propose. At a very simplistic level, the summary statistics in Table 1 and Figure 9 show FDIC resolution costs as a percent of failed bank assets going from 10% in 1992-2007 to 18.2% in 2008-2022. Given that total DIF costs from 2008-2022 were \$100 billion (which is 18.2% of the \$547 billion in total assets of failed banks during this period), if one instead assumed that costs were 10% of total assets, costs would have been \$54.7 billion, for a cost-savings of \$45 billion.

For a more nuanced approach, I adopt the regression framework I use in Part VI.a above. I first fit a model predicting costs to the data from 1992 to 2022, using the bank-level variables as controls. I then create a counterfactual data set that precisely matches the actual data set, but with the one exception that the 2008-2011 and 2012-2022 indicators are both set to zero. In essence, this investigates, to the extent possible in this regression framework, what estimated losses would have been if banks with the same characteristics as those that failed from 2008-2022 would have been resolved in the ways that banks from 1992-2007 were. This approach can therefore help to better account for changes in bank characteristics between time periods. When I

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consider other relaxation of laws such as the Bank Holding Act, perhaps for a temporary period following a PE acquisition, in order to further encourage such acquisitions. A full cost-benefit analysis of such a change, however, lies far beyond the scope of this project.

<sup>184</sup> Jason Allen, Robert Clark, Brent Hickman and Eric Richert, *Banking Fragility And Resolution Costs*, Working Paper (2023), available [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=4434353](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4434353) (arguing that if there are widespread bank failures in 2023, on account of the current banking system stress, that relaxing size restrictions for bidders could significantly reduce FDIC resolution costs by leading to more and higher bids).

<sup>185</sup> See, e.g., European Commission, *Commission Staff Working Document, Impact Assessment Report*, at 320-23 (April 18, 2023), available <https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=SWD:2023:0225:FIN:EN:PDF> [<https://perma.cc/72A9-E3R5>]

do this, I estimate total cost savings of \$53 to \$69 billion, depending on the specification.<sup>186</sup> Nevertheless, I choose \$45 billion as my preferred estimate for potential costs savings. This is partially to be conservative, and because it is hard to fully rule out the possibility that the 2008 crisis impacted costs in ways that could not be fully accounted for using the methods discussed in Part VI.a, above.

Importantly, this \$45 billion in cost-savings would not primarily come from simply imposing more losses on uninsured depositors. If the FDIC chooses a whole-bank P&A resolution, when another resolution would be more cost effective, some of the added costs come from reimbursing uninsured depositors. But whole-bank P&As can also add to FDIC costs via wealth-transfers from the FDIC to the buyer in the whole-bank P&A, and from destruction of economic value by misallocating assets to owners who do not value them as highly.<sup>187</sup> In particular, I estimate that had the FDIC used resolution methods comparable to what it did during 1992-2007, it would have increased losses to uninsured depositors by only \$4 billion.<sup>188</sup>

The implications of this are striking. If the FDIC were simply authorized by statute to directly rescue all uninsured depositors, or if it regularly received authorization via the Systemic Risk Exception, it could likely do so far more cheaply than it does now. But, because Congress has never been willing to authorize such a system, based in part on well-grounded fears of the moral hazard it could contribute to, the FDIC currently can only justify uninsured depositor rescues through whole-bank or all-deposit P&As. The analysis in this paper suggests that this leads the FDIC to use whole-bank and all-deposit P&As far more frequently than is economically efficient, and that the value destroyed in this inefficiency is roughly nine times as large as the benefits that uninsured depositors themselves receive.

Estimating the cost savings from changing the priority of insured deposits is more complicated. I provide details of my approach in the Appendix, section d. Overall, I estimate that increasing priority for insured deposits could have saved an additional \$10 billion, beyond the cost savings outlined above.

#### e. The Policy Challenges of Uninsured Depositors at Very Large Banks

This article has shown that it is both economically and politically feasible to allow uninsured depositors at failed banks to experience losses. Nevertheless, the bank failures examined in this study are primarily those of small and mid-sized banks. For many current calls to expand deposit insurance, the starting premise is that large banks are different, mainly on account of being “Too Big to Fail.” Large banks’ depositors, the argument goes, will never experience losses due to overwhelming political pressure to rescue them. According to this line

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<sup>186</sup> In particular, the \$53 billion estimate is based on a Poisson regression, discussed in Appendix, section c. This framework may be considered preferable because it explicitly models a non-negative response variable. The \$74 billion cost-savings estimate is based on a linear regression.

<sup>187</sup> See discussion in Part I.e *supra*.

<sup>188</sup> To compute this, I begin with the total dollar value of losses imposed on uninsured depositors from 1992-2007, which the FDIC provides in *Options for Deposit Reform*, *supra* note 6 at 22. I use this, combined with the total amount of uninsured deposits at banks that failed from 1992-2007, to compute a loss rate for uninsured deposits during that period. I then apply that loss rate to the total amount of uninsured deposits at banks that failed between 2008 and 2022, yielding an estimate of \$4 billion in uninsured depositor losses between 2008 and 2022, had uninsured depositors born losses at the rates they did during 1992-2007. Because these calculations rely on estimates of uninsured deposits from Call Reports the quarter before banks fail, they are subject to some uncertainty.

of thinking, either fairness, or a desire to avoid pushing big banks to get even bigger, dictates that small and mid-sized banks should enjoy expanded deposit insurance as well.<sup>189</sup>

To the extent that large banks enjoy government support not granted to small banks, it is indeed a concern. Nevertheless, the analyses in this article suggest that increasing government support for small and mid-sized banks, in the form of expanding deposit insurance, is not the only solution. If it becomes the norm again for uninsured depositors to take losses when small and mid-sized banks fail, then it may become more politically feasible to impose losses on uninsured depositors at successively larger banks that may fail in the future.

Furthermore, the reason that imposing losses on uninsured depositors at large banks can be so destructive is that it can cause uninsured depositors at other banks to revise downwards their estimates of the likelihood they will be rescued. This might lead them to flee. Yet, if uninsured depositors at large banks have relatively low expectations of rescue to start with, then they will be more likely to place their deposits in banks they have confidence in, even apart from expectations of a rescue. As such, a change in their beliefs about the likelihood of rescue will not be so determinative. Put another way, if the only thing that keeps depositors at big banks is the expectation they will be rescued, then it suggests there are fundamental failures in the regulatory system that is supposed to ensure those banks are prudently managed. If this is the case, then simply expanding unlimited deposit insurance to all institutions represents a dangerous papering over of problems.

There are other ways to address preferential treatment big banks may enjoy on account of the greater likelihood their uninsured depositors will be rescued. For instance, policymakers could impose higher deposit insurance costs on larger banks, which could effectively enable smaller banks to pay higher interest on deposits and thereby attract depositors.<sup>190</sup> Some current regulatory proposals suggest that larger banks be required to maintain significant amounts of subordinated debt to serve as loss absorbing buffers before depositors are exposed to risk.<sup>191</sup> If big banks have enough loss absorbing capacity from their equity and subordinated debt, then whether their deposits enjoy implicit guarantees or not becomes increasingly less relevant.

Small banks can emulate this too by choosing to operate with much higher amounts of equity and subordinated debt to absorb losses. In this way, small and mid-size banks can provide substantial assurance that their depositors will be fully protected, even in the event of bank failure.<sup>192</sup>

While a full evaluation of options to respond to the problem of “Too Big to Fail” banks is beyond the scope of this paper, the analyses here provide ample reason to believe that expanding

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<sup>189</sup> See Warren *supra* note 9, Krishnamurthy *supra* note 8, Menand and Ricks, *supra* note 8.

<sup>190</sup> Warren *supra* note 9.

<sup>191</sup> Martin J. Gruenberg, *The Resolution of Large Regional Banks — Lessons Learned*, (August 14, 2023), available <https://www.fdic.gov/news/speeches/2023/spaug1423.html>

<sup>192</sup> The contention by bankers that they can only profitably operate if they are thinly capitalized has always been dubious. See, e.g., Merton Miller, *Do the M&M Propositions Apply to Banks?* *Journal of Banking and Finance* (1995); Anat Admati and Martin Hellwig, *The Bankers' New Clothes: What's Wrong with Banking and What to do About it*. Princeton University Press (2014). The recent rise of nonbank lenders that are financed with very little debt of their own makes it still further difficult to contend that banks of any size must be highly leveraged to survive. See, e.g., Laura Benitez and Loukia Gyftopoulou, *Private Credit is Poised for a Multi-Trillion-Dollar Boom, But It Could Get Ugly Soon*, Bloomberg (June 5, 2023), available <https://www.bloomberg.com/news/articles/2023-06-05/apollo-fidelity-international-and-t-rowe-price-poised-for-private-credit-boom> [https://perma.cc/2FWK-X9JX]. Of the non-bank lenders cited in the article, Apollo Global Management reports \$259 billion in assets and \$11 billion in debt, as of its 2022 annual report, and T. Rowe Price reports \$11 billion in assets and \$0.4 billion in debt in its 2022 annual report.

guarantees to uninsured depositors at smaller institutions is by no means the only or inevitable response.

## **Conclusion**

Over the past 15 years, failed bank resolutions in the United States have undergone two dramatic changes: the rate of uninsured depositor losses has plummeted while resolution costs to the FDIC have nearly doubled, generating an estimated \$45 billion or more in added resolution costs. Prior to this paper, neither phenomenon has received serious attention, despite the grave policy concerns that they raise. At a minimum, the analyses in this paper highlight the need for much greater attention into what can explain these distressing trends.

Beyond this, I argue that there is evidence that the rise in FDIC costs and the near-elimination of uninsured depositor losses are caused by a switch by the FDIC to resolve nearly all failed banks via whole-bank or all-deposit purchase and assumption agreements. While these agreements at times represent an efficient way of resolving failed banks, there are many situations in which they may not be cost-effective. Although it is difficult to prove with complete certainty, I argue that there is good reason to believe that the near-ubiquitous use of whole-bank and all-deposit P&A agreements has been inconsistent with the FDIC's statutory obligation to resolve failed banks in the least-cost way that protects insured depositors.

I present evidence that one key driver of this may be "mission creep," in which the FDIC has taken it upon itself to protect uninsured depositors out of concerns for the consequences of failing to do so, even though Congress has been explicit that the FDIC must seek higher authorization before making such judgments. I show that such mission creep has occurred twice already in the FDIC's past, and that Congress has successfully intervened to correct it, both in 1951 and in 1991. In addition, I present evidence that a drop in the FDIC's capacity, or perceived capacity, to efficiently dispose of assets of failed banks may lead it to rely on whole-bank purchase and assumptions more than would otherwise be optimal.

Finally, in this paper, I present policy changes Congress can use to remedy the problems of reduced FDIC capacity and mission creep. I show these reforms have the potential to improve fidelity to the currently established law, save tens of billions of dollars of resolution costs, and contribute to financial stability. Furthermore, many of the reforms that I propose are straightforward measures to improve transparency and accountability, and they may be justifiable even given some level of uncertainty in what precisely has caused the recent changes in FDIC resolution practices.

Alternatively, if Congress decides to move towards a system of total deposit insurance, this paper shows that such a decision must come from a reasoned analysis of what is best for the country, and not on a presumption that uninsured depositor rescues are already inevitable.

## VI. Appendix

### a. Data Construction

Throughout this article, I use the terms “costs” and “losses” to the Deposit Insurance Fund (DIF) or to the FDIC interchangeably – both represent the total amount deducted from the DIF (or its predecessor BIF) on account of a resolution.<sup>193</sup>

I rely on several data sources to provide information on bank failures and FDIC resolution costs. I begin with the FDIC’s BankFind Suite<sup>194</sup> which provides information on resolution methods and losses to the FDIC on failed banks going back to 1980.<sup>195</sup> Within this data, I focus just on those failures that were insured by either the Deposit Insurance Fund (DIF), which is the FDIC’s current insurance fund, or the Bank Insurance Fund (BIF), which was the predecessor to the DIF.<sup>196</sup> Thus, for example, I exclude considerations of failures insured by the Federal Savings and Loan Insurance Corporation (FSLIC), in order to ensure that my sample is relatively consistent in terms of the types of institutions (banks) and the organization (the FDIC) that is overseeing their resolutions. For information on failed banks prior to 1980, I rely on Table 4-2 from the publication, “The FDIC: The First Fifty Years,”<sup>197</sup> which provides yearly (though not institution-level) data on the resolution methods for failed banks and the costs to the FDIC of those resolutions.

The FDIC data on bank failures does not explicitly identify which failures have resulted in losses to uninsured depositors. I take several steps to identify which resolutions involve rescues of uninsured depositors. For failure data from 1980 onward, I identify all resolutions marked as “PA” (short for “Purchase and Assumption”) as representing whole-bank or all-deposit purchase and assumption transactions that fully compensate uninsured depositors. Resolutions that do not compensate uninsured depositors are marked in the data set as “PI” (short for “Insured Deposit Purchase and Assumption”) or as one of a variety of resolution methods where the FDIC disposes of the failed banks’ assets.<sup>198</sup>

Based on correspondence with FDIC staff, there were 28 failures between 1992 and 2009 where the transaction type was one that normally indicates losses on uninsured depositors, but for which there were no uninsured depositors left by the time of failure. When computing statistics for the frequency of uninsured depositor losses, I exclude these banks from my sample. I do so because the goal of this investigation is to understand how the FDIC’s resolution decisions affect uninsured depositors. If there are no uninsured depositors, then the FDIC’s

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<sup>193</sup> In other settings, authors sometimes distinguish costs of the resolution process (e.g. the expenses of hiring professionals to market or dispose of a bank’s assets) from costs or losses to the Deposit Insurance Fund (DIF). The distinction here is that if a failed bank has equity or subordinated debt, then they may absorb some of the costs of the resolution before any losses accrue to the Deposit Insurance Fund. See, e.g. Bennett & Unal, 2015, *supra* note 17. Because there is not publicly available data that distinguishes these types of transaction costs from total costs to the DIF, I do not deal with them in this investigation.

<sup>194</sup> <https://banks.data.fdic.gov/explore/failures/>

<sup>195</sup> Prior to 1980, the database provides information on resolution methods but not costs.

<sup>196</sup> The DIF was formed in 2006, with the merger of the BIF and the Savings Association Insurance Fund (SAIF) that had previously existed to guarantee deposits at thrifts. See <https://www.fdic.gov/news/financial-institution-letters/2006/fil06036.html>.

<sup>197</sup> *First Fifty Years* *supra* note 105 at 86-87.

<sup>198</sup> These include “PO” for insured deposit payout, “IDT” for insured deposit transfer, and “DINB” for Deposit Insurance National Bank, which means the FDIC operated the failed bank for a short period to allow depositors to move their accounts to another bank, after which the FDIC closed the institution and disposed of its assets.



decisions are not relevant. Additionally, based on correspondence with the FDIC staff, I modify my data to account for three failures in 1992 that were marked as PA but that nevertheless imposed losses on uninsured depositors.

For failure data prior to 1980, I use data from the FDIC's First Fifty Years Publication. In particular, I identify failures marked as "Deposit Payoffs" as imposing losses on uninsured depositors, and failures marked as "Deposit Assumptions" as making uninsured depositors whole.<sup>199</sup>

The FDIC's BankFind Suite does not distinguish between whole-bank and all-deposit purchase and association (P&A) deals. To differentiate these, I rely on the first pages of the merger agreements for P&A deals, as well as the summaries of submitted bids, available on the FDIC's website.<sup>200</sup> This data extends back to 2001. To identify the number of whole-bank and all-deposit deals prior to this, I use Table 1 from Bennett and Unal, 2015, which provides coverage back to 1986.<sup>201</sup> Prior to 1986, I am only able to observe that a P&A deal was either whole-bank or all-deposit, but I cannot distinguish between the two.

For detailed balance sheet data on failed banks, I use call reports data, gathered from required regulatory filings made by banks.<sup>202</sup> Importantly, the call reports provide information on the estimated<sup>203</sup> amount of insured and uninsured deposits at banks as of the most recent quarterly filing preceding their failure.<sup>204</sup> Values of insured deposits reflect both accounts with balances under the \$250,000 insurance limit (or lower limits for earlier time periods), as well as the temporary expansion of deposit insurance that covered all non-interest bearing transaction accounts from December 31, 2010 through December 31, 2012.<sup>205</sup>

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<sup>199</sup> As *First Fifty Years*, *supra* note 105, at 82, noting: "Beginning in 1935, the FDIC had two options in handling bank failures: payoffs or assumptions. When banks were paid off, depositors received direct payments from the FDIC up to the insurance limit. Uninsured depositors had a claim on the receivership for the uninsured portion of their deposits...In these transactions uninsured depositors frequently did not receive the full amount of their deposits... In assumption transactions, uninsured as well as fully insured depositors received all of their funds in the form of deposits in the acquiring bank."

<sup>200</sup> <https://www.fdic.gov/resources/resolutions/bank-failures/failed-bank-list/>

<sup>201</sup> *Supra*, note 17.

<sup>202</sup> In particular, I use the FDIC's API for accessing this data, available <https://banks.data.fdic.gov/docs/>.

<sup>203</sup> Unfortunately, banks currently report only estimates for their amounts of insured deposits. For instance, not all banks carefully track whether a given individual has multiple accounts of the same type at the same bank, which could push the individual's total value in that type of an account above the insured deposit threshold. Banks similarly do not report depositors' setoff rights, which in effect raises the amount of their deposits that are guaranteed. In my reform proposals in Part V, I call for better accounting and reporting of insured deposits by banks.

<sup>204</sup> It would be preferable to use data from the time of banks' failures, since balance sheet characteristics could have changed between the last reporting date and the date of failure. Unfortunately, right now the FDIC does not release time of failure data publicly. One of the policy proposals that I make in Part V is for the FDIC to enhance transparency of its operations by making time-of-failure data publicly available. According to one study that examined proprietary data on a particular failed bank, uninsured deposits decreased by about 10% (from \$91 million to \$82 million) in the roughly 1.5 months prior to the bank's failure. See Davenport and McGill, *supra* note 28. Since call reports are issued quarterly, there will be, on average, 1.5 months between the failure of any given bank and its failure. Thus, a plausible estimate is that true uninsured deposit amounts may be 10% lower than those reported here. Nevertheless, I know of no reason to expect that this imprecision from using quarterly call reports will vary across the different time periods in my study. Thus, I know of no reason to expect that the inability to measure uninsured deposits at the precise time of failure would significantly impact any of my analyses or conclusions.

<sup>205</sup> In particular, see the description for the "DEPINS" variable in the data documentation accompanying the FDIC's API. This documentation is available in the "Reference-Variables&Definitions" tab of the spreadsheet available: <https://banks.data.fdic.gov/docs/All%20Financial%20Reports.xlsx>. For details on the expansion of deposit insurance, see <https://archive.fdic.gov/view/fdic/3913>.



There are, however, certain limitations to the Call Reports data. First, while the deposit insurance limit was increased from \$100,000 to \$250,000 on October 3, 2008,<sup>206</sup> the Call Reports did not begin to reflect the increased limits until September 30, 2009. Second, the Call Reports do not reflect the FDIC's expansion of deposit insurance to cover noninterest-bearing transaction accounts that spanned from October 14, 2008 to December 30, 2010.<sup>207</sup> Instead, it is only starting on December 31, 2010 that the Call Reports reflect the expansion of deposit insurance to cover noninterest-bearing transaction accounts.

I take several steps to account for these limitations. The first and simplest approach is to simply conduct my analyses while excluding the period from October 3, 2008 through December 30, 2010, during which the Call Reports did not reflect the full extent of insured deposits. As I describe in Appendix part c, below, the results of these analyses are still consistent with the main conclusions of the paper.

An alternative approach, which I use for the analyses presented in the body of this paper, is to seek to estimate the amount by which insured deposits were under-reported during this period. In particular, I look at how much insured deposits (as a percent of total assets) increase for banks starting on September 30, 2009 (when the Call Reports begin reflecting the \$250,000 deposit insurance limit), and then again, how much insured deposits increase starting on December 31, 2010 (when the Call Reports begin reflecting coverage for all deposit amounts in noninterest-bearing transaction accounts).

To operationalize this, I begin with the set of all banks in the Call Reports data that were still operating as of September 30, 2009, and as of December 31, 2010. For each bank, I measure the percent change in its insured deposits (as a percent of total assets) that occurred between the call reports submitted on September 30, 2009, and the Call Report submitted immediately prior to that. I do the same for the Call Reports submitted on December 31, 2010. I use regressions to predict, based on bank size and balance sheet characteristics, the amount by which insured deposits change on these two dates. In particular, I divide the set of all banks into seven groups based on size. These groups cover banks with assets under \$500 million, those with assets between \$500 million and \$1 billion, those with assets between \$1 billion and \$5 billion, those with assets between \$5 billion and \$10 billion, those with assets between \$10 billion and \$25 billion, those with assets between \$25 billion and \$50 billion, and those with assets above \$50 billion. I then interact the "Size Group" variable with the balance sheet variables I use as predictors in Table 3. I use this set of interacted variables to predict the amount by which insured deposits will change when the Call Reports data begins reflecting the \$250,000 expansion of coverage, and when the Call Reports data begins reflects the noninterest-bearing transaction account expansion.

Finally, I consider the banks that failed before these changes in reporting occurred, and thus that were under-reporting their insured deposits. I use the fitted regressions to impute percent changes in insured deposits for these failed banks. I impute uninsured deposits as being the actual number of total deposits, minus the imputed amount of insured deposits.<sup>208</sup> In essence, this analysis measures, for each failed bank, how much other banks of similar size and financial

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<sup>206</sup> See *supra*, note 52.

<sup>207</sup> <https://www.fdic.gov/regulations/resources/tlgp/>

<sup>208</sup> Banks report their total deposits in the Call Reports, and this variable was not subject to the inaccuracies in reporting I describe here. In situations where the predicted increases in insured deposits result in insured deposits that are greater than total deposits, it would imply that banks have a negative amount of uninsured deposits. I adjust the amount of uninsured deposits in these examples to reflect 0.

condition saw their insured deposits increase as a result of the two expansions of deposit insurance. In my primary analyses throughout this paper, I use these imputed values for insured and uninsured deposits. Doing so slightly increases the  $R^2$  on my regressions, suggesting that the imputed values are indeed more accurate than the base values reported in the Call Reports. Nevertheless, using imputed versus reported values does not materially impact any of the results or conclusions of my analyses.

As a final data consideration, by default in my investigations, I do not include Washington Mutual among the set of failed banks, although I discuss in footnotes the results if Washington Mutual were to be included, and I show robustness of my key conclusions regardless of whether Washington Mutual is included.<sup>209</sup> Presenting analyses that omit Washington Mutual follows the practice of the FDIC itself, which frequently places Washington Mutual in a category of its own when computing statistics over groups of bank failures.<sup>210</sup> Washington Mutual, which failed in 2008, was by far and away the largest bank failure in US history with total assets at failure nearly equal to the total assets of all other banks that failed during the financial crisis period from 2008 through 2011. Washington Mutual was also exceptional in that it resulted in zero costs to the FDIC due to unusual circumstances relating to its failure and its balance sheet.<sup>211</sup> An implication of Washington Mutual's size is that when computing statistics for a group of failed banks, if Washington Mutual is included in this group, its characteristics will dominate the overall statistics.

#### b. Descriptions of Regression Controls

In this section, I describe the controls I use in the regressions in Table 3 and elsewhere in this paper. In building control variables for these regressions, I follow Bennett and Unal<sup>212</sup> and use the ratio of other real-estate owned assets<sup>213</sup> to total assets, the ratio of earned-income not collected<sup>214</sup> to total assets, the ratio of non-current assets<sup>215</sup> to total assets, and the ratio of brokered deposits<sup>216</sup> to total assets. I also follow Bennett and Unal and control for failed bank

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<sup>209</sup> See Appendix, section c, showing that in all my regression specifications that control for bank characteristics, including or excluding Washington Mutual makes little difference. Thus, whether to include or exclude Washington Mutual is relevant only for summary statistics.

<sup>210</sup> See for instance *FDIC History*, *supra* note 61, at 201. See also *Resolution Tasks and Approaches*, *supra* note 70, at 31.

<sup>211</sup> One key reason the FDIC experienced zero losses is that Washington Mutual had an unusually large amount of unsecured debt available to absorb losses before any were imposed on depositors ([https://www.fdic.gov/news/speeches/2023/spaug1423.html#\\_ftnref9](https://www.fdic.gov/news/speeches/2023/spaug1423.html#_ftnref9)). Another is that Washington Mutual was, arguably, shut down by banking authorities much earlier than is typical for banks. At least on paper, it still had an equity to asset ratio of nearly 8%, compared to roughly 1% for other banks that failed during the financial crisis (<https://www.fdic.gov/bank/historical/crisis/chap6.pdf>, p.201). Finally, JP Morgan, which acquired Washington Mutual after it failed, had already been investigating a potential merger with it previously. All of these made its situation quite unusual – overall, only about 2% of bank failures since 2008 have resulted in zero losses to the FDIC, and none nearly as large as Washington Mutual.

<sup>212</sup> *Supra* note 17.

<sup>213</sup> These are assets banks own as a result of foreclosure.

<sup>214</sup> Bennett and Unal, *supra* note 17, note that “Managers of distressed banks often do not write off loans that have gone bad and continue recording income from such assets. A higher value of [earned-income not collected] is an indicator of this behavior and therefore of lower asset quality.”

<sup>215</sup> These are loans for which the borrower has ceased making timely payment.

<sup>216</sup> Bennett and Unal, *supra* note 17, note that the amount of brokered deposits is “negatively related to the franchise value—higher levels of brokered deposits indicate that a bank was not able to satisfy their funding needs with stable

size, which they show to be highly predictive of resolution costs, using a second order polynomial in the log of failed bank assets. In addition, I add controls for the ratio of tier 1 capital to total assets, the ratio of insured deposits to total assets, and the ratio of uninsured deposits<sup>217</sup> to total assets.<sup>218</sup>

To measure the availability of potential bidders for a failed bank's assets, I compute, for each failed bank, the number of other banks that have headquarters in the same state as that of the failed bank, that have assets at least twice as large as the failed bank,<sup>219</sup> and that meet the FDIC's capital adequacy requirements for eligible bidders.<sup>220</sup> I include as controls the log of one plus this number of eligible bidders. I also control for the log of one plus what I call "very" eligible bidders that exceed all capital requirements by at least one percentage point.

### c. Robustness Tests

#### Different Functional Form

FDIC resolution costs cannot be negative. Thus, the response variable in my regressions that model cost does not squarely fit the assumptions underlying linear regression. An alternative possibility is to use a functional form such as a Poisson regression that explicitly models a response variable that cannot be negative. Although Poisson regressions are frequently used to model integer response variables, the functional form is flexible and can be used with continuous variables as well. In unreported tests, I run the cost analyses in Table 3 using Poisson regressions and get very similar results. Namely, the coefficient estimates for the 2008-2011, and 2012-2022 variables indicate that FDIC resolution costs increased by roughly 80%, when not using control variables, and by roughly 100% when using control variables, in the 2008-2011 and 2012-2022 periods. These coefficient estimates are strongly statistically significant.

#### Including Washington Mutual

For the first set of robustness results, I consider the implications of including Washington Mutual in the regression results presented in Table 3 that predict costs to the FDIC. For column (1), that does not include control variables, adding Washington Mutual brings the coefficient for the 2008-2011 period to essentially zero, while having essentially no impact on the coefficient

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core deposits. Higher levels of brokered deposits can also be an indicator of high-risk low-quality assets. If a bank is undertaking high-growth business strategies that are inherently risk[i]er, the bank may have to use brokered deposits to fund the strategy."

<sup>217</sup> In unreported tests, I use variations on measures of uninsured depositors. For instance, I add indicators for banks with uninsured deposits below a certain percent or dollar threshold. None of these have a material impact on results.

<sup>218</sup> In unreported tests, I also try variations that control for the value of FHL loans (which enjoy priority over deposits) as a percent of total assets. FHL loans are only available for a subset of the 1992-2007 sample. Including them, however, does not materially change the results. In fact, the estimated increase in FDIC losses during the 2008-2022 period actually increases, although it is based on comparison to a smaller sample from 1992-2007, and thus the estimator is subject to more variance.

<sup>219</sup> This is one of the FDIC's requirements for bidders in a failed bank auction. See Amanda Heitz, *The Long-Run Effects of Losing Failed Bank Auctions*, Working Paper (2022), at 7, available <https://www.fdic.gov/analysis/cfr/working-papers/2022/cfr-wp2022-01.pdf>

<sup>220</sup> These require a total risk-based capital ratio of 10% or greater, a tier-1 risk-based capital ratio of 6% or greater, and a tier 1 leverage ratio of 4% or greater. *Id.* The eligible bidder requirements also stipulate certain CAMELS and supervisory ratings, but these are not publicly available, and thus I cannot directly account for them.

for 2012-2022. Yet, for column (2), that does include controls, adding Washington Mutual has a relatively small impact. In particular, when adding Washington Mutual, the coefficient from column two for 2008-2011 becomes 0.150\*\*\*, instead of 0.126\*\*\* when omitting Washington Mutual. This reflects the fact that there is a strong tendency for larger banks to have lower resolution costs, and Washington Mutual was exceptionally large. Washington Mutual also had a much stronger balance sheet when it failed than most banks, which the regression framework is able to explicitly account for. Finally, adding Washington Mutual to the sample impacts the coefficient estimates for the predictors in the regression, and it does so in ways that make the rising costs during 2008-2011 even more surprising, hence the surprising result that adding a bank that failed with zero costs during the 2008-2011 period actually increases the estimated rise in costs associated with that period.

### Excluding IndyMac

By default, my specifications include IndyMac. After Washington Mutual, IndyMac was the largest bank failure between 1992 and 2022. IndyMac was an order of magnitude smaller than Washington Mutual (\$42 billion in assets vs \$425 billion for Washington Mutual). Nevertheless, because IndyMac was quite large, and because it had high resolution costs as a percent of its assets (39%), one may be concerned that the IndyMac results dominate the findings for the 2008-2011 period, such that resolution costs during this period excluding IndyMac would appear comparable to the 1992-2007 period. To investigate this, I run variations on my models that exclude IndyMac. When I exclude IndyMac, the coefficients for the 2008-2011 indicator in models (1) and (2) become 0.063\*\*\* and 0.071\*\*\* compared to 0.082\*\*\* and 0.126\*\*\* for the models that include IndyMac. Overall, these findings confirm that my findings are not simply a result of IndyMac's relatively high costs, and relatively large size.

### Incomplete Call Reports Data on Insured Deposits between 2008 and 2010

In Appendix part a, I discuss the fact that the Call Reports do not fully capture the extent of insured deposits at banks between October 3, 2008 and December 30, 2010. As a robustness check, I re-analyze the regressions in Table 3 while excluding banks that failed during the period of incomplete Call Reports data. Under this restriction, the coefficient for the 2008-2011 indicator in column (2) becomes 0.161\*\*\* (compared to 0.127\*\*\* for the full period), and the coefficient in column (4) becomes -0.322 (compared to -1.634\*\*\* for the full period). This small, statistically insignificant coefficient in column (4) can be explained by the fact that the regressions to predict uninsured depositor losses are weighted by the amount of uninsured deposits at failed banks, and a single bank, IndyMac, accounted for 53% of uninsured deposits between 2008 and 2011, after excluding all banks that failed during the period of incomplete reporting of insured deposits in the Call Reports. Since IndyMac's failure did leave uninsured depositors with losses, the overall failure rate for the 2008-2011 period, after excluding the banks that failed between October 3, 2008 and December 30, 2010, ends up with a weighted-average frequency of uninsured depositor losses that is comparable to the 1992-2007 period.

Naturally, excluding the period from October 3, 2008 through December 30, 2010 has relatively little impact on the coefficient estimates for the 2012-2022 period, which still show very large, statistically significant increases in the FDIC's costs of resolution for that period, and

very large, statistically significant drops in the probability that uninsured depositors will experience a loss.

#### Alternative Measures of Potential Bidders for a Failed Bank's Assets

I run alternative specifications using the HighQual variable from Bennett and Unal, *supra* note 18. This measures the fraction of total banking assets, in a bank's home state, that are owned by "healthy" banks. Bennett and Unal define "healthy" based on CAMELS ratings. Since these are not publicly available, I define banks as healthy if they meet all capital requirements for eligible bidders. After accounting for the other controls and measures of eligible bidders, the HighQual marker is not statistically significant (e.g.  $t = 0.365$  in column 2). Adding the HighQual marker, results in coefficient estimates in column (2) of  $0.120^{***}$  and  $0.101^{***}$  for the 2008-2011 and 2012-2022 indicators respectively, and it in column (4) it results in coefficient estimates of  $-1.922^{***}$  and  $-3.085^{***}$  for the 2008-2011 and 2012-2022 indicators.

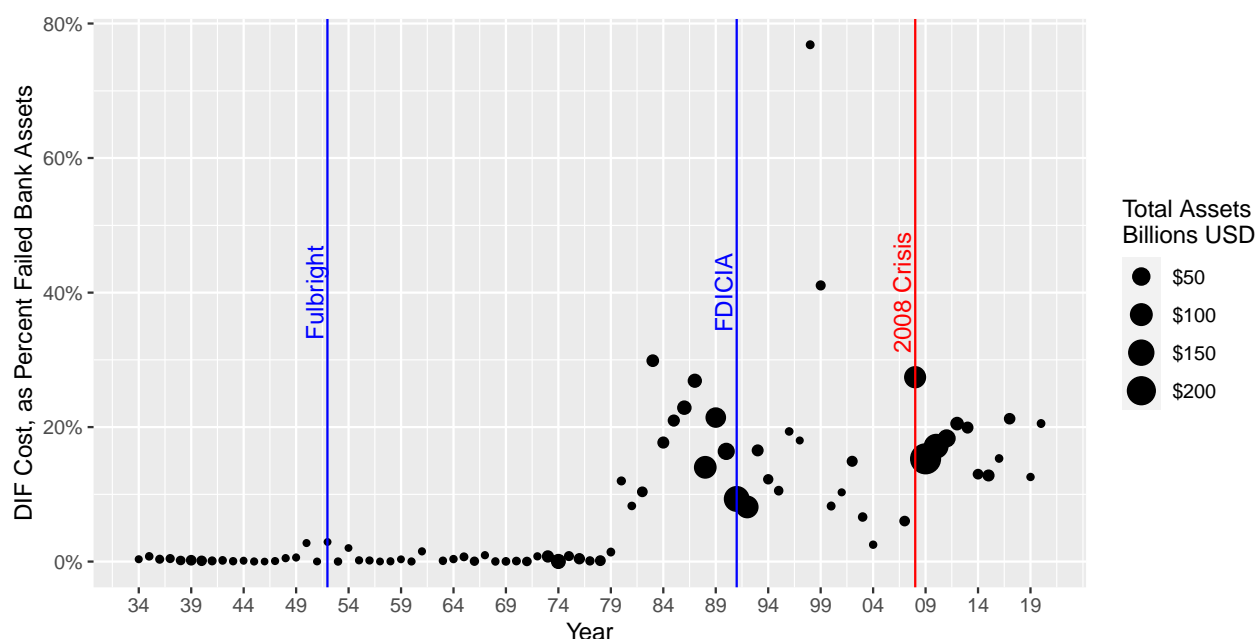
In other tests, I use the framework from Granja et al, *supra* note 20, and identify a set of potential acquirers based on institutions that have at least one branch in the same zipcode as a failed bank had a branch. I then use controls based on, for instance, the median capital levels of these potential acquirers, as well as the fraction of the potential acquirers that are above a series of capital thresholds. A limitation of this approach is that it relies on the FDIC's Summary of Deposit (SOD) data, which is only available from 1994 onwards, thus excluding a large number of the failures in the 1992-2007 period. Nevertheless, including these controls has only a limited impact on the results. For instance, the coefficient estimates for the 2008-2011 variable column (2) becomes  $0.081^{***}$  (instead of  $0.126^{***}$  in the primary specification) and the coefficient estimate for the 2012-2022 variable in column (2) becomes  $0.116^{***}$  (instead of  $0.109^{***}$  in the primary specification). Results are similar for the models to predict uninsured depositor losses.

#### d. Additional Analyses

##### One-Year Windows for FDIC Resolution Costs

Figure 9 presents FDIC resolution costs, as a percent of failed bank assets, over eight different time windows spanning 1934 to 2022. The end points of these windows are chosen based on significant statutory, regulatory, and similar developments. Figure 14, in this appendix, presents the same data but over one-year time intervals.

Figure 14: BIF and DIF Losses as a Percent of Failed Bank Assets – One-Year Intervals



#### Further Considerations on the Danger of a “Lost Decade” in the US if the FDIC Failed to Use Whole-Bank P&As

In Part IV.a, I consider the FDIC’s assertions that it may have been forced to use almost all whole-bank P&A resolutions for fear of sparking a “lost decade” as occurred in Japan. Here, I provide additional analysis for why these assertions are implausible. As I estimate in IV.a, had the FDIC followed its resolution practices from 1992-2007, it would have imposed losses on uninsured depositors at banks with \$279 billion in assets. Some of these assets would have still been immediately sold in insured-depositor P&A deals. Nevertheless, even if the FDIC disposed of all \$279 billion in assets of the failed banks itself, that would still amount to only 2.8% of total loans owned by US banks.<sup>221</sup> By contrast, accounts of the Japanese banking crisis report “70 trillion [yen] in bad loans hovering over the banking system,” in 1995, which equaled roughly 17% of total loans held by all Japanese banks.<sup>222</sup> Thus, as with the analyses in IV.a, this shows that concerns about FDIC resolution practices sparking a “lost decade” are highly implausible.

#### Calculation Details for Cost Savings from Increased Insured Depositor Priority

<sup>221</sup> <https://www.federalreserve.gov/releases/h8/20090102/>, reflecting roughly \$7 trillion in loans owned by US banks as of 2009, which equals \$10 trillion in inflation adjusted dollars

<sup>222</sup> For total bad loans in Japanese banks, see Ulrike Schaede, *The 1995 Financial Crisis in Japan*, Working Paper (1996) at 1, available [https://escholarship.org/content/qt8ks5n2hf/qt8ks5n2hf\\_noSplash\\_4d0f4afb547ce5103314ce930afff08b.pdf?t=krnmz](https://escholarship.org/content/qt8ks5n2hf/qt8ks5n2hf_noSplash_4d0f4afb547ce5103314ce930afff08b.pdf?t=krnmz) [<https://perma.cc/3PJK-VRDM>]. For total loans of all Japanese banks, see Joe Peek and Eric Rosengren, *The International Transmission of Financial Shocks: The Case of Japan*, Working Paper (1996) Table 1, available [https://www.bostonfed.org/-/media/Documents/Workingpapers/PDF/wp96\\_1.pdf](https://www.bostonfed.org/-/media/Documents/Workingpapers/PDF/wp96_1.pdf) [<https://perma.cc/NL99-ZLNW>]

I start by describing my basic approach, and then move to discussing complicating factors and how those would impact my estimates. An important initial consideration is that if a bank is resolved in a whole-bank P&A deal, then the priority of insured deposits is irrelevant – all deposits are fully honored in a P&A deal. Thus, on the surface, changing the priority of insured deposits only impacts the FDIC’s recovery in resolutions other than whole-bank P&A – that is, in insured-deposit P&A deals, plus FDIC liquidations. For my initial estimates, therefore, I will look only at cost-savings from resolutions handled via means other than whole-bank P&A. I will presume that in 1992-2007, the FDIC had a roughly optimal allocation of resolutions via whole-bank P&A versus the alternatives, and I thus examine how much lower FDIC costs during that period might have been. I then use that estimated percent reduction in costs to estimate reduction in costs for the 2008-2022 period that could occur if the FDIC both adopted my above efficiency proposals and if Congress changed the priority of insured deposits.

Although the FDIC does not report bank-level uninsured depositor losses, it reports that from 1992-2007, when uninsured depositors experienced a loss, they lost 24% of their deposits, on average.<sup>223</sup> Thus, I assume this as the uninsured depositor loss rate for each failed bank. As I describe in the prior section, giving priority to insured deposits over uninsured deposits in essence enables uninsured deposits to serve as a loss-absorbing buffer before losses are imposed on the FDIC, as guarantor of the insured deposits. Since uninsured deposits were already losing 24% of their value in failed banks, the maximum amount of additional losses they could have absorbed would be equal to 76% of their deposit values.<sup>224</sup> Thus, for each bank that failed from 1992-2007 and was resolved via a means other than whole-bank P&A, I compute a counterfactual FDIC loss by subtracting up to 76% of uninsured deposits from the actual FDIC loss.<sup>225</sup> Among these banks that were resolved by means other than whole-bank P&A, I estimate this would have generated \$3.1 billion in savings to the FDIC. Compared to the \$12.5 billion in total FDIC costs during the 1992-2007 period, this represents a cost-savings of 25%. In other words, a change in priority might have reduced FDIC costs as a percent of failed bank assets from 10% to 7.5% for the 1992-2007 period.

If we assume that similar cost-saving would be possible for other periods, it suggests an additional \$13.7 billion could have been saved during the 2008-2022 period if the US had instead matched European practice of giving priority to insured depositors. In other words, the total estimated savings from improving FDIC resolution efficiency, plus changing insured depositor priority could easily be \$50 billion or more for the 2008-2022 period.

There are, of course, several complicating factors in generating these estimates. Many of the factors suggest that these are under-estimates of the cost-savings from changing insured depositor priority, although some suggest these are over-estimates. One reason these estimated cost-savings might be too low is that right now, the estimates are computed only for resolutions handled via means other than whole-bank P&A. There is reason to believe that changing insured depositor priority would result in more bank failure being handled via insured-deposit P&A or insured deposit payouts. The basic intuition is that if insured depositors have priority over uninsured depositors, then there is more money to potentially be saved by switching from a whole-bank P&A to a different resolution method, since uninsured depositors would need to be

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<sup>223</sup> *Options for Deposit Insurance Reform*, *supra* note 6 at 22.

<sup>224</sup> This is based on using average uninsured depositor losses of 24% for all banks, since I do not have bank-level data on uninsured depositor losses.

<sup>225</sup> If doing so results in a negative amount of FDIC losses, then I set FDIC losses to zero, since even giving insured deposits priority over uninsured deposits would not allow the FDIC to appropriate value from uninsured depositors.

paid less money in those other methods.<sup>226</sup> This may lead to a larger number of resolutions where uninsured depositors are not made whole.

Furthermore, if uninsured depositors expect greater losses in the event of bank failure, they may have stronger incentives to monitor banks, which could reduce the total number of bank failures and further reduce FDIC losses. Similarly, some uninsured deposits would likely move to safer alternatives, such as treasury Money Market Mutual Funds. If this results in fewer total deposits, and thus fewer total assets, in the banking system, this could further reduce FDIC losses.

At the same time, if insured deposits are given priority over uninsured deposits, at least some uninsured deposits might simply be replaced by insured deposits. This could occur if banks offer higher interest rates to attract more insured deposits,<sup>227</sup> or if depositors make more use of services to split large deposits among many different banks and accounts, each with a balance below the deposit insurance limit. If banks pay higher interest rates on insured deposits, this could increase their chances of failure, and if uninsured deposits are simply replaced by insured deposits, then the size of the loss-absorbing cushion provided by uninsured deposits could decrease. Both factors thus could cut against any cost savings the FDIC would experience from increasing the priority of insured deposits. Thus, an important topic for further research could be more in-depth modeling exercise to try to estimate the net impacts of an increase in priority for insured bank deposits.

#### e. Additional Potential Explanations for Increases in Uninsured Depositor Rescues

In this section, I consider three other possible explanations for the rise in uninsured depositor rescues, and show that neither of them offer a satisfactory account of changes in the FDIC's resolution methods.

#### Fear of Congressional Intervention

Another reason the FDIC gives for favoring whole-bank P&As is that if it manages assets of failed banks, it may face congressional pressure to refrain from vigorously pursuing collection from certain borrowers of failed banks.<sup>228</sup> As with the FDIC's other explanations for favoring whole-bank P&As, this comes with serious challenges. First, while this could explain why the dominance of whole-bank P&As have persisted past the 2008 financial crisis, it cannot explain why whole-bank P&As would have suddenly become dominant starting in 2008. Indeed, as an

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<sup>226</sup> For instance, consider again the example from Part I.e, of the failed bank with \$50 of insured and \$50 of uninsured deposits and assets worth \$80. If insured and uninsured deposits have equal priority, then as described in that section, uninsured depositors would get \$0.80 in a resolution. But, if insured deposits have priority over uninsured deposits, then insured depositors will be entitled to receive \$50 of asset value first, leaving only \$30 for uninsured depositors, giving them a recovery of \$0.60 on the dollar. In the analysis in Part I.e, I show that fully compensating insured depositors would cost \$10, and if the franchise or reputational harm of failing to do so is greater than \$10, then a whole-bank P&A will be preferable to an insured-deposit P&A or other arrangement. But, if insured deposit have priority, then fully compensating uninsured depositors would cost \$20. Thus, now, compensating uninsured depositors would only be justified if it prevented \$20 or more of franchise or reputational damage. This has the potential to mean then that there may be fewer failed banks where the preservation of franchise or reputational harm is worth the costs of reimbursing uninsured depositors, and thus fewer banks that are resolved via whole-bank P&A.

<sup>227</sup> For some evidence that this can partially offset losses of uninsured deposits, see Martin et al. *supra* note 28.

<sup>228</sup> *FDIC History*, *supra* note 61 at 180



FDIC staff report acknowledges, the FDIC also faced congressional pressure during the S&L crisis, yet this did not stop it, post-FDICIA in 1992, from using large numbers of insured-deposit P&As. Second, the FDIC provides nothing in the way of a detailed cost analysis of lost revenue on account of congressional pressure to treat borrowers lightly. It is highly questionable whether the lost revenue, if any, from this pressure could amount to anywhere near the \$45 billion in extra costs that I estimate the FDIC has accrued on account of its drops in efficiency in the 2008-2022 period.

### Growth in PE-Backed Acquisitions

The FDIC has noted that banks whose shareholders included private equity firms acquired 24 failed banks that might otherwise have been resolved via deposit payouts.<sup>229</sup> At most, this could explain an additional 4.4% of the drop in failures where uninsured depositors bear losses, a very small amount compared to the magnitude of the decline (from 63% in 1992-2007 to 6% in 2008-2022). Furthermore, it seems plausible that at least some of these banks would have acquired failed banks anyway, even if they did not have private equity shareholders. Finally, given that for some time, the FDIC only offered whole-bank P&A deals to potential acquirors, it is hard to know how many insured deposit P&A deals PE-affiliated banks might have chosen had they been allowed greater latitude in deal structure. Thus, PE-backed acquisitions can at most explain a very small portion of the increase in uninsured depositor rescues.

### Growth in Loss-Sharing Agreements

Based on conversations with FDIC staff, another possible explanation for the rise of uninsured depositor rescues has been the increased use of loss-sharing arrangements in P&A deals. The reasoning here goes that a whole-bank P&A with a loss-sharing agreement represents an alternative to a partial-bank P&A, in that the loss-sharing agreement allows the FDIC to in essence only sell a portion of the economic risk of a failed bank's assets, keeping some of that risk on the FDIC's books. Thus, loss-shares may have obviated the need for methods such as insured-deposit P&A deals in which bidders (often) took only a portion of the failed bank's assets.

There are several challenges with this assumption. First, the FDIC began phasing out loss-share agreements in 2012, and ceased them entirely in 2013.<sup>230</sup> Thus, loss-shares cannot explain the persistence of uninsured depositor rescues that have continued to this day. Second, loss-share P&As were introduced by the FDIC in 1991.<sup>231</sup> Thus, it is hard for their availability to explain differences between the 1992-2007 period versus the 2008-2022 period. Finally, a loss-share agreement pertains to a failed bank's assets, whereas questions of uninsured depositor rescues pertain to a bank's liabilities. Thus, the availability of loss-share agreements would seem orthogonal to questions of uninsured depositor rescues. To the extent loss shares are useful, they should be equally useful for insured deposit P&A transactions.

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<sup>229</sup> *PE Acquisitions*, *supra* note 181 at 15.

<sup>230</sup> *FDIC History* *supra* note 61 at 196.

<sup>231</sup> *Resolution Tasks and Approaches* *supra* note 70 at 21.