**FEDERAL DEPOSIT INSURANCE CORPORATION**

**Designated Reserve Ratio for 2024**

**AGENCY:** Federal Deposit Insurance Corporation.

**ACTION:** Notice of Designated Reserve Ratio for 2024.

**SUMMARY:** Pursuant to the Federal Deposit Insurance Act (FDI Act), the Board of Directors (Board) of the Federal Deposit Insurance Corporation (FDIC) designates that the Designated Reserve Ratio (DRR) for the Deposit Insurance Fund shall remain at 2 percent for 2024. The Board is publishing this notice as required by section 7(b)(3)(A)(i) of the FDI Act (12 U.S.C. 1817(b)(3)(A)(i)).

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**SUPPLEMENTARY INFORMATION:** Pursuant to the FDI Act, the Board designates that the DRR for the Deposit Insurance Fund shall remain at 2 percent for 2024. The Board is publishing this notice as required by section 7(b)(3)(A)(i) of the FDI Act (12 U.S.C. 1817(b)(3)(A)(i)). There is no need to amend 12 CFR 327.4(g), the section of the FDIC's regulations which sets forth the DRR, because the DRR for 2024 is the same as the current DRR.

Federal Deposit Insurance Corporation.

By order of the Board of Directors.

Dated at Washington, DC, on November 16, 2023.

**James P. Sheesley,**

*Assistant Executive Secretary.*

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**Staff Studies**

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**FDIC Staff Study**
**A History of Risk-Based Premiums at the FDIC**

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Abstract: This study chronicles the evolution of risk-based deposit insurance pricing at the FDIC, beginning with the first risk-based assessment system implemented in 1993 and continuing through changes made during and after the financial crisis. For each major change, the authors describe the background and policy debates leading up to the change, how the system was revised, and the FDIC's evaluation of the changes against the system in place at the time.

The FDIC has been insuring deposits since 1934. The FDIC's Deposit Insurance Fund (DIF) is supported by deposit insurance assessments (or premiums) paid by the institutions the FDIC insures and is used to protect the depositors of insured banks and to resolve failed banks.[1] For nearly the first 60 years of the FDIC's existence, all insured institutions paid the same assessment rate, regardless of the degree of risk they posed to the fund. Following banking crises in the 1980s and early 1990s, Congress enacted reforms related to deposit insurance and directed the FDIC to establish an assessment system that incorporated the risk posed by each insured institution. In 1993, the FDIC implemented its first risk-based system based on institution capital levels and supervisory ratings.

This paper chronicles the history of risk-based premiums at the FDIC, starting with the first risk-based assessment system implemented in 1993 and continuing through revisions made during and after the most recent financial crisis and subsequent economic downturn. Each section describes the background and policy debates leading up to each change to the risk-based assessment system, how the system was revised, and the FDIC's evaluation of the changes against the system in place at the time. The primary focus of the paper is the evolution of the risk-based assessment system—how the FDIC differentiates risk through deposit insurance assessments—and not broader fund management considerations, such as changes to overall assessment rate levels intended to affect the fund balance.

The first section describes how the FDIC established the first risk-based assessment system and early challenges in implementation. A few years after implementing the first risk-based assessment system, risk differentiation became severely constrained by statutory restrictions that prevented the FDIC from charging well-capitalized, highly rated institutions for deposit insurance once the deposit insurance fund reached a certain level. For almost ten years, risk-based pricing applied to only a small number of institutions, as more than 95 percent of insured institutions paid zero assessment rates. In 2006, Congress enacted legislation that allowed the FDIC to charge risk-based premiums to all institutions regardless of the level of the fund.

The second section describes how the FDIC refined its risk-based pricing system by establishing separate pricing methodologies for small and large banks. The third section describes additional adjustments the FDIC made to risk-based pricing in 2008 based on its experience resolving failed banks at the start of the financial crisis. For example, risk-based pricing began accounting for certain funding sources that could affect how costly a bank's failure would be to the DIF. The last section describes the revisions the FDIC made to its large bank pricing system in 2011 and its small bank pricing system in 2016 based on its experience resolving hundreds of failed banks over two financial crises.

## I. Establishment of Risk-Based Premiums

At the time of its creation in 1933, the FDIC was required by law to charge a uniform, or flat, rate for deposit insurance.[2] An increase in bank and thrift failures during the 1980s and a resulting decline in the balance of the deposit insurance fund led Congress, in 1989, to enact reforms that included an increase in assessment rates and changes to the management of the fund and the resolution of failing institutions.[3] The law mandated a

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[1] For simplicity, the paper uses the term "bank" as synonymous with the term "insured depository institution" or "IDI" as it is used in section 3(c)(2) of the Federal Deposit Insurance Act, 12 U.S.C. 1813(c)(2).

[2] The initial assessment rate was set at approximately 8.3 cents per $100 of deposits, or 8.3 basis points (bps). Banks paid the 8.3 bps nominal rate until 1950, when the deposit insurance fund had grown above $1 billion. Concerns from the banking industry about the level of assessments and the size of the fund led the FDIC to enact a rebate system that generally resulted in an effective assessment rate lower than the nominal rate. In the 1980s, as bank failures and losses to the fund mounted, rebates ended. See FDIC, "A Brief History of Deposit Insurance in the United States," September 1993, 36.

[3] The Financial Institutions Reform, Recovery, and Enforcement Act of 1989 (FIRREA) significantly restructured the regulation of thrifts and transferred the deposit insurance responsibility for thrifts to the FDIC. FIRREA abolished the Federal Savings and Loan Insurance Corporation (FSLIC) and replaced it with the Savings Association Insurance Fund (SAIF), which primarily insured thrifts and was managed by the FDIC. FIRREA also dissolved the FDIC's existing insurance fund and transferred its assets and liabilities to the Bank Insurance Fund (BIF), which primarily insured banks. See Pub. L. 101-73. The BIF and SAIF were merged into the DIF on March 31, 2006. For simplicity, the BIF and SAIF are generally referred to in this paper as the "deposit insurance fund," since the FDIC managed and set rates for both funds.

minimum reserve ratio (the ratio of the fund balance to estimated insured deposits) for the insurance fund of 1.25 percent of estimated insured deposits and enacted a schedule of increasing assessment rates to achieve this minimum.

The 1989 law also required the FDIC to study the establishment of a differential (or risk-based) premium system. Throughout the 1980s, policy debates among regulatory agencies, the bank and thrift industries, and Congress included discussion of reforms to the deposit insurance system, in particular the merits of risk-based deposit insurance premiums.[4] The FDIC's study, released in December 1990, recommended that the FDIC be given authority to levy risk-based premiums to mitigate cross-subsidization and provide financial incentives for banks to control risk-taking.[5]

Congress considered the FDIC's findings from that study and, in the Federal Deposit Insurance Corporation Improvement Act of 1991 (FDICIA), mandated for the first time that the FDIC adopt regulations under which the premium paid by an institution would be based on the risk it poses to the deposit insurance fund. FDICIA required that the FDIC consider the risks attributable to different categories and concentrations of assets and liabilities, the likely amount of any loss for which the insurance fund is at risk, and any other factors the FDIC determines relevant.[6]

## The FDIC's First Risk-Based Assessment System

A risk-based pricing system went into effect on a transitional basis in 1993 and became permanent (largely unchanged from the transitional system) in 1994. In adopting risk-based pricing, the FDIC stated its intentions that the system meet the following policy objectives: be fair and easily understood, not be unduly burdensome to weak institutions, maintain adequate revenue to recapitalize the fund, and increase the financial incentive for insured institutions to maintain safety and soundness.[7] The new system was designed to incentivize safety and soundness by mitigating moral hazard, which arose under the previous methodology because financial institutions could take on additional risk ultimately borne by other institutions through equal rates.

Under the new system, an insured institution's assessment rate was based primarily on two measures of risk: capital levels and supervisory ratings. The capital measure assigned institutions to one of three capital groups: well capitalized, adequately capitalized, or less than adequately capitalized. The capital ratio thresholds for each group were those that the federal banking agencies used to implement Prompt Corrective Action (PCA).[8] The FDIC treated new institutions as "well capitalized" in the first semiannual period for which they had to pay assessments.[9]

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[4] While risk-based premiums had been a topic of discussion for several years, the FDIC lacked the legal authority to adopt a risk-based system. See, for example, U.S. Task Group on Regulation of Financial Services, Blueprint for Reform: The Report of the Task Group on Regulation of Financial Services, 1984, 83; FDIC, Annual Report, 1984, xvi; FDIC, Annual Report, 1985, xvi; and Bartlett Naylor, "Risk-Based Deposit Insurance Idea Comes under Fire at Senate Hearing," *American Banker*, July 24, 1985.

[5] Cross-subsidization refers to safer banks' premiums supporting deposit insurance for riskier banks. A deposit insurer may limit the premiums imposed on riskier banks because premiums that are too high could have the unintended consequence of contributing to a weak bank's failure. See FDIC, "Study of the Desirability and Feasibility of a Risk-Based Deposit Insurance Premium System," December 1990.

[6] Section 302(a) of FDICIA (Pub. L. No. 102-242, 105 Stat. 2236). Under section 302(a), the revenue needs of the deposit insurance fund also may be taken into account when calculating assessments under the statutory system.

[7] 57 Fed. Reg. 62502 (December 31, 1992) and 57 Fed. Reg. 45263 (October 1, 1992).

[8] "Prompt Corrective Action" was added by section 131 of FDICIA (Pub. L. 102–242, 105 Stat. 2236 (1991)). It establishes a framework of supervisory actions for insured depository institutions that increase in stringency as capital ratios deteriorate. The PCA capital category definitions, which became effective December 1992, were:
- Well Capitalized: Total risk-based capital ratio of 10.0 percent or greater; and Tier 1 risk-based capital ratio of 6.0 percent or greater; and leverage ratio of 5.0 percent or greater.
- Adequately Capitalized: Total risk-based capital ratio of 8.0 percent or greater; and Tier 1 risk-based capital ratio of 4.0 percent or greater; and leverage ratio of 4.0 percent or greater (3.0 percent or greater if the bank is rated composite 1 under the CAMEL rating system); and does not meet the definition of well capitalized
- Less Than Adequately Capitalized: Total risk-based capital ratio of less than 8.0 percent; or Tier 1 risk-based capital ratio of less than 4.0 percent; or leverage ratio of less than 4.0 percent (less than 3.0 percent if the bank is rated composite 1 under the CAMEL rating system).
See 57 Fed. Reg. 44901 (September 29, 1992).

[9] The FDIC believed that the capital element of the risk posed to the deposit insurance fund by new institutions during the early months of their existence was minimized by the careful scrutiny of charter and deposit insurance applications. See 58 Fed. Reg. 34357, 34360 (June 25, 1993).

Within each of the three capital groups, institutions were assigned to one of three supervisory subgroups based upon the FDIC's evaluation of the risk posed by each institution. In making this assignment, the FDIC considered supervisory evaluations—CAMELS ratings[10]—by the institution's primary federal supervisor and, for state-chartered institutions, evaluations by its state supervisor. Because an institution's assessment risk classification was based in part on confidential supervisory evaluations, the new system also included restrictions on disclosure of an institution's assessment risk classification.[11] Although the FDIC weighed supervisory evaluations heavily in making subgroup assignments, the evaluations were not the sole basis for those assignments. The FDIC had discretion to consider other information it determined relevant to the institution's financial condition and the risk posed to the deposit insurance fund, including data reported by financial institutions on the Consolidated Reports of Condition and Income (Call Reports) or information from state examination findings.[12]

Based on an institution's capital group and supervisory subgroup, the FDIC assigned it to one of nine risk groups (or assessment risk classifications) and charged a separate assessment rate according to that classification. All institutions with the same risk classification paid the same rate. As shown in Table 1, assessment rates ranged from 23 basis points (cents per $100 of domestic deposits) for the lowest risk group to 31 basis points for the highest risk group.

| Table 1 | | | |
|---|---|---|---|
| **Assessment Rate Schedule, 1993–1995** | | | |
| | **Supervisory Subgroup** | | |
| | **A: Healthy** | **B: Supervisory Concern** | **C: Substantial Supervisory Concern** |
| **Capital Group** | **CAMELS 1 or 2** | **CAMELS 3** | **CAMELS 4 or 5** |
| 1: Well Capitalized | 23 basis points | 26 basis points | 29 basis points |
| 2: Adequately Capitalized | 26 basis points | 29 basis points | 30 basis points |
| 3: Less Than Adequately Capitalized | 29 basis points | 30 basis points | 31 basis points |
| Source: FDIC<br>Note: Capital Group refers to the Prompt Corrective Action capital category definitions. | | | |

The relatively narrow range of assessment rates adopted by the FDIC reflected a number of considerations. First, after the large number of bank and thrift failures in the 1980s and early 1990s, the insurance fund required substantial revenue for recapitalization to meet the statutory requirement of 1.25 percent of estimated insured deposits. Most insured institutions were well capitalized and well rated and thus assigned the lowest risk classification. To achieve sufficient revenue, therefore, the rate applicable to the lowest risk classification had to be considerably higher than what it would have been had the insurance fund already been at or above the target. Second, attempting to impose more of the recapitalization burden on the minority of banks assigned to the higher risk categories would have risked disruption and hardship for institutions already in a weakened condition. The FDIC's position as a public institution and the sole deposit insurer for banking institutions made it difficult and

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[10] Bank supervisors use CAMELS ratings to classify a bank's overall condition. The rating was originally called CAMEL: "C" for Capital Adequacy, "A" for Asset Quality, "M" for Management, "E" for Earnings, and "L" for Liquidity. In 1996, an additional "S" component for Sensitivity to Market Risk was added. CAMELS composite and component ratings are on a scale of 1 to 5, with a 1-rating being the highest and indicating the greatest strength in performance and risk management and the lowest level of supervisory concern. At the other end of the scale, a 5-rating is the lowest rating and indicates the weakest performance, inadequate risk management, and the highest level of supervisory concern. The CAMELS composite rating is derived from an evaluation of the six CAMELS components; although the composite rating is generally a close reflection of the assigned component ratings, it is not an arithmetic average of the component ratings.

[11] 57 Fed. Reg. 62502, 62504 (December 31, 1992).

[12] 57 Fed. Reg. 45263, 45279 (October 1, 1992).

potentially counterproductive to impose such large premiums. A narrow range of rates between the lowest and highest risk classifications meant that rates would not fully reflect differences in risk, since differences in rates from one classification to the next would likely be less than the differences in expected losses to the fund. If the FDIC undercharged the weakest institutions, then the FDIC must, by comparison, overcharge the safer institutions to some extent to maintain adequate revenue.[13] In the FDIC's view, however, the narrow spread of rates was a reasonable preliminary step toward reducing the cross-subsidization of risk that existed with a flat-rate system and provided increased incentives for weaker institutions to improve their safety and soundness.

The total amount of the assessment paid by an institution was calculated by multiplying its assessment rate by its "average assessment base," which, before FDICIA, was defined in terms of the institution's domestic deposit liabilities, with certain adjustments. FDICIA, however, did not specify an assessment base, consistent with congressional intent that the FDIC have discretion in designing a new risk-based system without being constrained by requirements under the former flat-rate system. In adopting risk-based pricing, the FDIC maintained the existing definition of the assessment base.

### Alternatives Considered

The FDIC considered numerous approaches in implementing the first risk-based assessment system. Among the range of options were whether to set premium rates based on other risk measures than those ultimately adopted, establish separate systems for large and small banks, establish a separate minimal-risk classification, or expand beyond a framework of nine risk classifications. The FDIC requested and responded to public comments on these issues during the rulemaking process.

Regarding the risk measures used to set premium rates, the FDIC considered whether premium rates should be based solely on objective factors instead of a combination of capital ratios and supervisory evaluations. Public comments were mixed: most commenters supported using a combination of factors, but some commenters argued that only objective measures should be used. Several commenters proposed that supervisory evaluations should be considered only for institutions of supervisory concern. The FDIC determined that supervisory judgments generally provided a sounder basis for determining risk to the fund than solely relying on data in an institution's public financial statements and reports.[14] In the FDIC's view, the ongoing supervisory monitoring process, which comprised a variety of formal and informal contacts with insured institutions, produced more and better information about an institution's risk exposure than could be obtained from financial reports. Therefore, a risk-based insurance system in which supervisory factors play an important role would lead to more accuracy in the pricing of risk than one based exclusively, or almost exclusively, on reported financial data.

The FDIC was reluctant, however, to rely solely on supervisory evaluations for determining a bank's risk-based assessment rate. The FDIC wanted the risk-based premium system to provide an immediate financial reward to weaker depository institutions that improved their financial condition as reflected by a quantitative, well-defined indicator.[15] Basing premiums in part on an institution's capital ratios as reported on Call Reports and Thrift Financial Reports, and consistent with the categories under recently adopted PCA standards, would provide an objective measure. By improving their capital ratios, weak institutions could reduce their premiums. Greater capital increases an institution's ability to withstand losses, increases the owners' stake in a sound operation, and reduces the likelihood that an institution will fail and cause a loss to the deposit insurance fund. Accordingly, the FDIC decided to establish risk-based assessment rates using both capital ratios and supervisory evaluations.

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[13] 57 Fed. Reg. 21617, 21619 (May 21, 1992).

[14] 57 Fed. Reg. 45263, 45280 (October 1, 1992).

[15] 57 Fed. Reg. 45263, 45281 (October 1, 1992).

Another alternative the FDIC considered was whether to establish separate systems for small and large banks, as authorized under FDICIA. However, at the time the FDIC did not want to treat two institutions with the same capital ratios and the same supervisory evaluations differently because of their size. Most comment letters agreed with the agency's view. Therefore, the FDIC chose not to vary premium rates based on an institution's total asset size.

Before finalizing the new risk-based assessment system, the FDIC also requested comment on whether a separate assessment risk classification should be established for institutions posing minimal risk to the deposit insurance fund. Because the FDIC expected that most institutions would be assigned the lowest risk classification for being well capitalized and receiving a CAMELS rating of 1 or 2, the assessment system may not have provided enough of an incentive for more prudent risk-taking and enhanced safety and soundness, one of the FDIC's goals for risk-based premiums.[16] The FDIC therefore requested comment on whether a minimal-risk group should be carved out of the lowest risk classification to further differentiate risk. During the rulemaking process, the FDIC received 108 letters commenting on this issue. Most agreed that the addition of a minimal-risk category would enhance the new assessment system and contribute to an incentive structure that rewards institutions for safety and soundness and for skill at managing risk.[17] There was, however, no consensus on which criteria should define a minimal-risk category.[18] Further, the FDIC noted that establishing a lower premium for minimal-risk institutions would require increasing premiums for all other institutions to maintain adequate revenue, and that such an increase could have an unduly harsh effect on weak institutions, especially since the FDIC had adopted a narrow range of rates.[19] In light of these concerns, the FDIC chose not to adopt a minimal-risk category.

The FDIC also requested comment on whether to expand the nine risk classifications framework adopted in the transitional system to include more capital groups and supervisory subgroups and, if so, how. Most comment letters favored retaining the existing nine-cell matrix. Very few comments specifically addressed alternative rate matrices that the FDIC proposed as examples. The FDIC Board of Directors agreed with the majority of commenters that the nine risk classifications framework should be retained for the new assessment system.[20]

Finally, the FDIC considered expanding or contracting the assessment base from its original definition. The FDIC noted that in the event of an "emergency special assessment," the law required that the FDIC use an alternative definition of an assessment base consisting of each institution's average total assets minus the sum of its average tangible equity and subordinated debt. (The FDIC would use a similar definition in 2009 when charging a one-time special assessment to rebuild the DIF, and again in 2011 when directed by Congress to redefine the assessment base.) However, the FDIC determined that changing the assessment base would have resulted in substantial redistribution of the assessment burden among institutions of various sizes and would have complicated the transition to the risk-based system. The FDIC concluded that the issue required further study and proposed no change to the provisions in the assessment regulation governing the assessment base.[21]

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[16] 57 Fed. Reg. 21617–19 (May 21, 1992).

[17] 58 Fed. Reg. 34357, 34361 (June 25, 1993).

[18] For example, the FDIC requested comment on whether the minimal-risk category should be defined based on an institution's debt ratings. The possible use of private debt ratings as a risk factor generated a number of negative responses, including concerns about the incompatibility of incentives of, and information available to, the FDIC and private rating firms. As a result, the FDIC ruled out using debt ratings to derive a minimal-risk category or as an additional factor in determining supervisory subgroup assignments. See 57 Fed. Reg. 45263, 45281 (October 1, 1992).

[19] 57 Fed. Reg. 45263, 45281 (October 1, 1992).

[20] 58 Fed. Reg. 34357, 34361 (June 25, 1993).

[21] 57 Fed. Reg. 62502, 62514 (December 31, 1992).

## Evaluation

The new risk-based pricing system represented a significant step forward from the previous flat-rate system in aligning a bank's assessment rate with the risk it posed to the insurance fund. After the system had been in place for several years, the FDIC analyzed how often banks within each assessment category failed within a five-year timeframe. This analysis, shown in Table 2, revealed that banks in higher risk assessment categories (or banks that would have been assigned to higher risk categories had the risk-based system been in effect as early as 1985) failed at rates higher than banks that were (or would have been) in lower risk categories. Figures are five-year failure rates using risk category data from 1985 to 2000 and failures through 2005. Each failure rate represents the percentage of banks in a given quarter and in a given risk category that fail in the next five years (aggregated over all data quarters from 1985 through 2000).[22]

| Table 2 | | | |
|---|---|---|---|
| **Five-Year Failure Rates by Assessment Category, 1985–2000 (BIF-member institutions only)** | | | |
| | **Supervisory Subgroup** | | |
| | **A: Healthy** | **B: Supervisory Concern** | **C: Substantial Supervisory Concern** |
| **Capital Group** | **CAMELS 1 or 2** | **CAMELS 3** | **CAMELS 4 or 5** |
| 1: Well Capitalized | 0.77% | 2.67% | 6.78% |
| 2: Adequately Capitalized | 2.03% | 5.51% | 14.43% |
| 3: Less Than Adequately Capitalized | 2.30% | 7.10% | 28.84% |
| Source: FDIC Note: Capital Group refers to the Prompt Corrective Action capital category definitions. | | | |

Nonetheless, the need to recapitalize the fund after the crisis of the late 1980s and early 1990s resulted in a high rate for the lowest risk category and a narrow range of rates between the lowest and highest risk categories that did not reflect the extent of differences in historical failure rates across categories (see Table 1). Moreover, the single rate for the lowest risk category, to which most banks were assigned, did not account for risk differences among banks within the category.

After reaching the statutorily mandated reserve ratio of 1.25 percent, the FDIC lowered assessment rates for the riskiest institutions from 31 basis points to 27 basis points. Rates for the least risky institutions decreased from 27 basis points to zero, reflecting provisions of the Deposit Insurance Funds Act of 1996 (DIFA) that prohibited the FDIC from charging well-capitalized, highly rated institutions for deposit insurance when the fund reserve ratio was at or above 1.25 percent.[23] The effective date of the change in assessment rates differed based on whether an institution was insured by the Bank Insurance Fund, which reached a fund ratio of 1.25 percent in 1995, or the Savings Association Insurance Fund, which reached its minimum the following year.[24] Table 3 shows

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[22] 71 Fed. Reg. 41910, 41912 (July 24, 2006). The five-year failure rate is calculated by comparing the number of institutions that failed within five years to the number of institutions in each category at the beginning of the five-year period. For more information on the BIF, see footnote 3.

[23] Section 2706 of Omnibus Consolidated Appropriations Act, 1997 (Short Title: Deposit Insurance Funds Act of 1996) Pub. L. No. 104-208. Stat 3009−496, September 30, 1996.

[24] Initially, under the new risk-based pricing system, institutions paid assessment rates that ranged from 23 to 31 basis points (see Table 1). This rate schedule was determined in part by the law, as FDICIA required the FDIC to maintain assessments at an average of 23 basis points until the fund reached a level of 1.25 percent. The BIF reached its minimum reserve ratio in 1995, and the FDIC lowered assessments for BIF-insured institutions to a range of 4 to 31 basis points from June 1, 1995, through December 31, 1995. After the passage of DIFA, FDIC lowered rates for BIF-insured institutions to a range of 0 to 27 basis points (see Table 3), effective January 1, 1996. The disparity in assessment rates created incentives for the institutions to move deposits from the SAIF to the BIF, so DIFA required the FDIC to impose a one-time assessment of 65.7 basis points on SAIF deposits. After collecting this special assessment, the SAIF reached its minimum in 1996, and the FDIC lowered rates for SAIF-insured institutions to 0 to 27 basis points (see Table 3), consistent with the rates applicable to BIF institutions. For more information on the BIF and SAIF, see footnote 3.

the assessment rate schedule for all nine risk classifications after each respective fund ratio reached 1.25 percent. Generally, this schedule was in effect for all insured institutions from October 1, 1996, to December 31, 2006.

| Table 3 | | | |
| --- | --- | --- | --- |
| **Assessment Rates After Fund Ratio Reached 1.25 Percent** | | | |
| | **Supervisory Subgroup** | | |
| | **A: Healthy** | **B: Supervisory Concern** | **C: Substantial Supervisory Concern** |
| **Capital Group** | **CAMELS 1 or 2** | **CAMELS 3** | **CAMELS 4 or 5** |
| 1: Well Capitalized | 0 basis points | 3 basis points | 17 basis points |
| 2: Adequately Capitalized | 3 basis points | 10 basis points | 24 basis points |
| 3: Less Than Adequately Capitalized | 10 basis points | 24 basis points | 27 basis points |

Source: FDIC
Note: Capital Group refers to the Prompt Corrective Action capital category definitions.

While the underlying risk measures remained the same, most institutions (those in the lowest risk category) paid no assessments for approximately ten years.[25] The prohibition on the FDIC from charging most banks a premium severely limited the ability of the system to differentiate risk and to provide incentives to banks for prudent risk-taking. Reforms enacted in early 2006 ultimately restored the FDIC's ability to implement a system that more effectively charged based on risk.

## II. Deposit Insurance Reform

In the late 1990s, the FDIC began a comprehensive review of the deposit insurance system. Since nearly all banks during this time period were well capitalized and highly rated, the statutory constraints on premiums limited the system's ability to differentiate risk and benefitted certain higher-risk banks within this group. The constraints also benefitted newer banks and fast-growing banks at the expense of older banks and stable banks. The system also failed to provide adequate incentives for banks to prudently manage their risks. In August 2000, the FDIC published an options paper summarizing the existing analyses of the deposit insurance system and seeking additional comment from the public.[26] The paper outlined options for changes in risk-based premiums and insurance fund management and laid out the theoretical underpinnings for later revisions to the risk-based premium system.[27] Building on FDIC experience and industry suggestions, including public roundtable discussions,[28] the proposed options explored how deposit insurance could be priced and what information should serve as the basis for pricing.

In 2001, the FDIC released a report on recommendations to reform the federal deposit insurance system.[29] Since the reforms would require statutory changes, the report included recommendations for Congress to consider. Among the reforms the FDIC recommended was the ability to charge risk-based premiums to all institutions, regardless of the fund's size, thereby reducing the potential for moral hazard and improving fairness by reducing the cross-subsidization of riskier banks by safer banks and of newer banks by older banks. In testimony before

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[25] Banks were still required to pay assessments for the interest on bonds issued by the Financing Corporation (FICO) created in 1987 for the purpose of recapitalizing the FSLIC. These assessments were set separately from deposit insurance, were uniform across the industry, and were not risk-based. See FDIC, *History of the Eighties: Lessons for the Future: An Examination of the Banking Crises of the 1980s and Early 1990s* (1997), 132–35.

[26] FDIC, Options Paper, August 2000, https://www.fdic.gov/deposit/insurance/optionpaper.pdf.

[27] Donna Tanoue (Chairman, Federal Deposit Insurance Corporation), statement at a press conference on deposit insurance issues, Washington, D.C., August 9, 2000, https://www.fdic.gov/news/news/press/2000/pr0052a.html.

[28] FDIC Roundtable on Deposit Insurance, April 25, 2000.

[29] FDIC, "Keeping the Promise: Recommendations for Deposit Insurance Reform," April 2001, https://www.fdic.gov/deposit/insurance/initiative/direcommendations.pdf.

Congress, then-FDIC Chairman Donald Powell set the stage for changes to the treatment of new institutions by noting that more than 1,100 new banks were enjoying deposit insurance on $262 billion in deposits, without ever having paid any premiums: "In effect, older and more slowly growing institutions are subsidizing these new and fast-growing institutions."[30] Chairman Powell also noted the FDIC's objectives of risk-based pricing: to make premiums fair, transparent, and subject to both statistical analysis and expert judgment.

After multiple iterations of draft bills and with FDIC input on the legislation, Congress passed the Federal Deposit Insurance Reform Act of 2005 (FDIRA) on February 6, 2006.[31] FDIRA gave the FDIC flexibility to charge premiums to all institutions and spurred the FDIC to implement additional reforms. The FDIC collapsed the nine risk-based pricing categories into four, created separate pricing methods for large and small banks, revised its method of risk differentiation for banks in the lowest risk category, and changed the treatment of new institutions for assessments purposes.

## Ability to Charge All Banks Premiums

The FDIC strongly advocated for the ability to charge all banks risk-based premiums, regardless of their health or the size of the DIF. Because the FDIC was prohibited from charging deposit insurance premiums to most insured institutions, the system could not effectively constrain moral hazard. In its 2001 recommendations for deposit insurance reform, the FDIC noted that "the lack of risk-based pricing for most institutions can encourage imprudent risk-taking" and stated that the "restriction should be ended."[32] Further, among the 95 percent of institutions that paid nothing for deposit insurance were new institutions that benefited from the premiums previously paid by other institutions.[33]

As part of FDIRA, Congress ended the prohibition on charging risk-based premiums to well-capitalized institutions (which constituted most of the industry) when the reserve ratio was at or above its target.[34] This gave the FDIC additional latitude to improve the pricing of risk among institutions that were well capitalized and well rated—the great majority of institutions. Then-FDIC Chairman Sheila Bair later said, "This new system […] will add incentives for good risk management at insured institutions."[35] FDIRA also granted a one-time assessment credit of approximately $4.7 billion to recognize the established institutions' past contributions to the fund, including recapitalizing the fund in the early 1990s.

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[30] *Deposit Insurance Reform Act of 2005: Hearing on H.R. 1185, Before the Subcommittee on Financial Institutions and Consumer Credit of the Committee on Financial Services,* 109th Cong. (2005) (statement of Donald E. Powell, Chairman, Federal Deposit Insurance Corporation), https://www.fdic.gov/news/news/speeches/archives/2005/chairman/spmar1705.html.

[31] Federal Deposit Insurance Reform Act of 2005, Pub. L. No. 109-171, 120 Stat. 9 (2006). The reason for the discrepancy in dates is that the act was included as Title 2 in the Deficit Reduction Act of 2005, and the latter was signed into law in February 2006.

[32] "Keeping the Promise: Recommendations for Deposit Insurance Reform." An additional 2001 report noted that "deposit insurance premiums may distort risk taking if they do not accurately reflect risks." See Blinder and Wescott, "Reform of Deposit Insurance: A Report to the FDIC," March 20, 2001.

[33] From January 1, 1997, through December 31, 2006, rates ranged between 0 and 27 basis points. During this period, the best-rated institutions (1A institutions) were not charged for deposit insurance; only weaker institutions were charged. Approximately 95 percent of all institutions were rated 1A during this time period.

[34] FDIRA allowed the target Designated Reserve Ratio (DRR) for the DIF to be set between 1.15 percent and 1.50 percent. However, when the reserve ratio exceeded 1.35 percent at the end of any year, FDIRA required that the FDIC provide dividends of one-half of any amount in the fund in excess of the amount required to maintain the reserve ratio at 1.35 percent. When the reserve ratio exceeded 1.50 percent at the end of any calendar year, the FDIC was required to provide dividends of all amounts above the amount required to maintain the reserve ratio at 1.50 percent. The Board could suspend these dividends under certain circumstances. See section 2107(a) of Pub. L. No. 109-171, February 8, 2006.

[35] FDIC, "FDIC Approves New Risk-Based Premiums for Deposit Insurance," news release no. PR-101-2006, November 2, 2006, https://www.fdic.gov/news/news/press/2006/pr06101.html.

## Revisions to Risk-Based Premiums

FDIRA gave the FDIC the opportunity to better price deposit insurance for risk. Thus, the FDIC changed its risk-based assessment system to improve risk differentiation. The changes limited the subsidization of riskier institutions by safer ones and made assessments more sensitive to risk.[36]

Effective in 2007, the FDIC collapsed the risk categories used to determine a bank's assessment rate from nine to four, with Risk Category I containing the lowest-risk banks and Risk Category IV containing the highest-risk banks. The consolidation was based primarily on the similarity of failure rates among the merged categories based on the historical five-year failure rates shown in Table 2.[37] Moreover, a few of the nine categories in the original system generally contained small percentages of institutions.[38] As a result, the pricing method would be simpler but would remain aligned with insurance risk, since the risk of failure continued to increase with each successive category.

As shown in Table 4,[39] Risk Category I contained all well-capitalized institutions with CAMELS composite ratings of 1 or 2, identical to the lowest risk category in the previous nine-cell matrix. Risk Category II contained institutions with CAMELS composite ratings of 1, 2, or 3, except those in Risk Category I and undercapitalized institutions. Risk Category III contained all undercapitalized institutions with CAMELS ratings of 1, 2, or 3 and institutions with CAMELS composite ratings of 4 or 5 that were not undercapitalized. Risk Category IV contained all undercapitalized institutions with CAMELS ratings of 4 or 5.[40]

Banks in the three higher risk categories, each of which contained relatively few banks, would pay a single base rate applicable to each category. Institutions that are less than well capitalized or have exhibited supervisory

| Table 4 | | | |
|---|---|---|---|
| **Assessment Rate Schedule, 2007–2008** | | | |
| | **Supervisory Subgroup** | | |
| **Capital Group** | **A** <br> **CAMELS 1 or 2** | **B** <br> **CAMELS 3** | **C** <br> **CAMELS 4 or 5** |
| 1: Well Capitalized | Risk Category I <br> (5 to 7 bps) | Risk Category II <br> (10 bps) | Risk Category III <br> (28 bps) |
| 2: Adequately Capitalized | Risk Category II <br> (10 bps) | Risk Category II <br> (10 bps) | Risk Category III <br> (28 bps) |
| 3: Under Capitalized | Risk Category III <br> (28 bps) | Risk Category III <br> (28 bps) | Risk Category IV <br> (43 bps) |
| Source: FDIC <br> Note: Capital Group refers to the Prompt Corrective Action capital category definitions. | | | |

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[36] 71 Fed. Reg. 41910, 41911 (July 24, 2006).

[37] For example, the five-year historical failure rates for institutions in categories with the lowest risk supervisory groups and higher capital levels were similar and, as a group, markedly lower than the categories with higher risk supervisory groups and lower capital levels.

[38] For example, on average from 1985 to 2005, only 0.05 percent of institutions insured under the Bank Insurance Fund were in the subcategory assigned to institutions that are undercapitalized and have a CAMELS rating of 1 or 2. See 71 Fed. Reg. 41910, 41911 (July 24, 2006).

[39] The actual assessment rates in effect from 2007 to 2008, shown in Table 4, were uniformly 3 basis points higher than the base rate schedule. The FDIC Board could raise or lower rates uniformly by up to 3 basis points from the base rate schedule without further notice and public comment. See 71 Fed. Reg. 69282, 69284 (November 30, 2006). Previously, the base schedule of rates could be adjusted by up to 5 basis points without further notice and comment. See 71 Fed. Reg. 41910, 41911 (July 24, 2006).

[40] 71 Fed. Reg. 69282, 69288 (November 30, 2006).

weaknesses (that is, have been rated CAMELS 3, 4, or 5) are examined more frequently than other institutions. Consequently, the FDIC concluded that supervisory evaluations and capital levels provide a good measure of failure risk. However, as the FDIC had acknowledged when setting assessment rates for the original risk-based premium system, attempting to approximate an actuarially fair premium to the highest-risk banks could result in a premium rate so large that it might have the unintended consequence of causing an already weak institution to fail. Therefore, rates for banks in Risk Categories II through IV were significantly lower than rates that would have closely reflected the historical costs of failures of banks in these categories.

Most banks were well capitalized and well rated and therefore assigned to Risk Category I. To prevent these banks from paying the same rate and failing to differentiate for risk, the FDIC established a 2 basis point spread for this category. This helped reduce the cross-subsidy for risk-taking that safer banks provided to riskier banks within the same risk category. Banks in Risk Category I would pay between 5 and 7 basis points, depending on risk characteristics. In determining the 2 basis point spread, the FDIC struck a balance between (1) a narrower range of rates, which would reflect a smaller difference in relative risk between banks in the category but result in more predictable assessments, and (2) a wider range of rates, which would improve risk differentiation but could result in rates that fall above or below the actual risk of some institutions.

The FDIC introduced separate methods for small banks (generally those with less than $10 billion in total assets) and large banks (generally those with $10 billion or more in total assets) to differentiate risk among institutions in Risk Category I and determine their assessment rates.[41] This was the first time that the FDIC exercised authority granted in 1991 to establish separate risk-based pricing methods for large and small banks. With the legal prohibition against charging most banks—large or small—a risk-based premium removed by Congress in FDIRA, it was an appropriate time to consider using this authority. The implementation of separate systems for large and small banks allowed the FDIC to use available market data to price risk for larger institutions. The FDIC also chose to use a separate pricing system for large banks in recognition that they generally have more complex risk profiles and have more available financial and market information than small banks.[42]

Pricing for small banks within Risk Category I was based on supervisory ratings and financial ratios. The FDIC used a weighted average of CAMELS component ratings, with the weight for each component reflecting the FDIC's view on the component's relative importance for differentiating risk among Risk Category I banks for deposit insurance purposes.[43] The FDIC supplemented supervisory ratings with financial ratios for determining a bank's risk-based rate because financial ratios are reported on a more frequent and consistent basis than bank examinations, thus providing updated information and allowing greater risk differentiation.[44]

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[41] The FDIC defined a small institution as one with less than $10 billion in total assets as of December 31, 2006, and a large institution as one with $10 billion or more in total assets as of December 31, 2006. Thereafter, a small institution would be reclassified as large after reporting assets of $10 billion or more for four consecutive quarters, and a large institution would be reclassified as small after reporting assets below $10 billion for four consecutive quarters. In addition, an institution with at least $5 billion in assets could request treatment as a large institution. See 71 Fed. Reg. 69282, 69294 (November 30, 2006).
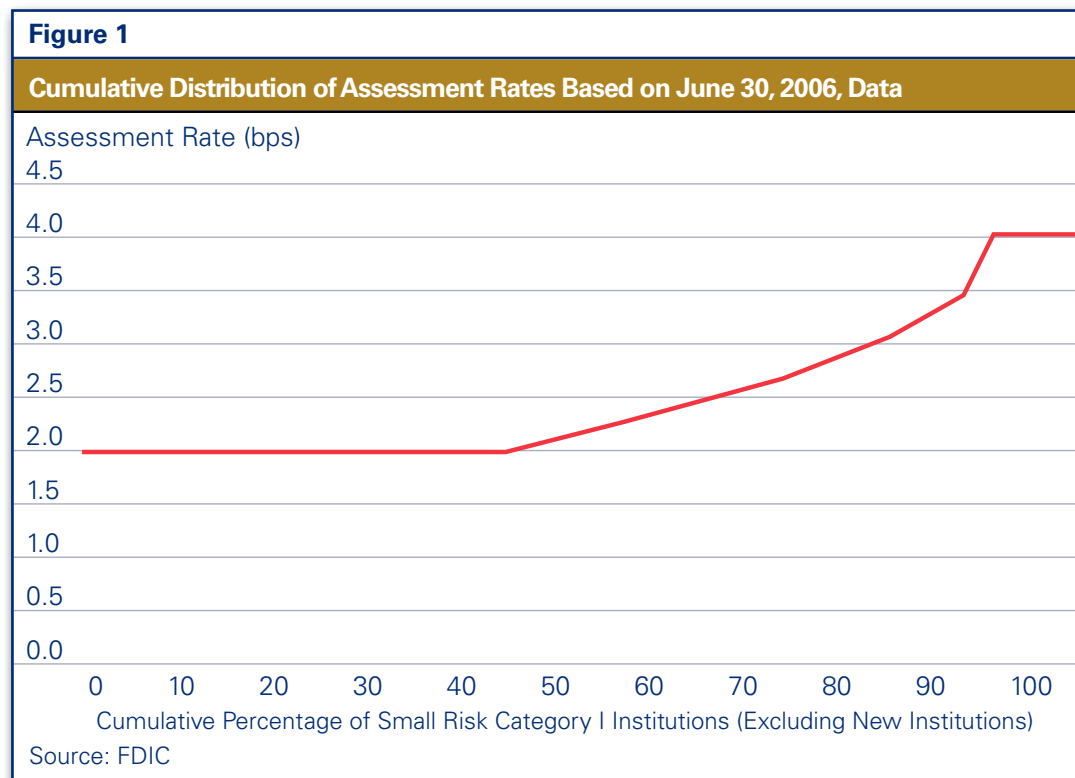
[42] 71 Fed. Reg. 41910, 41924 (July 24, 2006).

[43] The FDIC and other bank supervisors do not use a weighting system to determine CAMELS composite ratings.

[44] 71 Fed. Reg. 41910, 41913 (July 24, 2006).

To determine which financial ratios to include and the effect that each would have in calculating a small Risk Category I bank's assessment rate, the FDIC statistically analyzed the historical relationship (using data from 1984 to 2005) between a set of financial measures (along with the weighted average CAMELS component rating) and the probability of being downgraded to a CAMELS composite rating of 3, 4, or 5 within one year.[45] The regression model estimated the probability of a CAMELS downgrade, rather than the probability of failure, because very few failures occurred in the years leading up to 2006. The FDIC also considered the probability of a downgrade to a CAMELS rating of 3 or worse to be an appropriate model output since such a downgrade would cause an institution to move from Risk Category I to a higher risk category. Based on the estimation process, the FDIC ultimately selected the following financial ratios: the Tier 1 leverage ratio, loans past due 30–89 days to gross assets, nonperforming assets to gross assets, net loan charge-offs to gross assets, and net income before taxes to risk-weighted assets.

The estimated coefficients from the regression model for each of the financial ratios and the weighted average CAMELS component ratings were scaled to "pricing multipliers" that would convert the risk measures to an assessment rate within the range for Risk Category I.[46] Because the FDIC applied a range of rates to banks in this category, it also needed to determine the percentages of Risk Category I institutions to which the minimum and maximum rates for the category would apply. The FDIC set pricing multipliers such that, based on data as of June 30, 2006, the FDIC would have charged 45 percent of Risk Category I institutions the minimum rate and 5 percent the maximum rate (see Figure 1). The 45 percent floor was based on FDIC research showing that small institutions in approximately the top half of the risk ranking shared a common minimal risk of downgrade. The remainder of small institutions in the industry had increasing and distinguishable risk of CAMELS downgrades.[47]



**Figure 1**

**Cumulative Distribution of Assessment Rates Based on June 30, 2006, Data**

Assessment Rate (bps)

Cumulative Percentage of Small Risk Category I Institutions (Excluding New Institutions)

Source: FDIC

[45] As a starting point, the FDIC considered the financial ratios used in its Statistical CAMELS Off-site Rating (SCOR) system, an off-site monitoring system that is used to identify changes in risk profiles between bank examinations. In selecting financial variables, the FDIC attempted to ensure fair treatment across different types of insured institutions and to avoid introducing potential incentive conflicts. For example, the allowance for loan and lease losses and provisions for loan losses were excluded from the model because the FDIC did not want to give institutions an incentive to lower loan-loss provisions and loan-loss allowances in order to reduce their insurance assessments. See 71 Fed. Reg. 41910 (July 24, 2006), Appendix 1.

[46] Each pricing multiplier was derived so that after multiplying it by its respective risk measure, summing the products, and adding a uniform amount, the result would be a base assessment rate between 2 and 4 basis points. The FDIC added 3 basis points to each base rate to yield rates between 5 and 7 basis points, the actual Risk Category I rates adopted by the Board.

[47] 71 Fed. Reg. 69282, 69286 (November 30, 2006).

Risk-based assessment rates for large banks within Risk Category I were based on weighted average CAMELS component ratings and long-term debt issuer ratings, with equal weight given to each of these two measures. For large banks in Risk Category I that did not have long-term debt issuer ratings, financial ratios were used in the same way as for small banks.[48] Since the FDIC sought to achieve parity between small and large institutions, 45 percent of each size group was assigned to the minimum rate, though these proportions could change.

In addition, the FDIC could, in consultation with the institution's primary federal regulator, adjust the assessment rate for a large Risk Category I institution based on additional risk information. Adjustments were limited to 0.50 basis points (higher or lower than the institution's base assessment rate) and determined based on risk information that included market data, financial performance, and stress factors.[49] The consideration of additional information was consistent with best practices in the banking industry for rating credit and counterparty exposures. The assessment adjustments were designed to capture risk that might not otherwise be incorporated by the risk measures adopted for large bank pricing. The use of additional risk information was intended to maintain fairness by identifying institutions with significantly different risk profiles than other institutions with the same assessment rate. As intended, the adjustment authority was an important tool to preserve the fundamental fairness of the risk system, particularly in the lead up to the financial crisis.[50]

As part of the 2006 reforms, the FDIC also revised how it assessed new institutions. Under the original risk-based assessment system adopted in 1993, new institutions were viewed as posing little risk to the deposit insurance fund and were treated as well capitalized in the first period for which they had to pay assessments. In the 2006 update to the risk-based pricing system, new institutions (those less than five years old) in Risk Category I were assessed at the maximum rate applicable to that category.[51] This treatment reflected findings that new institutions have a higher failure rate than established institutions[52] and was intended to limit the moral hazard associated with new entrants to the deposit insurance system not paying premiums commensurate with their risk.[53]

### Alternatives Considered

While the FDIC significantly changed its risk-based pricing methodology in 2006, it also considered—but ultimately did not implement—several other alternatives. Variations of some of these alternatives would be incorporated into later revisions to risk-based pricing. For example, the FDIC considered but ultimately decided against imposing an additional premium for institutions (or only for new institutions) that experienced rapid asset growth. At the time, the FDIC believed that the one-time assessment credit authorized by Congress as part of FDIRA to institutions that paid premiums before 1996 (described above) was a sufficient countermeasure to the rapid growth during the zero premium era of 1996 to 2006. The FDIC also recognized that growth in a bank's assessment base—domestic deposits—led to a proportional increase in its assessments, once premiums could be charged regardless of the reserve ratio.

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[48] The FDIC had originally proposed using debt ratings in 1992 when developing the original risk-based pricing system but elected not to include them. In 2006, the FDIC ultimately decided to adopt the use of debt ratings from the three major debt rating agencies, concluding that the ratings were "widely accepted and used by market participants to gauge the relative risk of large financial institutions" and that they "provide market-based views of risk that are complementary to supervisory views." The FDIC also viewed long-term debt issuer ratings as a proxy for an institution's relative funding costs. See 71 Fed. Reg. 41920 (July 24, 2006).

[49] Base assessment rate refers to an institution's assessment rate, in basis points, prior to any adjustment. In May 2007, the FDIC issued guidelines for determining how adjustments to a large bank's assessment rate would be made. The guidelines described how the FDIC would compare the rank orderings of risk "to identify inconsistencies in rank orderings between the initial assessment rate and other risk indicators." See 72 Fed. Reg. 27122 (May 14, 2007).

[50] From 2006 to 2008, the number of adjustments ranged from 2 to 16 per quarter. For the third quarter of 2008, the FDIC applied adjustments for 16 large Risk Category I institutions, 14 to increase an institution's assessment rate and 2 to decrease an institution's assessment rate. See 74 Fed. Reg. 9525, 9536 (March 4, 2009).

[51] Generally, a new institution did not include the surviving or resulting institution from a merger or consolidation of an established institution with a new institution. The FDIC also considered defining a new institution as one that is less than seven years old. But, after additional analysis in consideration of comments favoring a shorter period, the agency defined new institutions as those that have been in existence less than five years.

[52] While new institutions were generally formed with high levels of capital relative to competitors, they had low rates of return on assets and were "financially fragile and more susceptible to failure than established banks." See Chiwon Yom, "Recently Chartered Banks' Vulnerability to Real Estate Crisis," FDIC Banking Review 17 (2005): 115.

[53] From 1996 to 2006, most new institutions, like other banks in the lowest risk (1A) category, paid no premiums at all. For more on new institutions, see Chiwon Yom and Yan Lee, "The Entry, Performance, and Risk Profile of De Novo Banks" (Working Paper, no. 2016-03, FDIC, April 2016), https://www.fdic.gov/bank/analytical/cfr/2016/wp2016/2016-03.pdf.

Another change the FDIC considered but chose not to incorporate was a measure of loss given failure. While the Federal Deposit Insurance (FDI) Act required the FDIC to consider loss given failure, the FDIC had limited ability to incorporate it into the pricing system owing to data limitations and unclear assumptions on losses.[54] Adding such a measure would have required banks to report additional information on measures such as secured liabilities, loan collateral requirements, and the maturity structure of assets and liabilities. For large banks, however, the FDIC specified possible loss severity indicators that it would consider in making an adjustment to a large bank's assessment.[55]

## Evaluation

The restoration in 2006 of the ability to charge all banks a premium regardless of the size of the fund allowed the FDIC to make changes to risk-based pricing intended to make the assessment system fairer and to reduce moral hazard. Analysis of historical data (from 1985 to 2000), shown in Table 2, indicated that banks in higher risk categories in the original nine-cell matrix (or banks that would have been in higher risk categories had a risk-based system been in effect before 1993) failed at higher rates. The analysis also revealed that the FDIC could reduce the number of risk categories from nine to four based on similarity of failure rates without sacrificing accuracy in differentiating risk.

Subsequent FDIC analysis, shown in Table 5, confirmed that banks in the higher risk categories as revised in the 2006 rule failed at higher rates during the recent banking crisis than banks in the lower risk categories, and that Risk Category I banks paying the maximum rate for that category failed at higher rates than Risk Category I banks paying the minimum rate for the category. Figures are five-year failure rates using risk category data from 2007 to 2012 and failures through 2017. Since banks in Risk Category I paid a range of rates, failure rates for that risk category are shown by quartile. Each failure rate represents the percentage of banks in a given quarter and in a given risk category that fail in the next five years (aggregated over all data quarters from 2007 through 2012).

| Table 5 | | | |
|---|---|---|---|
| **Five-Year Failure Rates by Risk Category, 2007–2012** | | | |
| | **Supervisory Subgroup** | | |
| **Capital Group** | **A**<br>**CAMELS 1 or 2** | **B**<br>**CAMELS 3** | **C**<br>**CAMELS 4 or 5** |
| 1: Well Capitalized | Risk Category I<br>Quartile 1: 0.51%<br>Quartile 2: 0.83%<br>Quartile 3: 1.99%<br>Quartile 4: 4.57% | | Risk Category III<br>13.09% |
| 2: Adequately Capitalized | Risk Category II<br>4.82% | | |
| 3: Under Capitalized | Risk Category III<br>13.09% | | Risk Category IV<br>60.60% |
| Source: FDIC<br>Note: Capital Group refers to the Prompt Corrective Action capital category definitions. | | | |

[54] 71 Fed. Reg. 69282 (November 30, 2006) FDI Act as amended by FDIRA, 12 U.S.C. 1817 (b) (1) (C) (ii).

[55] 71 Fed. Reg. 69282, 69307 (November 30, 2006).

While the new methods to determine assessment rates for banks within Risk Category I (to which most banks were assigned) added some complexity to the assessment system, they appeared to improve risk differentiation. The use of financial ratios to determine a bank's risk-based rate increased the system's ability to reflect changing conditions. To mitigate the burden of this additional complexity, the FDIC began publishing on its website a spreadsheet calculator that bankers can use to estimate insurance assessment rates for future quarters.[56]

## III. Changes to Risk-Based Premiums During the Crisis

Mounting bank failures in 2008 took a toll on the balance of the DIF and when the reserve ratio fell below its statutory minimum, the FDIC adopted a Restoration Plan in October of that year outlining how it planned to shore up the fund.[57] At the same time, the FDIC proposed a few significant changes to risk-based pricing to improve risk differentiation based on its experience up to that point in the crisis.

First, the FDIC widened the range of assessment rates applicable to banks in Risk Category I. Second, the FDIC introduced three potential adjustments to a bank's assessment rate intended to account for liabilities that could increase or decrease the loss to the fund when a bank failed. Finally, the FDIC incorporated financial ratios in the pricing method for all large institutions in Risk Category I. These changes became effective in 2009.[58]

### Widening the Range of Assessment Rates in Risk Category I

The FDIC widened the spread between minimum and maximum assessment rates in Risk Category I from 2 basis points to 4 basis points.[59] For banks in Risk Category I, assessment rates could vary from 12 to 16 basis points, compared with 5 to 7 basis points, reflecting a widened spread and an increase in overall assessment rates.[60] The objectives of this change were to improve the pricing system's accuracy in measuring the relative risk that banks posed to the DIF and to reduce the subsidy for risk-taking that safer banks provided to riskier banks within that category. The FDIC had adopted a 2 basis point spread in 2007 to help strike a balance between seeking greater risk differentiation and exercising caution, since this was the first time that the FDIC had applied a range of risk-based premium rates to banks in the lowest risk category. Historical failure and loss rate data used to develop the changes to risk-based pricing, however, supported a spread of approximately 4 basis points between the lowest- and highest-risk banks in Risk Category I.[61]

### New Adjustments to a Bank's Assessment Rate

The FDIC also introduced three new possible adjustments to a bank's assessment rate: the unsecured debt adjustment, the secured liability adjustment, and the brokered deposit adjustment.[62] These adjustments were intended to account for liabilities that either would reduce the loss to the fund when a bank failed (unsecured debt) or increase the loss to the fund when a bank failed (secured liabilities and brokered deposits). The unsecured debt adjustment and the secured liability adjustment applied to institutions in all risk categories, while the brokered deposit adjustment applied to institutions in Risk Categories II, III, or IV.

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[56] The FDIC updates the spreadsheet calculator to reflect subsequent revisions to risk-based pricing. The most current calculator is available at https://www.fdic.gov/deposit/insurance/calculator.html.

[57] 73 Fed. Reg. 61560, 61598 (October 16, 2008).

[58] 73 Fed. Reg. 61560 (October 16, 2008) and 74 Fed. Reg. 9525 (March 4, 2009).

[59] To maintain the relative size between the adjustment and the range of rates for banks in Risk Category I, the FDIC also expanded the maximum adjustment that could apply to a large bank's assessment rate from 0.5 basis points to 1 basis point. See 74 Fed. Reg. 9525, 9535 (March 4, 2009).

[60] The FDIC increased overall assessment rates in response to an increase in estimated losses from projected institution failures. See 74 Fed. Reg. 9525, 9529 (March 4, 2009).

[61] Appendix Table 1.6, 71 Fed. Reg. 41910, 41968 (July 24, 2006).

[62] 74 Fed. Reg. 9525, 9536 (March 4, 2009).

The unsecured debt adjustment lowered assessment rates for banks with long-term, unsecured debt.[63] When an institution fails, holders of these unsecured senior and subordinated claims receive nothing until all secured claims, administrative claims, and deposit claims—including the claim of the FDIC on behalf of insured depositors—have been paid in full. Consequently, long-term unsecured debt provides a cushion that can reduce the FDIC's loss in the event of failure.[64] Because such debt absorbs losses ahead of the FDIC and uninsured depositors, the FDIC wanted to encourage reliance on this funding source. The rule defined long-term debt as debt with greater than one year remaining until maturity. This adjustment was applicable to all banks and could decrease rates up to 5 basis points.[65]

The secured liability adjustment increased assessment rates for banks financed with large amounts of secured debt. The primary purpose of the secured liability adjustment was to remedy an inequity related to loss given default. The assessment base at the time of the adjustment was domestic deposits. Therefore, prior to implementation of this adjustment, an institution funded with secured liabilities in lieu of insured deposits would pay a smaller assessment than the same institution funded solely through deposits even if both posed the same risk of failure. Substituting secured liabilities for unsecured liabilities, however, raises the FDIC's loss in the event of failure.[66] The secured liability adjustment applied to all banks and increased a bank's assessment rate if its ratio of secured liabilities to domestic deposits was greater than 25 percent.[67]

The brokered deposit adjustment increased assessment rates for banks in the higher risk categories (Risk Categories II, III, and IV) that held large amounts of brokered deposits relative to their total domestic deposits.[68] If an institution's brokered deposits made up more than 10 percent of domestic deposits, this adjustment could increase the base assessment rate by up to 10 basis points. (For the least risky banks, those in Risk Category I, the FDIC added a new adjusted brokered deposit ratio to the financial ratios used to determine assessment rates.[69] The new ratio increased assessment rates for healthy banks with a combination of rapid asset growth and a reliance on certain brokered deposits.[70])

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[63] Long-term unsecured debt includes senior unsecured and subordinated debt issued by any insured institution. As most small institutions cannot readily issue such debt and to give small institutions an equivalent benefit for large amounts of Tier 1 capital, the FDIC treated the amount of Tier 1 capital that exceeds a Tier 1 capital to adjusted average assets ratio of 5.0 percent as long-term unsecured debt in calculating this assessment adjustment for small institutions. See 74 Fed. Reg. 9525, 9536 (March 4, 2009). When the assessment base was expanded pursuant to the Dodd-Frank Act, this treatment of Tier 1 capital was eliminated. Since the new assessment base excludes Tier 1 capital, defining long-term, unsecured liabilities to include qualified Tier 1 capital would have the effect of providing a double deduction for this capital. See 76 Fed. Reg. 10672, 10681 (February 25, 2011).

[64] 74 Fed. Reg. 9525, 9538 (March 4, 2009).

[65] The unsecured debt adjustment was calculated by multiplying the ratio of long-term unsecured debt to domestic deposits by 40 basis points, but not to exceed 5 basis points. The adjustment was modified in 2011 to maintain the incentive to hold long-term unsecured debt after the assessment base change. (The assessment base was expanded to cover all bank liabilities, including long-term unsecured debt.) Starting in 2011, the unsecured debt adjustment was calculated by multiplying the ratio of long-term unsecured debt to an institution's assessment base by the sum of 40 basis points and the initial assessment rate, and was limited to the lesser of 5 basis points or 50 percent of the initial assessment rate. See 74 Fed. Reg. 9525, 9536 (March 4, 2009) and 76 Fed. Reg. 10672, 10680 (February 25, 2011).

[66] While an institution with secured debt may have fewer insured deposits, and thus present a lesser liability to the FDIC, payment of the secured claims ahead of depositors would result in a corresponding reduction in the assets available to repay the FDIC's outlays. When it proposed the secured liability adjustment, the FDIC received comments opposing the adjustment. Commenters cautioned that deterring the use of secured liabilities would lead to increased use of riskier funding sources. Generally, the FDIC was unpersuaded by the comments, noting that a risk-based system should take into account the likelihood of increased losses to the FDIC in the event of failure. Further, the FDIC noted that substituting secured liabilities for deposits could lower an institution's franchise value, which would increase the FDIC's losses in the event of failure. See 74 Fed. Reg. 9525, 9539-40 (March 4, 2009).

[67] If an institution's ratio of secured liabilities to domestic deposits was greater than 25 percent, the base assessment rate could increase up to 50 percent.

[68] See 74 Fed. Reg. 9525, 9541 (March 4, 2009).

[69] The FDIC adjusted the uniform amount and pricing multipliers used to convert risk measures, including the new adjusted brokered deposit ratio, to assessment rates. The uniform amount and pricing multipliers were derived in a way to ensure that, based on data as of June 30, 2008, 25 percent of small institutions in Risk Category I would have been charged the minimum rate, and approximately 15 percent would have been charged the maximum rate. See 73 Fed. Reg. 61560, 61566 (Oct. 16, 2008).

[70] The adjusted brokered deposit ratio applicable to Risk Category I banks excluded reciprocal deposits. Reciprocal deposits are deposits that a bank receives through a deposit placement network on a reciprocal basis, such that (1) for any deposit received, the institution (as agent for depositors) places the same amount with other banks through the network, and (2) each member of the network sets the interest rate to be paid on the entire amount of funds it places with other network members. See 74 Fed. Reg.9525, 9531 (March 4, 2009).

### Financial Ratios for Large Banks in Risk Category I

The FDIC revised the assessment methodology for large banks in Risk Category I in 2009 so that assessment rates were based not only on CAMELS components and debt issuer ratings but also on the same financial ratios that applied to small banks.[71] The change was intended to make assessment rates not only reflect risk more accurately but also respond faster to changing risk profiles, since reliance on CAMELS component ratings and debt issuer ratings alone had often not fully reflected deteriorating conditions at large banks quickly enough.

These changes to risk-based pricing, combined with a higher overall assessment rate schedule in anticipation of estimated losses from projected institution failures, resulted in the assessment rate schedule in Table 6.

**Table 6**

**Assessment Rate Schedule, 2009–2011**

| | Risk Category | | | |
|---|---|---|---|---|
| | **I** | **II** | **III** | **IV** |
| | (all numbers in basis points) | | | |
| Initial Base Assessment Rate (IBAR) | 12 to 16 | 22 | 32 | 45 |
| Unsecured Debt Adjustment [a] | -5 to 0 | -5 to 0 | -5 to 0 | -5 to 0 |
| Secured Liability Adjustment [b] | 0 to 8 | 0 to 11 | 0 to 16 | 0 to 22.5 |
| Brokered Deposit Adjustment [c] | N/A | 0 to 10 | 0 to 10 | 0 to 10 |
| Total Base Assessment Rate | 7 to 24 | 17 to 43 | 27 to 58 | 40 to 77.5 |

Source: FDIC
Note: The assessment base during this time period was domestic deposits, with some additional adjustments. Risk Category I contained all well-capitalized institutions with CAMELS composite ratings of 1 or 2. Risk Category II contained institutions with CAMELS composite ratings of 1, 2, or 3, except those in Risk Category I and undercapitalized institutions. Risk Category III contained all undercapitalized institutions with CAMELS ratings of 1, 2, or 3 and institutions with CAMELS composite ratings of 4 or 5 that were not undercapitalized. Risk Category IV contained all undercapitalized institutions with CAMELS ratings of 4 or 5.
[a] The unsecured debt adjustment was calculated by multiplying the ratio of long-term unsecured debt to domestic deposits by 40 basis points, but not to exceed 5 basis points.
[b] If an institution's ratio of secured liabilities to domestic deposits was greater than 25 percent, the base assessment rate could increase up to 50 percent.
[c] If an institution's brokered deposits made up more than 10 percent of domestic deposits, this adjustment could increase the base assessment rate by up to 10 basis points.

### IV. Reforms Following the Financial Crisis

The financial crisis and economic downturn precipitated a banking crisis in 2008, causing a sharp increase in the number of troubled and failed FDIC-insured institutions. In 2010, Congress passed the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (Dodd-Frank Act), which included several provisions designed to strengthen the DIF.[72] Using the expanded authority granted under the Dodd-Frank Act, the FDIC substantially revised its fund management strategy to strengthen the DIF over the long term.

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[71] 74 Fed. Reg. 9525, 9534 (March 4, 2009).

[72] Pub. L. 111-203, 124 Stat. 1376, 1539.

The FDIC also significantly revised the risk-based premium system following the crisis. First, pursuant to the Dodd-Frank Act, the FDIC amended its regulations in 2011 to redefine the assessment base by broadening it from domestic deposits to average consolidated total assets minus average tangible equity. Then, the FDIC revised its pricing methodologies for both small and large banks. In 2011, the FDIC introduced new scorecards for large banks to determine risk-based assessment rates derived from new data, including information on how large banks fared during the crisis. In 2016, the agency updated risk-based pricing for established small banks, using data obtained from the failure of hundreds of small banks during and in the aftermath of the crisis and failures from the previous crisis. These revisions, as with earlier reforms, aimed to improve the pricing system's accuracy in measuring the relative risks posed by banks to the deposit insurance fund and to enhance incentives for prudent risk-taking by banks.

## Revised Assessment Base

The Dodd-Frank Act required that the FDIC amend its regulations to redefine the assessment base by broadening it from domestic (insured and uninsured) deposits to average consolidated total assets minus average tangible equity.[73] The new base more closely approximates a bank's total liabilities, rather than only its domestic deposits.[74]

As Congress intended, the revised assessment base and accompanying change in rates shifted more of the total burden of assessments to the largest banks from the rest of the industry.[75] The largest banks rely to a greater extent than smaller banks on funding sources other than domestic deposits. Before the change, banks with more than $10 billion in assets held 80 percent of industry assets yet paid only 70 percent of total assessments. After the change, these banks accounted for approximately 80 percent of total assessments, consistent with their share of industry assets.

The broadening of the assessment base provided an incentive to large banks to change the composition of their funding sources.[76] Banks can no longer avoid FDIC premium costs by relying on funding sources other than domestic deposits. A study by the Bank for International Settlements (BIS) found that, following the assessment base change, U.S.-chartered banks—particularly large banks—reduced their reliance on more volatile wholesale funding in favor of more stable domestic deposits. In contrast, foreign bank branches located in the United States, which were unaffected by the widened assessment base, did not.[77] While the move to a broader assessment base occurred during a period of wide-sweeping regulatory reform, including changes under the Dodd-Frank Act, the BIS study provides evidence that banks reacted to the new assessment base in the intended manner.

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[73] Pub. L. 111-203, section 331(b), 124 Stat. 1376, 1539 (codified at 12 U.S.C. 1817(note)).

[74] The rule defined tangible equity as Tier 1 capital for purposes of calculating the assessment base. To minimize new reporting requirements, the FDIC used Tier 1 capital as a proxy for tangible equity because it reflected an institution's ability to provide a real capital buffer to the DIF. The FDIC also made adjustments to the assessment base for banker's banks and custodial banks, as required by the Dodd-Frank Act. See 76 Fed. Reg. 10672 (February 25, 2011). The FDIC had previously requested comment on whether revision of the assessment base was warranted and how it might be done, but did not take any further action. See 59 Fed. Reg. 50710 (October 5, 1994). Also, the FDIC previously had used an assessment base of total assets less Tier 1 capital in 2009 when it imposed a special assessment intended to rebuild the fund. At that time, the FDIC chose to depart from its regular assessment base of domestic deposits to better balance the burden of the assessment among small and large institutions, deeming the departure appropriate given that assessments are a significant expense, particularly during a financial crisis and recession when bank earnings are under pressure. See 74 Fed. Reg. 25639 (May 29, 2009).

[75] See 156 Cong. Rec. S3296–9 (daily ed. May 6, 2010) (statements of Sens. Hutchison and Tester) and 76 Fed. Reg.10672, 10701 (February 25, 2011). The statements by members of Congress made clear that Congress expressly intended this result and viewed the new assessment base as a better measure of risk than the previous base of domestic deposits. All else equal, the larger assessment base would have increased assessments paid by virtually every bank. However, in implementing the new assessment base the FDIC also adjusted the range of risk-based assessment rates to produce approximately the same revenue under the new base as would have been raised under the old base.

[76] In light of the changes to the assessment base, the FDIC also modified the unsecured debt adjustment and brokered deposit adjustment, eliminated the secured liability adjustment, and introduced a new adjustment for long-term debt issued by another insured depository institution. 76 Fed. Reg. 10672, 10680 (February 25, 2011).

[77] Lawrence Kreicher, Robert McCauley, and Patrick McGuire, "The 2011 FDIC Assessment on Banks Managed Liabilities: Interest Rate and Balance-Sheet Responses," (Working Paper, no. 413, Bank for International Settlements, May 1, 2013), https://www.bis.org/publ/work413.htm.

## Large Bank Pricing

In 2011, the FDIC revised how it charged deposit insurance premiums for large banks, and that system has been in place since then. The revisions had three primary goals: (1) to mitigate procyclicality by pricing for risk as banks incur those risks, rather than when losses from those risks are realized; (2) to better differentiate risk during good economic times based on how banks would fare during stressful times; and (3) to explicitly incorporate potential losses to the FDIC upon failure of a large bank.[78]

To accomplish these goals, the FDIC uses a scorecard method to calculate assessment rates for large banks. One scorecard applies to most large banks, and another applies to highly complex banks—those that are structurally and operationally complex or that pose unique challenges and risk in the case of failure.[79] The scorecard method combines supervisory ratings and certain forward-looking financial measures to produce (1) a performance score, which measures an institution's financial performance and its ability to withstand stress, and (2) a loss severity score, which corresponds with an estimate of potential losses in the event of failure. (Appendix Tables A.1 and A.2 outline the components, measures, weights, and ratios used in the performance score for a large bank and for a highly complex bank.) The performance score and loss severity score are combined to produce a total score that is converted to an initial assessment rate. The FDIC maintained its limited ability to make discretionary adjustments to the total score based on quantitative or qualitative measures not captured by the scorecard.

The financial measures were chosen using a statistical model that predicted, over a three-year horizon, the relative risk of large institutions as of year-end 2009 based on the FDIC's experience and judgment (the expert judgment ranking).[80] The three-year prediction horizon and several of the selected financial measures provide a more forward-looking measure of risk by capturing risks when they are assumed rather than when losses from those risks are realized. For example, the scorecards include measures of higher-risk assets, growth-adjusted portfolio concentrations, and balance sheet liquidity.[81] These measures were shown to predict a large institution's risk level, as measured by the expert judgment ranking.

Forward-looking risk measures should also mitigate the procyclicality of risk-based assessments because banks that pose higher long-term risk will pay higher assessments when they assume those risks. These features should provide incentives for banks to avoid excessive risk during economic expansions.

The changes also explicitly incorporate a measure of potential losses if a large bank failure occurs. Previously, the risk-based pricing system captured the effect of certain kinds of liabilities (e.g., secured liabilities, long-term unsecured debt) on loss given failure.[82] The scorecard method accounts for the effect on loss severity of both assets and liabilities of a large bank and changes in a bank's balance sheet during the run-up to failure. The loss severity measure calculates the relative magnitude of a bank's potential losses to the insurance fund based on a standardized set of assumptions about run-off of certain kinds of liabilities and the recovery value of assets.

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[78] 75 Fed. Reg. 23516 (May 3, 2010).

[79] A "highly complex institution" is defined as (1) an IDI (excluding a credit card bank) that has had $50 billion or more in total assets for at least four consecutive quarters that either is controlled by a U.S. parent holding company that has had $500 billion or more in total assets for four consecutive quarters, or is controlled by one or more intermediate U.S. parent holding companies that are controlled by a U.S. holding company that has had $500 billion or more in assets for four consecutive quarters, or (2) a processing bank or trust company, as defined in 12 CFR 327.8(s).

[80] The expert judgment ranking is a risk ranking of large institutions that was largely based on the information available through the FDIC's Large Insured Depository Institution program. Large institutions that failed or that received significant government support in 2008 or 2009 were assigned the worst risk ranking. The FDIC opted to use the expert judgment ranking as a risk measure by which to select financial measures owing to the few failures of large institutions during the crisis. The FDIC also evaluated prediction horizons other than three years as part of the scorecard development. Additional details about the expert judgment ranking, including how it was used to identify risk measures, can be found at 75 Fed. Reg. 23516 (May 3, 2010).

[81] In adopting the scorecard approach, the FDIC eliminated the use of debt issuer ratings in determining deposit insurance assessments. The FDIC first proposed removing debt issuer ratings from the risk-based pricing model in April 2010. The enactment of the Dodd-Frank Act, which required all federal agencies to review and modify regulations to remove reliance upon credit ratings (Pub. L. 111-203, section 939A, 124 Stat. 1376, 1886), ensured the adoption of this proposal.

[82] As noted above, the secured liability adjustment was eliminated as part of the assessment base change. The new assessment system maintained the unsecured debt adjustment and the brokered deposit adjustment.

## Small Bank Pricing

In 2016, the FDIC amended the deposit insurance assessment system for established small banks.[83] The revisions were designed to more accurately reflect the risk small banks pose to the fund and to provide a more forward-looking view of risk by capturing more of a bank's risk when it is assumed rather than after it results in losses.[84] These improvements were intended to further the goals of reducing cross-subsidization of high-risk institutions by low-risk institutions and helping ensure that banks that take on greater risks pay more for deposit insurance.[85] Small banks have been assessed for deposit insurance under this system since the third quarter of 2016.

With new data from hundreds of bank failures during and in the aftermath of the crisis, the FDIC was able to update the underlying model for small bank pricing to directly estimate the probability of failure. The pricing method that the 2016 method replaced was based on an underlying model that estimated the probability that a small bank's supervisory rating would be downgraded during the following year, with downgrades serving as a proxy for failures. In the updated model, the FDIC adopted a three-year prediction horizon for the probability of failure to yield a more forward-looking view of risk.

The downgrade model in the previous pricing method was used to determine the assessment rate of each bank in Risk Category I (the lowest risk category) within the range of rates applicable to that category. Banks in each of the three higher risk categories paid a single rate applicable to that category. The revised pricing method eliminated risk categories, analogous to the changes for large banks implemented in 2011, and used the financial ratios that were statistically significant in the underlying failure probability model to determine assessment rates for all established small banks. Several measures in the revised method are the same as, or similar to, the risk measures for Risk Category I banks in the previous method.[86] (See Appendix Table A.3 for a description of the financial measures.) To prevent the system from assigning a rate that reflects either too little risk in the case of a bank with a CAMELS composite 3, 4, or 5, rating or too much risk in the case of a bank with a CAMELS composite 1 or 2 rating, the FDIC established minimum and maximum rates that apply to banks based on their CAMELS composite rating.[87]

Table 7 shows the range of assessment rates, including minimum and maximum rates assigned based on an institution's CAMELS composite rating, and the adjustments for unsecured debt and brokered deposits, applicable to both small and large banks.[88]

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[83] The changes referred to in this section did not apply to de novo institutions (those newly chartered within five years). Risk-based pricing for those institutions was generally left unchanged.

[84] 80 Fed. Reg. 40838 (July 13, 2015), 81 Fed. Reg. 6108 (February 4, 2016), and 81 Fed. Reg. 32180 (May 20, 2016).

[85] 80 Fed. Reg. 40838, 40842 (July 13, 2015).

[86] One measure was entirely new: The Loan Mix Index (LMI) measures the relative riskiness of a bank's loan portfolio and the extent to which a bank's total assets consist of loans rather than liquid assets and other assets. The index uses historical industry-wide charge-off rates to identify loan types with higher risk. Each category of loan in a bank's loan portfolio is weighted by the share of that loan category relative to a bank's total assets, multiplied by that category of loan's historical weighted average industry-wide charge-off rate. The products are then summed to determine the loan mix index value for that bank. See 81 Fed. Reg. 32180, 32186–87 (May 20, 2016).

[87] 81 Fed. Reg. 32180, 32188 (May 20, 2016).

[88] The FDIC eliminated the brokered deposit adjustment for small banks because the revised pricing method included a brokered deposit ratio, which replaced the adjusted brokered deposit ratio that had previously only been applicable to Risk Category I banks with high levels of brokered deposits and rapid asset growth.

**Table 7**

| Assessment Rate Schedule in Effect Since 2016 | | | | |
|---|---|---|---|---|
| | Established Small Banks | | | Large & Highly Complex Institutions |
| | CAMELS Composite Rating | | | |
| | 1 or 2 | 3 | 4 or 5 | |
| | (all numbers in basis points) | | | |
| Initial Base Assessment Rate (IBAR) | 3 to 16 | 6 to 30 | 16 to 30 | 3 to 30 |
| Unsecured Debt Adjustment[a] | -5 to 0 | -5 to 0 | -5 to 0 | -5 to 0 |
| Brokered Deposit Adjustment[b] | N/A | N/A | N/A | 0 to 10 |
| Total Base Assessment Rate | 1.5 to 16 | 3 to 30 | 11 to 30 | 1.5 to 40 |

Source: FDIC
Note: Assessment base equals average consolidated total assets minus average tangible equity, with additional adjustments for custodial banks and banker's banks. Generally, an established small institution has less than $10 billion in total assets. A large institution is an insured depository institution with assets of $10 billion or more (other than an insured branch of a foreign bank or a highly complex institution). A highly complex institution has $50 billion or more in total assets and is part of a bank holding company with $500 billion or more in total assets.
[a] The unsecured debt adjustment is limited to the lesser of 5 basis points or 50 percent of the IBAR; thus, for example, the maximum unsecured debt adjustment for an institution with an IBAR of 5 basis points is 2.5 basis points. The rate schedule shown does not include the depository institution debt adjustment, which increases assessments by 50 basis points for each dollar of long-term unsecured debt *held* by a bank and issued by another insured institution, to the extent that the debt exceeds 3 percent of Tier 1 capital.
[b] If an institution's brokered deposits made up more than 10 percent of domestic deposits, this adjustment could increase the base assessment rate by up to 10 basis points.
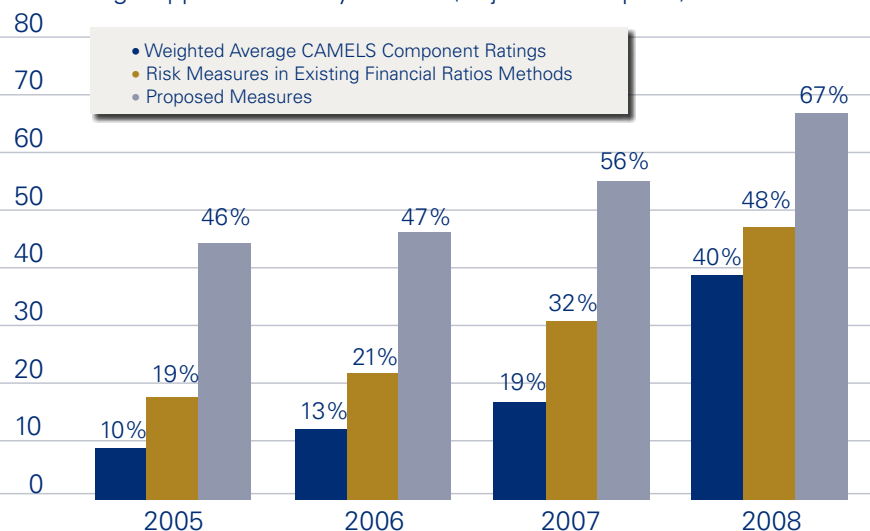
## Evaluation

In developing the large bank scorecard that became effective in 2011, the FDIC evaluated how the new scorecard would have performed compared with the pricing method it replaced. The scorecard measures were chosen using a statistical model that predicted, over a three-year horizon, the relative risk of large institutions as of year-end 2009 (based on the FDIC's expert judgment ranking). The FDIC also tested shorter prediction horizons of one and two years and a longer horizon of four years.[89] As shown in Figure 2, for all four prediction horizons, the scorecard measures (Proposed Measures) predicted the expert judgment ranking significantly better than financial and supervisory risk measures used for large bank pricing in 2009 and 2010 (Risk Measures in Existing Financial Ratios Method) and better than weighted average CAMELS component ratings alone.[90] For example, in 2006, the proposed measures would have predicted the FDIC's year-end 2009 risk ranking of large insured depository institutions (IDIs) more than twice as well as the financial and supervisory risk measures in the previous method.

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[89] In addition to using the expert judgment ranking as the dependent variable, the FDIC tested the robustness of scorecard measures in predicting a large institution's long-term performance using a logistic regression model that estimated the ability of those same measures to predict whether a large institution failed or received significant government support before year-end 2009. Those tests showed that the same set of variables was generally statistically significant.

[90] 76 Fed. Reg. 10672, 10689 (February 25, 2011). The existing financial ratios method combined weighted-average CAMELS composite scores, financial ratios, and long-term debt issuer ratings. Lack of historical debt ratings data for a significant percent of large institutions made it difficult to compare the predictive accuracy of the measures in the scorecard to the existing system. However, for a smaller sample with available debt ratings, adding debt ratings to other risk measure did not improve the predictive accuracy of the model. Further, the Dodd-Frank Act required all federal agencies to remove reliance on credit ratings and substitute an alternative standard of creditworthiness. See Pub. L. 111-203, section 939A, 124 Stat. 1376, 1886 (codified at 15 U.S.C. 78o-7 note).

**Figure 2**

**Ability to Predict Expert Judgment Risk Ranking**

Percentage Approximated by Factors (Adjusted R-Square)

- Weighted Average CAMELS Component Ratings
- Risk Measures in Existing Financial Ratios Methods
- Proposed Measures

| Year | CAMELS | Existing Financial Ratios | Proposed |
|------|--------|---------------------------|----------|
| 2005 | 10% | 19% | 46% |
| 2006 | 13% | 21% | 47% |
| 2007 | 19% | 32% | 56% |
| 2008 | 40% | 48% | 67% |

Source: FDIC
Note: Expert judgment risk ranking refers to the relative risk of large institutions as of year-end 2009, over a three-year horizon, based on the FDIC's experience and judgment.

In developing the revised small bank pricing method that became effective in 2016, the FDIC evaluated how well the new pricing method would improve accuracy in differentiating risk among small banks. Specifically, the agency "backtested" the new method, calculating accuracy ratios derived from cumulative accuracy profile curves to measure how well the new method and previous method differentiated between banks that failed during the last crisis and those that did not (see Appendix 2).[91] As shown in Table 8, backtesting using accuracy ratios revealed that, while the previous pricing method captured risk relatively well, the new method performed better overall, and significantly better immediately before and at the beginning of the crisis (i.e., 2006–2008).

**Table 8**

**Improvement in Accuracy Ratios for Small Bank Pricing, 2016**

| Year of Projection | Accuracy Ratios | | |
| --- | --- | --- | --- |
| | **Updated Method** | **Previous Method** | **Change** |
| 2006 | 0.7000 | 0.3491 | +0.3509 |
| 2007 | 0.7756 | 0.5616 | +0.2140 |
| 2008 | 0.9003 | 0.7825 | +0.1178 |
| 2009 | 0.9354 | 0.9015 | +0.0339 |
| 2010 | 0.9659 | 0.9394 | +0.0265 |
| 2011 | 0.9543 | 0.9323 | +0.0220 |

Source: FDIC
Note: The accuracy ratio is based on the conversion of the statistical model as estimated based on bank data through 2011 and failure data through 2014. A "perfect" projection would receive an accuracy ratio of 1, reflecting a projection where every bank that fails over the period is rated as more risky than every bank that does not fail. A random projection would receive an accuracy ratio of 0 and is one where the projection does no better than chance.

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[91] An accuracy ratio compares how well each approach would have discriminated between banks that failed within the projection period and those that did not. In this case, the projection period was the three years following the date of the projection (the last day of the year given). Thus, for example, the accuracy ratios for 2006 reflect how well each approach would have discriminated in its projection between banks that failed and those that did not from 2007 through 2009. See 81 Fed. Reg. 32180, 32196–97 (May 20, 2016).

## Conclusion

The FDIC's risk-based pricing system has evolved considerably since it was first implemented in 1993. The FDIC is required by law to set deposit insurance assessments based on risk. Each time the FDIC has revised its pricing system, it has done so with the goal of improving the system and making assessments fairer and more accurate. A risk-based assessment system reduces the subsidy that lower-risk banks provide higher-risk banks and provides incentives for banks to monitor and reduce risks that could increase potential losses to the DIF. Since first implementing risk-based pricing, the FDIC has incorporated data and experience gained over nearly 25 years—including two banking crises—and in response to statutory changes that increased the FDIC's flexibility in managing the fund and charging risk-based premiums.

The initial version of the system was fairly simple, mainly because it was the first of its kind and because statutory constraints limited the FDIC's ability to differentiate risk among insured institutions. The changes made to risk-based pricing over time (e.g., separate pricing methods for small, large, and highly complex banks; introduction of numerous financial risk measures; and various pricing adjustments) made the system more complex but also, in the FDIC's view, more effective in differentiating risk. Statistical analyses indicate that the current system prices risk more accurately than earlier systems and appropriately places a greater assessment burden on banks with higher risk profiles.

As the banking industry evolves and the FDIC continues to monitor and evaluate risk at IDIs, additional changes to risk-based pricing may be warranted. Any future updates to the FDIC's risk-based pricing system will continue to be motivated by its desire to improve the system's ability to differentiate for risk and respond to changes in the industry.

## Appendix 1:
## Current Deposit Insurance Assessment Models

| | Scorecard Measures and Components | Measure Weights | Component Weights |
|---|---|---|---|
| **Table A.1** | | | |
| **Weights Used in the Large Bank Scorecard** | | | |
| P | Performance Score | | |
| P. 1 | *Weighted Average CAMELS Rating* | 100% | *30%* |
| P. 2 | *Ability to Withstand Asset-Related Stress:* | | |
| | Tier 1 Leverage Ratio | 10% | |
| | Concentration Measure[a] | 35% | *50%* |
| | Core Earnings/Average Quarter-End Total Assets | 20% | |
| | Credit Quality Measure[b] | 35% | |
| P. 3 | *Ability to Withstand Funding-Related Stress:* | | |
| | Core Deposits/Total Liabilities | 60% | *20%* |
| | Balance Sheet Liquidity Ratio | 40% | |
| L | Loss Severity Score | | |
| L.1 | *Loss Severity Measure* | | *100%* |

Source: FDIC
Note: A large institution is an insured depository institution with assets of $10 billion (other than an insured branch of a foreign bank or a highly complex institution). Any institution with assets between $5 billion and $10 billion may request that the FDIC determine its assessment rate as a large institution.

[a] The score for the concentration measure is the greater of the higher-risk assets to Tier 1 capital and reserves score or the growth-adjusted portfolio concentrations score.

[b] The score for the credit quality measure is the greater of the ratio of criticized and classified items to the sum of Tier 1 capital and reserves measure or the ratio of underperforming assets to the sum of Tier 1 capital and reserves measure.

**Table A.2**

| | Scorecard Measures and Components | Measure Weights | Component Weights |
|---|---|---|---|
| **Weights Used in the Highly Complex Bank Scorecard** | | | |
| P | Performance Score | | |
| P. 1 | *Weighted Average CAMELS Rating* | 100% | *30%* |
| P. 2 | *Ability to Withstand Asset-Related Stress:* | | |
| | Tier 1 Leverage Ratio | 10% | |
| | Concentration Measure[a] | 35% | *50%* |
| | Core Earnings/Average Quarter-End Total Assets | 20% | |
| | Credit Quality Measure and Market Risk Measure[b] | 35% | |
| P. 3 | *Ability to Withstand Funding-Related Stress:* | | |
| | Core Deposits/Total Liabilities | 50% | |
| | Balance Sheet Liquidity Ratio | 30% | *20%* |
| | Average Short-Term Funding/Average Total Assets | 20% | |
| L | Loss Severity Score | | |
| L.1 | *Loss Severity Measure* | | *100%* |

Source: FDIC

Note: A "highly complex institution" is defined as (1) An insured depository institution (excluding a credit card bank) that has had $50 billion or more in total assets for at least four consecutive quarters that either is controlled by a U.S. parent holding company that has had $500 billion or more in total assets for four consecutive quarters, or is controlled by one or more intermediate U.S. parent holding companies that are controlled by a U.S. holding company that has had $500 billion or more in assets for four consecutive quarters, and (2) a processing bank or trust company, as defined in 12 CFR 327.8(s).

[a] The score for the concentration measure is the greatest of the higher-risk assets to the sum of Tier 1 capital and reserves score, the top 20 counterparty exposure to the sum of Tier 1 capital and reserves score, or the largest counterparty exposure to the sum of Tier 1 capital and reserves score.

[b] The score for the credit quality measure and market risk measure is the greater of the ratio of criticized and classified items to the sum of Tier 1 capital and reserves measure or the ratio of underperforming assets to the sum of Tier 1 capital and reserves measure. The score for the market risk measure is the weighted average of the four-quarter trading revenue volatility to Tier 1 capital score, the market risk capital to Tier 1 capital score, and the level 3 trading assets to Tier 1 capital score.

**Table A.3**

| Measures Used in Risk-Based Pricing for Small Banks | |
|---|---|
| **Variables** | **Description** |
| Leverage Ratio (%) | Tier 1 capital divided by adjusted average assets (numerator and denominator are based on the definition for Prompt Corrective Action). |
| Net Income before Taxes/Total Assets (%) | Income (before applicable income taxes and discontinued operations) for the most recent 12 months divided by total assets.[a] |
| Nonperforming Loans and Leases/Gross Assets (%) | Sum of total loans and lease financing receivables past due 90 or more days and still accruing interest and total nonaccrual loans and lease financing receivables (excluding, in both cases, the maximum amount recoverable from the U.S. government, its agencies or government-sponsored enterprises, under guarantee or insurance provisions) divided by gross assets.[b] |
| Other Real Estate Owned / Gross Assets (%) | Other real estate owned divided by gross assets. |
| Brokered Deposit Ratio | The ratio of the difference between brokered deposits and 10 percent of total assets to total assets. For institutions that are well capitalized and have a CAMELS composite rating of 1 or 2, reciprocal deposits are deducted from brokered deposits. If the ratio is less than zero, the value is set to zero. |
| Weighted Average of C, A, M, E, L, and S Component Ratings | The weighted sum of the "C," "A," "M," "E," "L," and "S" CAMELS components, with weights of 25 percent each for the "C" and "M" components, 20 percent for the "A" component, and 10 percent each for the "E," "L," and "S" components. |
| Loan Mix Index | The loan mix index is a measure of the extent to which a bank's total assets include higher-risk categories of loans. The index uses historical industry-wide charge-off rates to identify loan types with higher risk. |
| One-Year Asset Growth (%) | Growth in assets (adjusted for mergers[c]) over the previous year in excess of 10 percent.[d] If growth is less than 10 percent, the value is set to zero. |

Source: FDIC

Note: Generally, a small institution is an insured depository institution with assets of less than $10 billion or an insured branch of a foreign institution.

[a] The ratio of net income before taxes to total assets is bounded below by (and cannot be less than) −25 percent and is bounded above by (and cannot exceed) 3 percent.

[b] Gross assets are total assets plus the allowance for loan and lease financing receivable losses (ALLL).

[c] Growth in assets is also adjusted for acquisitions of failed banks.

[d] The maximum value of the asset growth measure is 230 percent; that is, asset growth (merger adjusted) over the previous year in excess of 240 percent (230 percentage points in excess of the 10 percent threshold) will not further increase a bank's assessment rate.
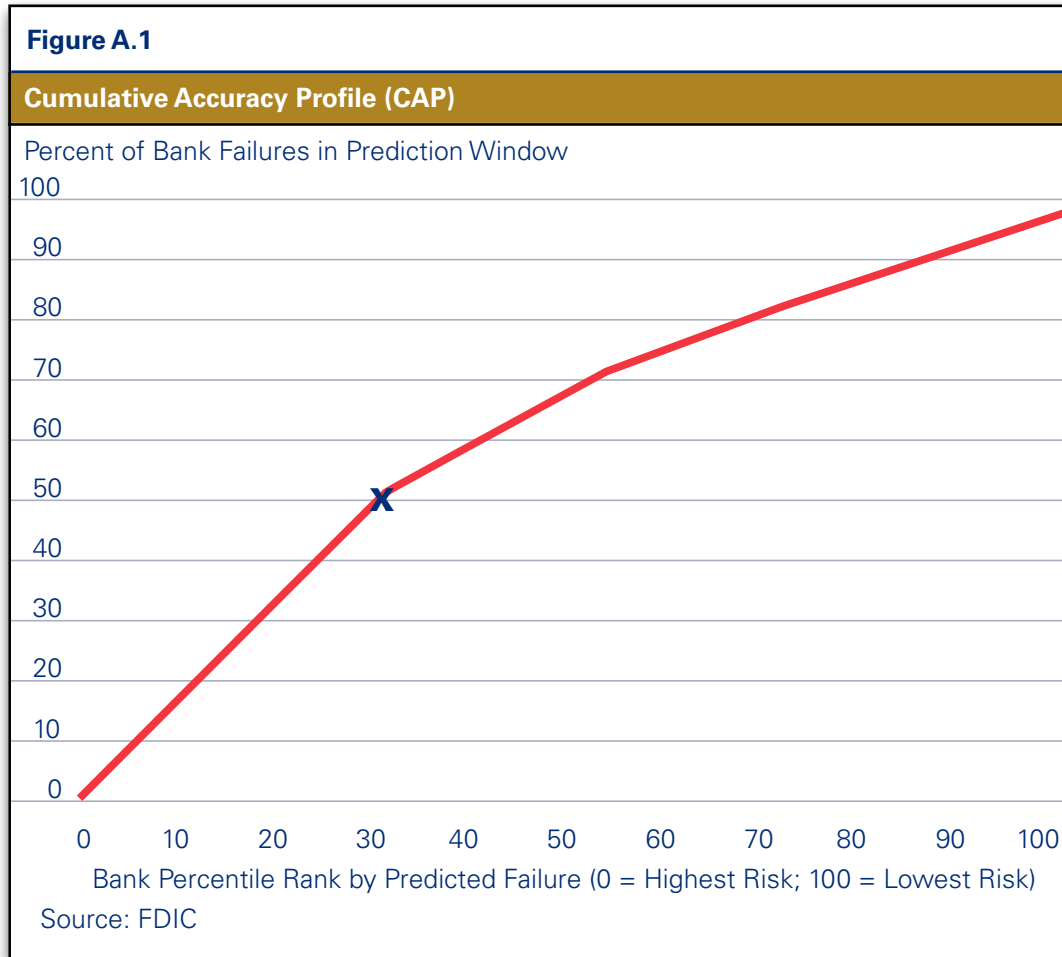
## Appendix 2:
## Accuracy Ratio and Cumulative Accuracy Profile

This Appendix describes the concept of an accuracy ratio and how the ratio is derived from a cumulative accuracy profile. An accuracy ratio is a number between 0 and 1 (inclusive) that measures how well the model performs a correct rank-ordering of banks that failed over the projection horizon. A "perfect" model is one that always assigns a higher probability of failure to a bank that subsequently failed in the projection horizon compared with a bank that does not fail; such a model receives an accuracy ratio of 1. At the other extreme, a model that performs no better than random guessing would receive an accuracy ratio of 0.

The FDIC used accuracy ratios to compare how well the current and previous small bank deposit insurance assessment systems discriminated between banks that failed during the recent financial crisis and those that did not.
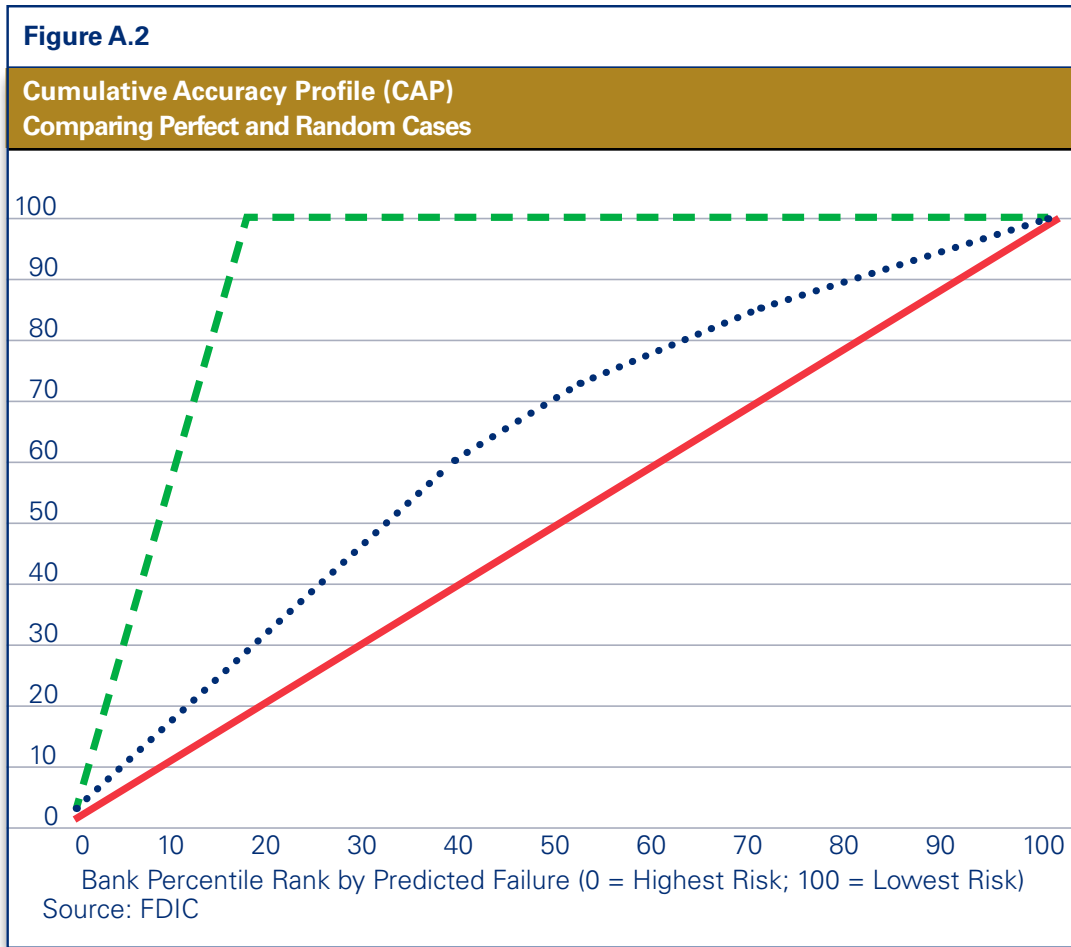
### Cumulative Accuracy Profile

A cumulative accuracy profile (CAP) is illustrated in Figure A.1.

**Figure A.1**

**Cumulative Accuracy Profile (CAP)**

Percent of Bank Failures in Prediction Window



Bank Percentile Rank by Predicted Failure (0 = Highest Risk; 100 = Lowest Risk)

Source: FDIC

On the horizontal axis, all active banks at the beginning of the prediction window are ranked on a percentile basis according to individual probabilities of failure as predicted by the model being tested. Banks with the highest predicted probability of failure would have a percentile rank near zero, while the safest-rated banks would have a percentile rank near 100. The vertical axis represents the cumulative percentage of actual failures that the model predicted to have a higher failure probability. For example, the point marked by "X" indicates that the 30 percent of banks with the highest projected probability of failure included 50 percent of the banks that actually failed. When comparing a CAP curve for alternative models, a model with a higher CAP curve would typically be the superior model.

Figure A.2 shows the model CAP curve compared with two polar CAP curves.



**Figure A.2**

**Cumulative Accuracy Profile (CAP)
Comparing Perfect and Random Cases**

Bank Percentile Rank by Predicted Failure (0 = Highest Risk; 100 = Lowest Risk)
Source: FDIC

The "random" curve (red, solid line) shows what the CAP would look like if the model prediction were purely random. For example, the 30 percent of banks with the highest projected failure probability would include 30 percent of actual failures. At the other extreme, the green, dashed line shows a CAP curve for a model that makes perfect projections; assuming that 20 percent of all banks had actually failed, for the perfect model, the 20 percent of banks with the highest projected failure probability would identify all, or 100 percent, of failures.

**Accuracy Ratio**

An index of overall performance that is derived from the CAP curve is the accuracy ratio. For Figure A.2, the area between the blue, dotted curve and the red, solid line is a measure of the superiority of the model over the random benchmark. The area enveloped by the green, dashed line and the red, solid line is a measure of the superiority of the "perfect" model over the random benchmark. The ratio of these two areas is the accuracy ratio for the model depicted by the green, dashed line. The value is normalized, so it is always less than or equal to 1. As mentioned above, an accuracy ratio of 1 occurs in the case of a perfect model and is 0 in the case of a model that does no better than random guessing.