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# A Moving-Average Formula for Calculating Deposit Insurance Assessments

by Panos Konstas\*

Current deposit insurance assessment policy is largely a product of three laws passed by Congress between 1989 and 1996: the Financial Institutions Reform, Recovery, and Enforcement Act of 1989 (FIRREA), the Federal Deposit Insurance Corporation Improvement Act of 1991 (FDICIA), and the Deposit Insurance Funds Act of 1996 (DIFA).<sup>1</sup> FIRREA chiefly addressed the financial crisis facing the thrift industry, but it also made fundamental changes in the deposit insurance assessment system. It renamed the FDIC's deposit insurance fund the Bank Insurance Fund (BIF), and it created the Savings Association Insurance Fund (SAIF). It also established a statutory minimum reserve ratio—called the designated reserve ratio (DRR)—of 1.25 percent for both the BIF and the SAIF. Two years after passage of FIRREA, FDICIA further changed the assessment system: it required the FDIC to (1) establish a system of risk-based deposit insurance premiums, (2) impose a minimum level of assessments on insured institutions when the reserve ratio is less than the DRR, and (3) set semiannual assessments to maintain the reserve ratio of each fund at 1.25 percent. Five years later still, DIFA enacted further changes, eliminating significant differences in the pricing of deposit insurance for BIF and SAIF members and

limiting the FDIC's ability to charge premiums when the reserve ratio is at or above the DRR.

Thus, since 1996 the BIF and the SAIF have been on a pay-as-you-go basis in relation to the ratio of each insurance fund's balance—or net worth—to its estimated insured deposits. Should insurance costs push the reserve ratio of either fund below 1.25 percent, the FDIC must either set premiums at a level that will bring the fund back to 1.25 percent within one year or set premiums at a minimum of 23 basis points and establish a plan to bring the fund back up to a 1.25 percent level within 15 years.<sup>2</sup> In either the 1-year case or the 15-year case, insurance losses greater than the interest income earned by the BIF or the SAIF will result in higher premiums for the banking indus-

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<sup>1</sup> Financial Institutions Reform, Recovery, and Enforcement Act of 1989, Public Law 101-103; Federal Deposit Insurance Corporation Improvement Act of 1991, Public Law 102-242, and Deposit Insurance Funds Act of 1996, Public Law 104-208.

<sup>2</sup> See footnote 9.

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try—an event that could be a formidable problem for banks during periods of financial stress.

This article examines the level and volatility of the assessment rates that would have been imposed if the current 1.25 DRR policy had been in effect when the FDIC first began operations in 1934. Specifically, to get an idea of how high the required premiums might have been and how dramatically they might have changed from year to year, we calculated BIF assessment rates for the 1940–1995 period using current law.<sup>3</sup> The results indicate that if the current law had been in effect from 1940 to 1995, assessment rates would have swung widely during volatile times, with high assessments in some years and low or zero premiums in others, and that in general the policy would have imposed high premiums when bank profits were weak and low premiums when profits were strong.

We also examined two premium-setting schemes that contrast with the current system. The first involves deriving the applicable assessment rates to maintain the reserve ratio at 1.25 percent on the basis of a moving average of previous years' actual BIF outlays for failures and operating costs. This approach would smooth the extremes in the high assessment rates required under the current policy, thus helping the banking industry through cyclical fluctuations. However, assessment rates would still change almost yearly, and in some years assessment rebates would be needed to maintain the reserve ratio at 1.25 percent. The second scheme uses the same moving-average method, but in addition it imposes a minimum positive assessment premium in the calculation formula. The advantages of this scheme are that assessment rebates would be eliminated by definition and the yearly assessment rate would remain relatively stable over long stretches of time. But the possibility of very high premiums in some years would remain.

### The Development of the Current Assessment System

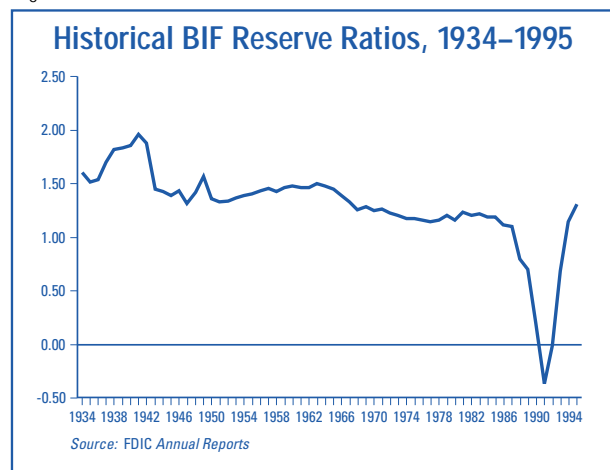
To give a fuller understanding of the current assessment system, this section discusses the history of

the reserve ratio, the premium structure, and the role played by insurance losses.

### The Reserve Ratio

Throughout the FDIC's history the reserve ratio has been noticeably stable over long periods, although the long-term trend has generally been downward. The ratio was at its highest during the first ten years of the FDIC's existence, peaking at 1.96 percent in 1941. From the mid-1940s to the late 1960s the ratio fluctuated between 1.3 and 1.5 percent, and during the 1970s and early 1980s it hovered around 1.2 percent. Then came the banking crisis of the 1980s and early 1990s. In 1989, when the 1.25 percent DRR requirement was introduced by FIRREA, the ratio of the BIF to estimated insured deposits stood at 0.70 percent (see table 1 and figure 1).

Figure 1



The main events affecting the ratio have been statutory changes in the insurance limit and insurance losses from bank failures. In 1974, when Congress raised the insurance coverage from \$20,000 to \$40,000, the ratio declined, and it declined again in 1980 when the \$40,000 limit was raised to the current \$100,000. It declined further, and the fund reserves briefly fell below zero, during the aforementioned banking crisis, during which the fund had to absorb actual and projected losses.

<sup>3</sup> Although the FDIC manages the BIF and the SAIF, the analysis here focuses only on the BIF.

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Table 1

| Data on the FDIC Bank Insurance Fund (Dollar Amounts in Millions) |                            |           |               |                 |                                  |                              |           |
|---|----------------------------|-----------|---------------|-----------------|----------------------------------|------------------------------|-----------|
| Year  | Estimated Insured Deposits | BIF Costs | BIF Net Worth | Assessment Base | Effective Assessment Rate (b.p.) | Effective Assessment Revenue | BIF Ratio |
| 1995  | 1,952,543                  | 484       | 25,453        | 2,429,200       | 12.4                             | 2,908                        | 1.30      |
| 1994  | 1,896,060                  | -2,259    | 21,848        | 2,496,000       | 23.6                             | 5,891                        | 1.15      |
| 1993  | 1,906,885                  | -6,791    | 13,122        | 2,370,615       | 24.4                             | 5,784                        | 0.69      |
| 1992  | 1,945,623                  | -626      | -101          | 2,429,478       | 23.0                             | 5,588                        | -0.01     |
| 1991  | 1,957,722                  | 16,862    | -7,028        | 2,428,471       | 21.3                             | 5,161                        | -0.36     |
| 1990  | 1,929,612                  | 13,003    | 4,045         | 2,379,417       | 12.0                             | 2,855                        | 0.21      |
| 1989  | 1,873,837                  | 4,346     | 13,210        | 2,262,905       | 8.3                              | 1,885                        | 0.70      |
| 1988  | 1,750,259                  | 7,588     | 14,061        | 2,128,451       | 8.3                              | 1,773                        | 0.80      |
| 1987  | 1,658,802                  | 3,271     | 18,302        | 2,036,014       | 8.3                              | 1,696                        | 1.10      |
| 1986  | 1,634,302                  | 2,964     | 18,253        | 1,821,008       | 8.3                              | 1,517                        | 1.12      |
| 1985  | 1,503,393                  | 1,958     | 17,957        | 1,720,768       | 8.3                              | 1,433                        | 1.19      |
| 1984  | 1,389,874                  | 1,999     | 16,529        | 1,586,435       | 8.0                              | 1,269                        | 1.19      |
| 1983  | 1,268,322                  | 970       | 15,429        | 1,458,463       | 7.1                              | 1,041                        | 1.22      |
| 1982  | 1,134,221                  | 1,000     | 13,771        | 1,331,212       | 7.7                              | 1,024                        | 1.21      |
| 1981  | 988,898                    | 848       | 12,246        | 1,247,299       | 7.1                              | 891                          | 1.24      |
| 1980  | 948,717                    | 84        | 11,020        | 1,142,737       | 3.7                              | 423                          | 1.16      |
| 1979  | 808,555                    | 94        | 9,793         | 1,057,623       | 3.3                              | 352                          | 1.21      |
| 1978  | 760,706                    | 149       | 8,796         | 972,509         | 3.9                              | 374                          | 1.16      |
| 1977  | 692,533                    | 114       | 7,993         | 877,911         | 3.7                              | 325                          | 1.15      |
| 1976  | 628,263                    | 212       | 7,269         | 811,645         | 3.7                              | 300                          | 1.16      |
| 1975  | 569,101                    | 98        | 6,716         | 769,868         | 3.6                              | 275                          | 1.18      |
| 1974  | 520,309                    | 159       | 6,124         | 705,162         | 4.4                              | 307                          | 1.18      |
| 1973  | 465,600                    | 108       | 5,615         | 635,534         | 3.9                              | 245                          | 1.21      |
| 1972  | 419,756                    | 60        | 5,159         | 562,785         | 3.3                              | 187                          | 1.23      |
| 1971  | 374,568                    | 60        | 4,740         | 500,840         | 3.5                              | 173                          | 1.27      |
| 1970  | 349,581                    | 46        | 4,380         | 443,337         | 3.6                              | 158                          | 1.25      |
| 1969  | 313,085                    | 35        | 4,051         | 437,215         | 3.3                              | 146                          | 1.29      |
| 1968  | 296,701                    | 29        | 3,749         | 401,561         | 3.3                              | 134                          | 1.26      |
| 1967  | 261,149                    | 27        | 3,486         | 363,866         | 3.3                              | 121                          | 1.33      |
| 1966  | 234,150                    | 20        | 3,252         | 341,297         | 3.2                              | 110                          | 1.39      |
| 1965  | 209,690                    | 23        | 3,036         | 312,725         | 3.2                              | 101                          | 1.45      |
| 1964  | 191,787                    | 18        | 2,845         | 285,954         | 3.2                              | 92                           | 1.48      |
| 1963  | 177,381                    | 15        | 2,668         | 264,826         | 3.1                              | 83                           | 1.50      |
| 1962  | 170,210                    | 14        | 2,502         | 244,178         | 3.1                              | 76                           | 1.47      |
| 1961  | 160,309                    | 15        | 2,354         | 226,771         | 3.2                              | 73                           | 1.47      |
| 1960  | 149,684                    | 13        | 2,222         | 216,567         | 3.7                              | 80                           | 1.48      |
| 1959  | 142,131                    | 12        | 2,090         | 213,926         | 3.7                              | 79                           | 1.47      |
| 1958  | 137,698                    | 12        | 1,965         | 200,240         | 3.7                              | 74                           | 1.43      |
| 1957  | 127,055                    | 10        | 1,851         | 191,236         | 3.6                              | 68                           | 1.46      |
| 1956  | 121,008                    | 9         | 1,742         | 186,675         | 3.7                              | 69                           | 1.44      |
| 1955  | 116,380                    | 9         | 1,640         | 181,873         | 3.7                              | 67                           | 1.41      |
| 1954  | 110,973                    | 8         | 1,543         | 173,109         | 3.6                              | 62                           | 1.39      |
| 1953  | 105,610                    | 7         | 1,451         | 166,507         | 3.6                              | 59                           | 1.37      |
| 1952  | 101,841                    | 8         | 1,364         | 157,263         | 3.7                              | 58                           | 1.34      |
| 1951  | 96,713                     | 7         | 1,282         | 149,220         | 3.7                              | 55                           | 1.33      |
| 1950  | 91,359                     | 8         | 1,244         | 147,539         | 3.7                              | 55                           | 1.36      |
| 1949  | 76,589                     | 6         | 1,204         | 147,299         | 8.3                              | 123                          | 1.57      |
| 1948  | 75,320                     | 7         | 1,066         | 143,217         | 8.3                              | 119                          | 1.42      |
| 1947  | 76,254                     | 10        | 1,006         | 137,335         | 8.3                              | 114                          | 1.32      |
| 1946  | 73,759                     | 10        | 1,059         | 128,451         | 8.3                              | 107                          | 1.44      |
| 1945  | 67,021                     | 9         | 929           | 112,485         | 8.3                              | 94                           | 1.39      |
| 1944  | 56,398                     | 9         | 804           | 97,119          | 8.3                              | 81                           | 1.43      |
| 1943  | 48,440                     | 10        | 703           | 84,034          | 8.3                              | 70                           | 1.45      |
| 1942  | 32,837                     | 10        | 617           | 67,827          | 8.3                              | 57                           | 1.88      |
| 1941  | 28,249                     | 10        | 554           | 61,705          | 8.3                              | 51                           | 1.96      |
| 1940  | 26,638                     | 13        | 496           | 55,462          | 8.3                              | 46                           | 1.86      |
| 1939  | 24,650                     | 16        | 453           | 48,860          | 8.3                              | 41                           | 1.84      |
| 1938  | 23,121                     | 11        | 421           | 45,978          | 8.3                              | 38                           | 1.82      |
| 1937  | 22,557                     | 12        | 383           | 46,579          | 8.3                              | 39                           | 1.70      |
| 1936  | 22,330                     | 11        | 343           | 42,737          | 8.3                              | 36                           | 1.54      |
| 1935  | 20,158                     | 11        | 306           | 13,806          | 8.3                              | 12                           | 1.52      |
| 1934  | 18,075                     | 10        | 292           |                 |                                  |                              | 1.61      |
| Mean  | 569,726                    | 762       | 5,350         | 732,805         | 6.9                              | 763                          | 1.29      |
| Std. Dev  | 662,395                    | 3,048     | 6,383         | 799,699         | 5.0                              | 1,442                        | 0.39      |

Source: FDIC Annual Reports

### *The Premium Structure*

At the same time that the reserve ratio has been trending downward, the structure of premium assessments has been evolving. Until 1989, all insured banks paid assessments at a statutory annual flat rate of 1/12 of 1 percent (0.0833 percent, or 8.33 basis points) of assessable deposits.<sup>4</sup> During periods when bank failures were rare, the fund kept growing. In 1950, the Federal Deposit Insurance Act provided for a rebate to banks of a portion of their assessments in the form of an assessment credit applied toward the amount owed in the following year. Specifically, the rebates—or assessment credits—totaled 60 percent of net assessment income (the amount of the FDIC's annual assessment income in excess of its annual administrative expenses and costs of insurance losses).<sup>5</sup> For the period 1950–1980, in every year but one these rebates reduced the effective assessment rate to less than half of the statutory rate (see table 1).

As noted above, FIRREA made several important changes in the system of assessments. It increased the statutory assessment rate to 0.12 percent in 1990 and to a minimum of 0.15 percent in 1991, and it gave the FDIC additional flexibility to adjust assessment rates and pursue reserve targets. Specifically, the FDIC would be able to increase the assessment rate up to a maximum of 0.325 percent to prevent a decrease in the ratio of the BIF to estimated insured deposits. And the FDIC would be able to set the DRR as high as 1.50 percent if that high a ratio was deemed necessary to meet a risk of substantial future losses to the BIF.<sup>6</sup> Subsequently, high actual and projected losses to the BIF caused the assessment rate for banks to increase sharply, reaching 0.23 percent (23 basis points) in 1993.

In January 1993, as required by FDICIA, the FDIC implemented a system of risk-based deposit insurance premiums. Under the system, deposit insurance assessments are based on the financial soundness of the institution and the level of risk that it poses to the deposit insurance funds.<sup>7</sup> Specifically, risk-based premiums are determined on the basis of capital and supervisory ratings: the capital rating provides an objective, numerical

standard, and the supervisory rating incorporates examination results and other risk-related information.<sup>8</sup> FDICIA required the risk-based system to charge an average annual assessment rate of 23 basis points until the BIF was recapitalized.<sup>9</sup> The original assessment schedule implemented in 1993 (shown in table 2) had a rate spread of 8 basis points: the best-rated institutions were charged 23 basis points and the riskiest institutions were charged 31 basis points. The effective or average annual assessment rate in 1993 was 0.244 percent, or 24.4 basis points.

After the BIF reserve ratio reached the DRR in mid-1995, the FDIC began to lower BIF assessment rates in order to maintain the reserve ratio at 1.25 percent. Accordingly, the average assessment rate for the second half of 1995 declined from 23.2 points (a matrix spread of 23 to 31 basis points) to 4.4 basis points (a matrix spread of 4 to 31 basis points). In 1996, the assessment rate schedule was again lowered, so that the best-rated institutions were charged nothing, and the riskiest institutions were charged 27 basis points. Because the BIF reserve ratio remains above 1.25 percent, the FDIC continues to use this rate schedule today (see table 2).

<sup>4</sup> Deposit insurance premiums are assessed against total domestic deposits (demand deposits and time and savings deposits), adjusted for items such as float.

<sup>5</sup> See Christopher (1978).

<sup>6</sup> See Konstas (1992) for details.

<sup>7</sup> FDICIA requires the FDIC to set risk-based deposit insurance rates independently for the BIF and the SAIF.

<sup>8</sup> The capital measures are consistent with the prompt corrective action requirements of FIRREA.

<sup>9</sup> Under FDICIA, when the reserve ratio of the BIF falls below 1.25 percent, as it did before May 1995, the FDIC is given two alternatives: it can impose semiannual assessment rates to generate sufficient revenue to raise the BIF ratio to the designated target within a year after such rates have been set, or it can promulgate through regulation a schedule of assessment rates (for a period of up to 15 years) that would return the fund to the designated 1.25 percent reserve goal. When the second option is selected, the FDIC is required to set assessment rates for members in accordance with a time schedule that specifies, at semiannual intervals, target reserve ratios for the BIF, culminating in attainment of the designated ratio within 15 years. Under this second option, the statute explicitly directs the FDIC to set rates that will at a minimum generate revenue equivalent to the amount generated by the assessment rate in effect on July 15, 1991 (when an assessment rate of 23 basis points applied), as long as the BIF ratio remains below 1.25 percent. Under the second option, therefore, if the reserve ratio falls below 1.25 percent, the minimum premium that can be charged to the industry for restoring the reserve ratio to the DRR is 23 basis points.

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Table 2

| <b>Risk-Based Deposit Insurance Rate Schedule, 1993 and 2005</b> |                           |    |    |
|--|---------------------------|----|----|
| <b>1993 (Original) Rate Matrix (basis points)</b>                |                           |    |    |
| Capital Group  | Supervisory Risk Subgroup |    |    |
|  | A                         | B  | C  |
| 1. Well capitalized  | 23                        | 26 | 29 |
| 2. Adequately capitalized  | 26                        | 29 | 30 |
| 3. Undercapitalized  | 29                        | 29 | 31 |
| <b>2005 (Current) Rate Matrix (basis points)</b>                 |                           |    |    |
| Capital Group  | Supervisory Risk Subgroup |    |    |
|  | A                         | B  | C  |
| 1. Well capitalized  | 0                         | 3  | 17 |
| 2. Adequately capitalized  | 3                         | 10 | 24 |
| 3. Undercapitalized  | 10                        | 24 | 27 |
| <i>Source: FDIC Quarterly Banking Profile.</i>                   |                           |    |    |

### Insurance Losses

Obviously, the size of the assessments that must be imposed on banks is determined largely by insurance losses, for when losses occur they are often a major expense item on the BIF's income statement. During the banking crisis of the 1980s and early 1990s, insurance losses increased dramatically. Losses through 1983 had amounted to less than \$1 billion per year, but in 1984 they more than doubled, exceeding assessment income. As a result, assessment credits were no longer feasible.<sup>10</sup> Losses rose to \$7.4 billion in 1988, and for the first time in its history the FDIC experienced a net operating loss. In 1991, estimated losses from banks that regulators had identified as either equity insolvent or likely to become equity insolvent in the foreseeable future rose to \$16.3 billion—a record high.<sup>11</sup>

The losses during this period occurred against a backdrop of premium increases for insured institutions and far-reaching deposit insurance reform legislation. These developments, coupled with a recorded BIF deficit of \$7.0 billion in 1991, raised new concerns not only about the viability of the deposit insurance system but also about the operating policies of both the FDIC and insured institutions.

### The Implications of Assessing under the Designated Reserve Ratio of 1.25 Percent

The current policy reflects two distinct types of problems. The first is reflected in the requirement that the ratio of the BIF to estimated insured deposits must be at least 1.25 percent. In fact there is no widely accepted method of determining the optimum size of the BIF, either in terms of an absolute amount or in relation to some measure of exposure. The BIF has to be sufficient to cover losses and meet cash needs. Beyond that, its proper size depends on the contingencies the BIF is expected to handle and on the public's perception of the FDIC's ability to meet its obligations under alternative economic scenarios. If the public is satisfied with the prospects for the economy and the banking industry, a 1.25 percent BIF ratio may seem entirely adequate. The same ratio, however, may look less than adequate when the economy and banks' prospects worsen.

The second type of problem is reflected in the requirement that premium assessments on banks be set at whatever amounts are necessary to keep the BIF ratio at some given level. In fact (and not surprisingly), for the banking industry high failure rates and low profits tend to occur concurrently. Thus, when higher assessment premiums are required under the current policy, they are likely to be charged when many banks are least able to afford them. The problem is, of course, compounded if the assessment revenue that must be raised in a given year must also be allocated among banks according to each bank's risk status. High-risk banks then will be subjected to higher costs when they can least afford it in terms of both their low profitability and their disadvantage compared with competitors designated as better risks. Under these conditions, a premium structure with the

<sup>10</sup> 1983 was the last year that the FDIC provided assessment credits. In 1991, FDICIA removed the FDIC's authority to provide rebates of any kind.

<sup>11</sup> However, the large number of failures forecast in 1991 did not occur, so for 1992, 1993, and 1994, loss reserves of \$1.2 billion, \$7.3 billion, and \$2.7 billion were added back into the BIF (see Federal Deposit Insurance Corporation, *Annual Report* for cited years).

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flexibility to deal with the varying loss situations over time becomes a necessity.

To see the effects of the current rules, we have applied the current statutory requirement to maintain the BIF reserve ratio at the 1.25 percent DRR to annual data for the period 1940–1995. In any given year, the assessment revenue necessary to maintain the BIF at the DRR is a function of three independent variables: BIF costs (actual and anticipated failure losses plus operating expenses), growth in insured deposits, and interest earnings on the BIF portfolio. The reserve ratio is defined as the BIF's net worth as of a given date divided by the amount of estimated insured deposits at that date. The equation for the revenue for year  $t$  is

$$\begin{aligned} \text{Assessment Revenue}_t = & \text{BIF Costs}_t + \\ & 0.0125(\text{Insured Deposits}_t - \\ & \text{Insured Deposits}_{t-1}) - \\ & \text{BIF Net Worth}_{t-1}(\text{Interest Rate}_t) \end{aligned}$$

This equation shows that, for a given year, the FDIC must raise enough assessment revenue so that the combined amount of assessment revenue and investment income will prove sufficient to cover BIF costs plus the designated portion (1.25 percent) of the change in insured deposits during the year. This ensures that the BIF reserve ratio at the end of the year will remain at the 1.25 percent DRR. For the simulation, it has been assumed that all of the BIF's net worth is invested in U.S. securities, where it earns interest at the Treasury 10-year bond rate.<sup>12</sup>

The results of simulation over the 1940–1995 period are shown in table 3. As indicated on the left side of the table, the 1.25 percent ratio can be maintained only if the FDIC is able to rebate premiums in no fewer than eight years during the period. But under current law no rebates are allowed; thus the least amount of assessment that the FDIC may put into effect in any one year is zero.<sup>13</sup>

The right side of table 3 shows the results of a simulation for 1940–1995 that included no rebates and a zero minimum assessment regime. These conditions comply with the no rebate requirement,

but they also necessitate some major deviations from the 1.25 DRR target. At the end of 1994 and 1995, for example, BIF ratios would have reached over 2 percent. Note that in 1988, 1990, and 1991, this simulation results in required assessment rates that are well above those actually imposed at the time (see tables 1 and 3).

As shown in the right side of table 3, if the current 1.25 DRR policy had been implemented in 1940, the assessment rate necessary to cover losses, operating expenses, and the fraction of the change in insured deposits for that year would have amounted to 5.6 basis points. From then until the late 1980s the necessary assessment rates would have remained generally at manageable levels. After that, however, assessment rates would have skyrocketed: 32.3 basis points for 1988, 17.7 points for 1989, and 49.0 and 62.8 points for 1990 and 1991 (again, well over two-and-a-half times the actual assessment rate applied in either year). The practical effects of levying such assessments on the industry could have been severe. A 49 basis point assessment in 1990 and a 62.8 point levy in 1991, for example, would have meant accrued costs for banks equal to about 75 percent of 1990 profits and 85 percent of 1991 profits.

The current policy of maintaining the 1.25 DRR poses another problem for the banking industry besides occasional very high assessments. The policy requires the rate of assessment to change frequently and swing widely. For example, under the zero minimum assessment (or no rebate) regime, the assessment rate declines from 62.8 basis points to zero basis points between 1991 and 1992. Such volatility is a problem because changes in the assessment rate affect bank income and net inter-

<sup>12</sup>In practice, the BIF is invested in both long- and short-term Treasuries, according to FDIC investment policies. This investment structure allows the fund to maintain liquidity for resolving failed banks but still generates some income to keep the fund balance at or above the DRR.

<sup>13</sup>The FDIC's current proposals for deposit insurance reform include giving the FDIC Board authority to implement surcharges, rebates and credits as needed to maintain the reserve ratio around the 1.25 percent level. For more information, see [www.fdic.gov/news/news/speeches/chairman/spmar1705.html](http://www.fdic.gov/news/news/speeches/chairman/spmar1705.html).

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Table 3

| <b>Application of Present (1.25 DRR) Policy</b> (Dollar Amounts in Millions) |                                 |           |                                 |                                      |           |                                 |
|--|---------------------------------|-----------|---------------------------------|--------------------------------------|-----------|---------------------------------|
| Year   | No Assessment Minimum (Rebates) |           |                                 | Zero Assessment Minimum (No Rebates) |           |                                 |
|  | Assessment Rate (b.p.)          | BIF Ratio | Required Assessment Income (\$) | Assessment Rate (b.p.)               | BIF Ratio | Required Assessment Income (\$) |
| 1995   | -2.1                            | 1.25      | -505                            | 0.0                                  | 2.19      | 0                               |
| 1994   | -16.7                           | 1.25      | -4,161                          | 0.0                                  | 2.13      | 0                               |
| 1993   | -37.3                           | 1.25      | -8,842                          | 0.0                                  | 1.86      | 0                               |
| 1992   | -10.8                           | 1.25      | -2,617                          | 0.0                                  | 1.39      | 0                               |
| 1991   | 62.8                            | 1.25      | 15,245                          | 62.8                                 | 1.25      | 15,245                          |
| 1990   | 49.0                            | 1.25      | 11,653                          | 49.0                                 | 1.25      | 11,652                          |
| 1989   | 17.7                            | 1.25      | 4,014                           | 17.7                                 | 1.25      | 4,013                           |
| 1988   | 32.3                            | 1.25      | 6,870                           | 32.3                                 | 1.25      | 6,869                           |
| 1987   | 8.9                             | 1.25      | 1,812                           | 8.9                                  | 1.25      | 1,811                           |
| 1986   | 16.9                            | 1.25      | 3,070                           | 16.9                                 | 1.25      | 3,070                           |
| 1985   | 8.8                             | 1.25      | 1,509                           | 8.8                                  | 1.25      | 1,508                           |
| 1984   | 10.2                            | 1.25      | 1,618                           | 10.2                                 | 1.25      | 1,617                           |
| 1983   | 7.6                             | 1.25      | 1,109                           | 7.6                                  | 1.25      | 1,108                           |
| 1982   | 9.8                             | 1.25      | 1,305                           | 9.7                                  | 1.25      | 1,290                           |
| 1981   | -1.4                            | 1.25      | -176                            | 0.0                                  | 1.26      | 0                               |
| 1980   | 6.5                             | 1.25      | 743                             | 6.4                                  | 1.25      | 728                             |
| 1979   | -1.3                            | 1.25      | -139                            | 0.0                                  | 1.27      | 0                               |
| 1978   | 3.3                             | 1.25      | 318                             | 3.3                                  | 1.25      | 318                             |
| 1977   | 4.1                             | 1.25      | 363                             | 4.1                                  | 1.25      | 362                             |
| 1976   | 5.8                             | 1.25      | 470                             | 5.8                                  | 1.25      | 469                             |
| 1975   | 3.3                             | 1.25      | 253                             | 3.3                                  | 1.25      | 253                             |
| 1974   | 6.2                             | 1.25      | 436                             | 6.2                                  | 1.25      | 436                             |
| 1973   | 5.5                             | 1.25      | 351                             | 5.5                                  | 1.25      | 350                             |
| 1972   | 6.4                             | 1.25      | 361                             | 6.4                                  | 1.25      | 361                             |
| 1971   | 2.4                             | 1.25      | 122                             | 2.4                                  | 1.25      | 122                             |
| 1970   | 5.5                             | 1.25      | 244                             | 5.5                                  | 1.25      | 244                             |
| 1969   | 0.3                             | 1.25      | 13                              | 0.3                                  | 1.25      | 13                              |
| 1968   | 7.5                             | 1.25      | 302                             | 7.5                                  | 1.25      | 302                             |
| 1967   | 6.1                             | 1.25      | 223                             | 6.1                                  | 1.25      | 223                             |
| 1966   | 6.0                             | 1.25      | 204                             | 6.0                                  | 1.25      | 203                             |
| 1965   | 4.7                             | 1.25      | 146                             | 4.7                                  | 1.25      | 146                             |
| 1964   | 3.7                             | 1.25      | 106                             | 3.7                                  | 1.25      | 106                             |
| 1963   | 0.7                             | 1.25      | 20                              | 0.7                                  | 1.25      | 20                              |
| 1962   | 2.4                             | 1.25      | 58                              | 2.4                                  | 1.25      | 58                              |
| 1961   | 3.3                             | 1.25      | 75                              | 3.3                                  | 1.25      | 75                              |
| 1960   | 1.6                             | 1.25      | 36                              | 1.6                                  | 1.25      | 36                              |
| 1959   | -0.1                            | 1.25      | -3                              | 0.0                                  | 1.25      | 0                               |
| 1958   | 4.5                             | 1.25      | 90                              | 4.5                                  | 1.25      | 90                              |
| 1957   | 1.7                             | 1.25      | 33                              | 1.7                                  | 1.25      | 33                              |
| 1956   | 1.2                             | 1.25      | 22                              | 1.2                                  | 1.25      | 22                              |
| 1955   | 2.0                             | 1.25      | 36                              | 2.0                                  | 1.25      | 36                              |
| 1954   | 2.3                             | 1.25      | 39                              | 2.3                                  | 1.25      | 39                              |
| 1953   | 0.9                             | 1.25      | 14                              | 0.9                                  | 1.25      | 14                              |
| 1952   | 2.5                             | 1.25      | 40                              | 2.5                                  | 1.25      | 39                              |
| 1951   | 3.0                             | 1.25      | 44                              | 3.0                                  | 1.25      | 44                              |
| 1950   | 11.5                            | 1.25      | 170                             | 11.5                                 | 1.25      | 170                             |
| 1949   | 0.4                             | 1.25      | 6                               | 0.4                                  | 1.25      | 6                               |
| 1948   | -1.7                            | 1.25      | -24                             | 0.0                                  | 1.28      | 0                               |
| 1947   | 1.9                             | 1.25      | 26                              | 1.9                                  | 1.25      | 26                              |
| 1946   | 6.4                             | 1.25      | 82                              | 6.4                                  | 1.25      | 82                              |
| 1945   | 11.6                            | 1.25      | 131                             | 11.6                                 | 1.25      | 131                             |
| 1944   | 10.0                            | 1.25      | 97                              | 10.0                                 | 1.25      | 97                              |
| 1943   | 23.4                            | 1.25      | 197                             | 23.4                                 | 1.25      | 197                             |
| 1942   | 8.9                             | 1.25      | 61                              | 8.9                                  | 1.25      | 61                              |
| 1941   | 3.8                             | 1.25      | 24                              | 3.8                                  | 1.25      | 24                              |
| 1940   | 5.6                             | 1.25      | 31                              | 5.6                                  | 1.25      | 31                              |
| Mean   | 6.1                             | 1.25      | 674                             | 7.3                                  | 1.30      | 967                             |
| Std. Dev   | 13.2                            | 0         | 3,080                           | 11.1                                 | 0.19      | 2,678                           |

## A Formula for Calculating Deposit Insurance Assessments

est margins, much as changes in the cost for borrowed funds do.<sup>14</sup>

The two main reasons for the wide swings in the assessment rate required under the DRR are that BIF costs are highly correlated with the state of the economy (as mentioned above) and that estimating future bank failures and future BIF losses from those failures cannot be done with great precision. Under generally accepted accounting principles (GAAP), which the FDIC is required to follow, losses on bank failures projected to occur within the next year, must be recognized when these losses are “estimable and probable.” Such losses can not always be calculated accurately. In the early 1990s, when estimated failures dramatically increased, large loss reserves were charged to the fund, but when the economy rapidly improved and the projected failures did not arrive, the loss reserves had to be reversed. As a result, BIF reserves and the reserve ratio swung dramatically in the 1991–1994 period.

### The Moving-Average Alternative

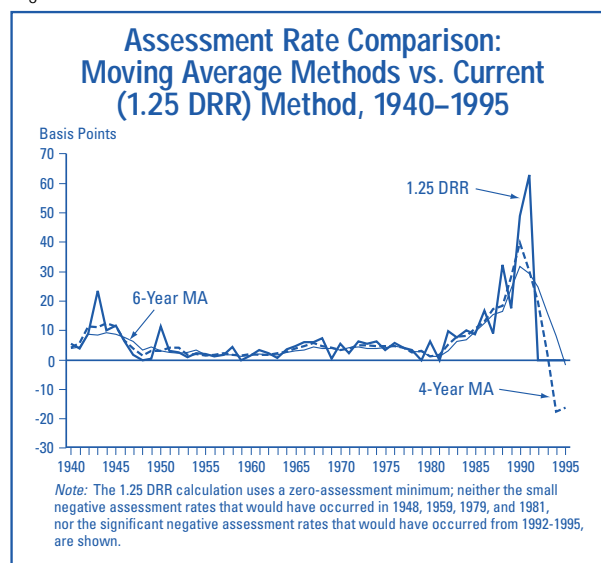
An alternative to the current assessment system is one in which the annual assessment is based on a moving average of past years’ BIF costs, including the necessary adjustment for the change in insured deposits. Unlike the current system, which raises assessment income as necessary to maintain the BIF ratio at 1.25 percent, the moving-average (MA) alternative would raise income according to a fixed formula that would allow the BIF ratio to achieve the 1.25 percent level over a span of time. Because of averaging, such a system would tend to reduce the extreme variability in annual premiums. When BIF costs were rising, banks in a given year would be assessed at a lower rate than the rate necessary to cover actual or anticipated BIF costs, and the observed BIF ratio for the year would tend to decline. This would occur when actual costs were rising, as happened during the 1980s. The reverse would be true when costs were falling: in years when actual costs were falling, as happened in 1979 and 1980, the assessment raised under the MA method would tend to exceed the BIF costs incurred.

We can simulate the MA method by using the BIF statistics contained in table 1. We derived four- and six-year moving-average calculations for assessment revenues and other data starting with 1940. For the four-year average, we determined the assessment for a given year by summing up the BIF costs (insurance losses plus operating expenses) and the insured-deposits growth factor of the previous four years, dividing the total by four, and subtracting from the quotient the amount of investment income earned by the BIF during the year. For example, to calculate the premium for 1940 we summed up the actual BIF costs and insured-deposit reserve factors (annual dollar change in insured deposits times 0.0125) for 1939, 1938, 1937, and 1936; divided the resultant total by four; and subtracted from this number the income earned on the investment of the BIF balance in 1940 (year-end 1939 BIF net worth times the interest rate for 1940).

This approach avoids most of the problems mentioned above associated with the present 1.25 DRR method. As shown in table 4 and figure 2, both the four- and the six-year MA methods produce assessment-rate and assessment-income

<sup>14</sup> From the standpoint of a bank, a 25 basis point increase in the assessment rate is the same as a one-quarter of 1 percent increase in the interest rate for deposit funds. This type of change, whether in the assessment rate or in the interest rate, makes it more costly for a bank to carry and continue refinancing long-term assets, such as home mortgages.

Figure 2





## A Formula for Calculating Deposit Insurance Assessments

Table 4

| <b>Application of Moving Average Method</b> (Dollar Amounts in Millions) |                        |           |                                 |                        |           |                                 |
|--|------------------------|-----------|---------------------------------|------------------------|-----------|---------------------------------|
| Year   | 4-year Moving Average  |           |                                 | 6-year Moving Average  |           |                                 |
|  | Assessment Rate (b.p.) | BIF Ratio | Required Assessment Income (\$) | Assessment Rate (b.p.) | BIF Ratio | Required Assessment Income (\$) |
| 1995   | -16.1                  | 1.26      | -3,913                          | -1.7                   | 1.41      | -425                            |
| 1994   | -17.5                  | 1.42      | -4,360                          | 8.2                    | 1.40      | 2,050                           |
| 1993   | 2.1                    | 1.42      | 492                             | 15.9                   | 1.09      | 3,779                           |
| 1992   | 19.7                   | 0.96      | 4,793                           | 24.9                   | 0.49      | 6,049                           |
| 1991   | 30.3                   | 0.63      | 7,365                           | 29.3                   | 0.14      | 7,122                           |
| 1990   | 39.9                   | 1.04      | 9,484                           | 31.9                   | 0.59      | 7,598                           |
| 1989   | 28.4                   | 1.16      | 6,421                           | 24.4                   | 0.83      | 5,514                           |
| 1988   | 18.3                   | 1.03      | 3,904                           | 16.6                   | 0.75      | 3,527                           |
| 1987   | 17.2                   | 1.21      | 3,499                           | 15.4                   | 0.95      | 3,138                           |
| 1986   | 12.9                   | 1.11      | 2,352                           | 12.4                   | 0.90      | 2,263                           |
| 1985   | 10.7                   | 1.16      | 1,835                           | 9.5                    | 0.95      | 1,638                           |
| 1984   | 8.3                    | 1.14      | 1,324                           | 6.8                    | 0.95      | 1,085                           |
| 1983   | 8.0                    | 1.16      | 1,161                           | 6.2                    | 0.99      | 909                             |
| 1982   | 5.3                    | 1.16      | 700                             | 3.2                    | 1.00      | 420                             |
| 1981   | 1.9                    | 1.21      | 242                             | 1.1                    | 1.08      | 139                             |
| 1980   | 1.2                    | 1.17      | 140                             | 1.3                    | 1.06      | 148                             |
| 1979   | 3.1                    | 1.24      | 327                             | 2.9                    | 1.12      | 309                             |
| 1978   | 2.5                    | 1.18      | 241                             | 2.8                    | 1.07      | 268                             |
| 1977   | 4.2                    | 1.19      | 368                             | 4.3                    | 1.07      | 379                             |
| 1976   | 4.8                    | 1.19      | 393                             | 4.6                    | 1.06      | 374                             |
| 1975   | 4.8                    | 1.20      | 369                             | 4.1                    | 1.07      | 313                             |
| 1974   | 4.6                    | 1.17      | 326                             | 3.8                    | 1.06      | 270                             |
| 1973   | 4.9                    | 1.19      | 313                             | 4.0                    | 1.08      | 254                             |
| 1972   | 5.1                    | 1.20      | 289                             | 4.4                    | 1.10      | 247                             |
| 1971   | 3.9                    | 1.21      | 195                             | 4.2                    | 1.11      | 211                             |
| 1970   | 3.3                    | 1.19      | 145                             | 3.4                    | 1.09      | 151                             |
| 1969   | 4.2                    | 1.22      | 184                             | 3.8                    | 1.11      | 167                             |
| 1968   | 4.6                    | 1.17      | 186                             | 3.9                    | 1.06      | 157                             |
| 1967   | 5.9                    | 1.20      | 216                             | 4.4                    | 1.10      | 159                             |
| 1966   | 4.8                    | 1.20      | 165                             | 3.5                    | 1.11      | 118                             |
| 1965   | 3.8                    | 1.22      | 120                             | 3.2                    | 1.14      | 100                             |
| 1964   | 2.8                    | 1.23      | 81                              | 2.5                    | 1.16      | 70                              |
| 1963   | 2.4                    | 1.24      | 64                              | 1.8                    | 1.18      | 48                              |
| 1962   | 1.9                    | 1.22      | 47                              | 1.8                    | 1.16      | 44                              |
| 1961   | 1.9                    | 1.22      | 42                              | 2.0                    | 1.17      | 46                              |
| 1960   | 2.1                    | 1.24      | 46                              | 1.6                    | 1.19      | 36                              |
| 1959   | 1.6                    | 1.23      | 33                              | 1.2                    | 1.18      | 26                              |
| 1958   | 1.8                    | 1.21      | 37                              | 1.7                    | 1.17      | 34                              |
| 1957   | 2.2                    | 1.25      | 41                              | 1.7                    | 1.20      | 33                              |
| 1956   | 1.7                    | 1.24      | 32                              | 1.5                    | 1.20      | 29                              |
| 1955   | 1.5                    | 1.23      | 28                              | 1.7                    | 1.20      | 31                              |
| 1954   | 2.0                    | 1.24      | 34                              | 3.3                    | 1.20      | 57                              |
| 1953   | 1.7                    | 1.24      | 29                              | 2.7                    | 1.18      | 44                              |
| 1952   | 4.3                    | 1.23      | 67                              | 2.4                    | 1.15      | 38                              |
| 1951   | 4.2                    | 1.20      | 62                              | 2.6                    | 1.15      | 39                              |
| 1950   | 3.2                    | 1.18      | 47                              | 3.2                    | 1.16      | 47                              |
| 1949   | 3.1                    | 1.33      | 46                              | 4.4                    | 1.30      | 66                              |
| 1948   | 1.4                    | 1.27      | 20                              | 3.5                    | 1.22      | 50                              |
| 1947   | 4.0                    | 1.22      | 54                              | 6.2                    | 1.13      | 85                              |
| 1946   | 6.6                    | 1.18      | 85                              | 7.8                    | 1.05      | 100                             |
| 1945   | 11.3                   | 1.17      | 127                             | 8.8                    | 1.00      | 99                              |
| 1944   | 12.4                   | 1.16      | 120                             | 9.2                    | 1.02      | 89                              |
| 1943   | 11.2                   | 1.10      | 94                              | 8.6                    | 1.00      | 73                              |
| 1942   | 11.5                   | 1.34      | 78                              | 8.7                    | 1.26      | 59                              |
| 1941   | 5.9                    | 1.29      | 36                              | 4.5                    | 1.26      | 28                              |
| 1940   | 4.3                    | 1.25      | 24                              | 4.0                    | 1.25      | 22                              |
| Mean   | 6.1                    | 1.19      | 7,261                           | 6.4                    | 1.07      | 888                             |
| Std. Dev   | 8.8                    | 0.11      | 213                             | 7.0                    | 0.20      | 1,809                           |

## A Formula for Calculating Deposit Insurance Assessments

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requirements that are less extreme and vary less from year to year than the requirements produced by the 1.25 DRR method. For 1991, for example, the two MA methods produce assessment rates of 30.3 and 29.3 basis points respectively, compared with 62.8 points for the DRR method. In terms of volatility, the standard deviation of the assessment rate for the period 1940 – 1995 is reduced from 11.1 basis points for the 1.25 DRR method to 8.8 and 7.0 basis points, respectively, for the four- and six-year MA methods (see tables 3 and 4). In addition, the need for assessment rebates is nearly eliminated without a need to impose a zero-assessment constraint. Rebates are only required in 1994 and 1995 under the four-year MA method, and in 1995 under the six-year MA method.

In general, under the MA approach the BIF reserve ratio would tend to converge on a year-by-year basis around the BIF reserve ratio for the year initially chosen. For example, the BIF ratio in 1940 when our experiment was started was 1.25 percent. Over the years, both the four- and the six-year MA methods resulted in ratios that were close to 1.25 percent. The four-year MA, however, exhibited much closer convergence to the initial 1.25-percent value than the six-year MA. The mean BIF ratios for 1940-1995 were 1.19 percent for the four-year MA and 1.07 for the six-year MA. The variation around the mean for the four-year MA method was also smaller.

As emphasized above, an approach to assessments based on a MA would tend to have a counter-cyclical effect on bank income. From this perspective, if deposit insurance assessment rates were set using a MA method, the current risk-based assessment system would be improved, and the system would be easier for the FDIC to administer. Simply put, as compared with the current 1.25 DRR method, an assessment policy based on a moving average would make the assessment costs to BIF members more predictable from year to year and less of a burden during hard economic times. In

the long run, of course, costs should end up the same under both approaches.

### The Constrained Moving Average

Although the MA approach improves upon the current 1.25 DRR method in several respects, one major problem remains. Like the current 1.25 DRR method, the MA method results in highly variable assessment rates over time, which can create funding uncertainty for banks. This problem can be lessened if the MA approach is modified with an above-zero (positive) minimum constraint on assessment rates. Under this variation, the FDIC would impose the MA assessment rate only when that rate was greater than the predetermined minimum rate. If it was not, then the FDIC would charge the predetermined minimum rate.

We have incorporated a minimum constraint of 3 basis points into the four- and six-year MA formulations. This 3-basis point constraint corresponds closely to the actual minimum effective rate observed in any year during the 1934–1995 period (see table 1). The results, shown in table 5, suggest that the new approach deals effectively with the problem of changing rates—the assessment rate remains constant over long stretches of time.

In about half the years the assessment rate is the 3-basis-point minimum. In addition, the technique of the constrained MA would further reduce the variability in the assessment rate. The assessment rate standard deviations in both the four-year and six-year constrained MA formulations are lower than those of the current 1.25 DRR (no rebate) policy (see tables 3 and 5). However, the constrained MA approaches would neither alleviate problematic high assessment rates, nor mitigate the resultant cyclical problem for the industry. In these regards, the advantages seem to lie decidedly with the two unconstrained MA approaches.

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Table 5

| <b>Constrained Moving-Average Methods—<br/>3 Basis Point Assessment Minimum</b> |                           |           |                           |           |
|---|---------------------------|-----------|---------------------------|-----------|
| Year  | 4-year Moving Average     |           | 6-year Moving Average     |           |
|   | Assessment<br>Rate (b.p.) | BIF Ratio | Assessment<br>Rate (b.p.) | BIF Ratio |
| 1995  | 3.0                       | 1.85      | 3.0                       | 1.53      |
| 1994  | 3.0                       | 1.76      | 7.9                       | 1.46      |
| 1993  | 3.0                       | 1.49      | 15.6                      | 1.15      |
| 1992  | 19.4                      | 1.01      | 24.5                      | 0.55      |
| 1991  | 30.0                      | 0.67      | 28.9                      | 0.19      |
| 1990  | 39.5                      | 1.09      | 31.5                      | 0.65      |
| 1989  | 28.0                      | 1.21      | 23.9                      | 0.89      |
| 1988  | 17.9                      | 1.09      | 16.1                      | 0.82      |
| 1987  | 16.8                      | 1.26      | 14.9                      | 1.02      |
| 1986  | 12.5                      | 1.17      | 11.9                      | 0.97      |
| 1985  | 10.1                      | 1.22      | 8.8                       | 1.02      |
| 1984  | 7.6                       | 1.21      | 6.0                       | 1.03      |
| 1983  | 7.3                       | 1.24      | 5.4                       | 1.08      |
| 1982  | 4.4                       | 1.24      | 3.0                       | 1.10      |
| 1981  | 3.0                       | 1.30      | 3.0                       | 1.18      |
| 1980  | 3.0                       | 1.25      | 3.0                       | 1.14      |
| 1979  | 3.0                       | 1.29      | 3.0                       | 1.17      |
| 1978  | 3.0                       | 1.24      | 3.0                       | 1.12      |
| 1977  | 3.9                       | 1.24      | 4.0                       | 1.12      |
| 1976  | 4.5                       | 1.24      | 4.3                       | 1.12      |
| 1975  | 4.5                       | 1.26      | 3.7                       | 1.14      |
| 1974  | 4.3                       | 1.24      | 3.5                       | 1.13      |
| 1973  | 4.6                       | 1.27      | 3.6                       | 1.16      |
| 1972  | 4.8                       | 1.28      | 4.0                       | 1.18      |
| 1971  | 3.5                       | 1.31      | 3.8                       | 1.21      |
| 1970  | 3.0                       | 1.30      | 3.0                       | 1.19      |
| 1969  | 3.7                       | 1.33      | 3.3                       | 1.22      |
| 1968  | 4.2                       | 1.28      | 3.4                       | 1.18      |
| 1967  | 5.5                       | 1.34      | 3.9                       | 1.24      |
| 1966  | 4.4                       | 1.35      | 3.0                       | 1.27      |
| 1965  | 3.4                       | 1.38      | 3.0                       | 1.32      |
| 1964  | 3.0                       | 1.41      | 3.0                       | 1.35      |
| 1963  | 3.0                       | 1.43      | 3.0                       | 1.36      |
| 1962  | 3.0                       | 1.39      | 3.0                       | 1.33      |
| 1961  | 3.0                       | 1.39      | 3.0                       | 1.32      |
| 1960  | 3.0                       | 1.40      | 3.0                       | 1.33      |
| 1959  | 3.0                       | 1.38      | 3.0                       | 1.31      |
| 1958  | 3.0                       | 1.33      | 3.0                       | 1.26      |
| 1957  | 3.0                       | 1.36      | 3.0                       | 1.28      |
| 1956  | 3.0                       | 1.34      | 3.0                       | 1.26      |
| 1955  | 3.0                       | 1.31      | 3.0                       | 1.24      |
| 1954  | 3.0                       | 1.30      | 3.3                       | 1.22      |
| 1953  | 3.0                       | 1.29      | 3.0                       | 1.20      |
| 1952  | 4.2                       | 1.25      | 3.0                       | 1.17      |
| 1951  | 4.1                       | 1.23      | 3.0                       | 1.16      |
| 1950  | 3.2                       | 1.21      | 3.2                       | 1.16      |
| 1949  | 3.1                       | 1.36      | 4.4                       | 1.30      |
| 1948  | 3.0                       | 1.30      | 3.5                       | 1.22      |
| 1947  | 4.0                       | 1.22      | 6.2                       | 1.13      |
| 1946  | 6.6                       | 1.18      | 7.8                       | 1.05      |
| 1945  | 11.3                      | 1.17      | 8.8                       | 1.00      |
| 1944  | 12.4                      | 1.16      | 9.2                       | 1.02      |
| 1943  | 11.2                      | 1.10      | 8.6                       | 1.00      |
| 1942  | 11.5                      | 1.34      | 8.7                       | 1.26      |
| 1941  | 5.9                       | 1.29      | 4.5                       | 1.26      |
| 1940  | 4.3                       | 1.25      | 4.0                       | 1.25      |
| Mean  | 7.0                       | 1.28      | 6.6                       | 1.14      |
| Std. Dev  | 7.3                       | 0.16      | 6.6                       | 0.21      |

### Conclusions

The current system for setting deposit insurance rates may generate high premiums just when bank earnings are low, and thus raises questions about what level of assessments banks can absorb during a banking downturn. This level has not been established, nor has the question been put to the test since the current system was implemented. In the last banking crisis—that of the 1980s and early 1990s—the law did not require the FDIC to adhere to a pay-as-you-go policy in response to the large insurance losses. Instead Congress approved modest increases in premium rates in 1989 and 1991, the years of greatest stress to the insurance fund. Further changes introduced by FDICIA and DIFA established the current assessment policy, which requires that the BIF and the SAIF reserve ratios be maintained at the DRR and limits the ability of the FDIC to charge assessments if the reserve ratios are at or above the DRR. As a result, current assessment policy requires that deposit insurance assessments be set sufficiently high to cover costs during periods of high bank failures.

We cannot see the future, but we can look at the past. This paper has examined the level and volatility of assessment rates that would have occurred if the current 1.25 DRR policy had been put into effect when the deposit insurance system first began operations in 1934. The analysis, using data on FDIC insurance losses, deposit growth, and interest rates from 1940 through 1995, indicates that a steady 1.25 percent reserve ratio for the BIF would have meant very heavy assessment levies in some years (years when the implied annual levy would have erased almost all bank profits), followed by zero levies as the industry's condition improved. If significant banking industry losses should reappear, such high volatility in assessment requirements is not likely to be acceptable.

This article has advanced an alternative moving-average approach to the current assessment policy. This approach would not maintain the BIF at a predetermined ratio in every year, but would ensure that the BIF ratio would converge around

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the predetermined ratio over the long run. It also avoids the two major weaknesses—high volatility and potentially prohibitive assessment burdens—inherent in the current 1.25 DRR assessment policy. Because this method relies on predetermined formulas instead of behavioral economic assumptions and estimates of future failures, premium set-

ting would lie outside the realm of political influence or industry pressures. And because this method does not burden banks with oppressive premiums when they can least afford them (as the current policy does), the moving-average approach would have a beneficial counter-cyclical effect on the banking industry.

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