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- **Mutual-to-Stock Conversions**
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Mutual-to-Stock Conversions: Problems with the Pricing of Initial Public Offerings

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This article examines the factors that affect conversion returns. The author concludes that preconversion equity in mutual thrifts is what creates the windfall gains that accompany mutual-to-stock conversions.

The Influence of Examiners and Auditors on Loan-Loss Recognition

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The authors find that when bankers have some discretion in their treatment of loan losses, bank examiners—but not auditors—influence the timing of loan-loss recognition. For their part, auditors appear to focus on the provision for loan losses.

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This regular feature of the *FDIC Banking Review* contains information on regulatory agency actions, state legislation and regulation, and articles and studies pertinent to banking and deposit insurance issues.

Mutual-to-Stock Conversions: Problems with the Pricing of Initial Public Offerings

by Joseph A. Colantuoni*

The U. S. thrift industry, including both savings and loans and savings banks, has long been characterized by both stock and mutual forms of ownership. Stock-form thrifts are owned by shareholders and may be either closely held or publicly traded institutions. Mutual thrifts are typically owned by their depositors.¹ Since the early 1980s, a large number of mutual institutions have converted to the stock form of ownership. They have done so to raise equity capital, to expand their operations, to compensate company officers, or for a variety of other reasons. The primary method of converting has been through an “initial public offering,” or IPO. Equity interests in the new thrift are first offered for sale to eligible depositors, managers, employees, and then to the general public. Initial purchasers who were fortunate enough to buy shares of the 143 mutual thrifts that converted to a stock form of ownership in 1995, 1996, 1997, and the first half of 1998 saw their share prices rise by an average of approximately 24 percent on the very first day of trading. Even more dramatic has been the price appreciation on the 13 conversions that took place in the first four months of 1998, producing an unprecedented average one-day return of 59 percent. Moreover, the pops appear to be more prominent the larger the institution is.

Given the remarkable single-day returns associated with recent conversions, it seems appropriate to review the effectiveness of current regulatory appraisal guidelines in pricing mutual-to-stock conversions. These guidelines were revised in 1994 to ensure that “conversion stock is accurately appraised and sold at its pro-

forma market value, eliminating any ‘windfall’ distribution in the value of the converting association.”² Yet conversion activity since 1994 suggests that these revised guidelines have had a limited effect at best. Unfortunately, the current appraisal guidelines hinge on the assumption that the converting thrift can be valued in such a way that windfall gains are eliminated when the thrift’s stock begins trading. As this article shows, however, this assumption is unreasonable.

The first section of the article describes the conversion process and the attempt of regulatory guidelines to eliminate windfall gains that have, in fact, accrued in recent conversions. The second section summarizes recent studies of the conversion process, gives a mathematical explanation why pricing formulas cannot reduce first-day price appreciation, and empirically tests for the most important factors that affect conversion returns. The article concludes that preconversion equity in mutual thrifts is what creates the windfall gains that accompany mutual-to-stock conversions. Thus, unless a converting mutual thrift has no book equity at conversion, we should always expect significant price appreciation on the first day of trading.

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¹ Much like mutual insurance companies that are mutually owned by their policyholders.

² Office of Thrift Supervision Guidelines (1994).

Appraisal Guidelines and Windfall Gains

Concern over the Initial Public Offering Price of Mutual Thrifts

Regulators have become increasingly concerned over the dramatic short-term increases in the market value of converted thrifts. Initial shareholders in these institutions—people who first subscribed to the IPO—have been blessed with single-day returns far above the average for other types of companies that first issue stock to the public. Before 1994, the concern was that insiders benefited from these excessive returns at the expense of depositors, who often opted not to purchase shares of their newly converting thrift.³ These insiders—a group that includes management and professional investors—typically accrued gains during a conversion by exercising their right to purchase stock in the thrift before it was publicly traded. After trading began, share prices would often rise dramatically from the initial public offering price insiders had paid. In October 1994, the Office of Thrift Supervision issued revised appraisal guidelines designed to eliminate these gains.⁴ Table 1, figures 1 and 2, and table 2 (pages 5-6) show the single-day returns and the size of converting institutions before and after 1994.

A puzzling question now arises. If the revised guidelines provide a better estimate of a converting thrift's value than previous guidelines, then why do we still observe such remarkable, and rising, returns? The answer, as shown below, is that mutual-to-stock conversions are a unique type of initial public offering, and because of their unique characteristics, they *cannot* be priced to eliminate any windfall distribution of value arising from the conversion process.

Why Price Appreciation Occurs in Mutual-to-Stock Conversions

Many stock-form firms, including banks and thrifts, have their equity capital privately held: their equity shares are not publicly traded but are held by a small number of individuals or companies. If privately held firms seek additional equity funding, or their owners wish to liquidate a portion of their investment, they may raise capital through an initial public offering of stock. In these cases, owners are essentially selling all or some portion of their ownership interest in the firm to new shareholders (the purchasers of the IPO).

In contrast, mutual-form thrifts do not have explicit owners. They do, however, have net worth, or equity,

in the form of retained earnings. Management has created this equity by prudently investing depositor funds. When mutual-form thrifts are converted to stock form, eligible depositors and managers can purchase shares of the thrift at the subscription price before public trading begins and a market price is established. The proceeds collected during the subscription period are not transferred to the mutual's managers or depositors. Instead, these proceeds are retained by the thrift and added to its total net worth. Those who purchased the thrift's stock during the subscription period now own its preexisting net worth plus the total proceeds raised in the public offering. The equity pie has grown in size, and each of the new shareholders can enjoy a larger piece of pie for the cost of a smaller one because the original (preconversion) equity remains in the thrift. The sudden and dramatic rise in the market price of stock above the offering price initially set by the underwriter is a reflection of the original equity.

If an institution has a positive amount of preexisting net worth⁵ and can invest its IPO proceeds in profitable projects, attempts to eliminate rapid price appreciation are impossible. Two simple examples can explain this situation. Suppose a mutual-form thrift with \$10 million in net worth converts to stock form. In one example, if the institution's initial stock offering is sold for \$1 million, initial shareholders should expect to receive a 1,000 percent increase in the value of their shares. As a group, they pay \$1 million for \$11 million in net worth—initial retained earnings plus proceeds collected during the stock subscription period. In a second example, if the institution could somehow be sold for an unrealistic \$1 billion, initial shareholders would still realize a 1 percent initial return. As absurd as these examples may seem, they illustrate a simple point: *Regardless of the final IPO price, price appreciation will occur as the market realizes the value of an institution's undistributed (preexisting) net worth.*

Even in the IPOs of privately held stock-form companies, other than savings and loans or savings banks, some amount of price appreciation can be expected. Barry, Gilson, and Ritter (1998) report that between 1990 and 1996, standard IPOs averaged a 14 percent one-day return. Among the many factors affecting

³ In 1981 and 1983, the OTS issued guidelines for the conversion of mutual savings and loans to stock form.

⁴ 12 CFR Part 303.15 and Part 333.4, 12 CFR Part 563b.7

⁵ Including positive book equity, retained earnings, and franchise value.

these single-day returns, they argue, is the “new-issue discount”: a company going public for the first time may be offered at a discount to its perceived market value in order to attract sufficient investor interest to the company. For example, there may be a lack of information about the company, and potential investors need compensation for the additional risk they assume when purchasing shares of a “new” public company.

However, the 14 percent price appreciation observed for standard IPOs is dramatically less than the average single-day returns of 40 and 44 percent registered by mutual-to-stock conversions in the past two years. Most of the price appreciation observed in newly converted thrifts is not created by a new-issue discount since converting thrifts make public a wealth of financial information. The availability of this information allows analysts to determine readily the pro forma market value of a thrift. When initial investors pay for shares of that value, they receive an equity interest in that value plus the money all of them together used to purchase that equity. This sudden realization of value is what causes the market price of a converted thrift to rise on the first day of trading.

Old Rules Applied to a New Market

In the 1980s, undercapitalized mutual-form thrifts were commonplace and they often sought to convert to stock form in an effort to shore up their capital positions. With these conversions, very little price appreciation occurred as the newly issued shares merely brought in capital to buffer thinly capitalized institutions. Weakly capitalized thrifts had little preconversion equity and therefore did not display remarkable first-day returns when they went public. Given that between 1980 and 1989, thrifts averaged only approximately 1.6 percent in tangible equity capital, it is no surprise that studies like Jordan, et al. (1986) found conversions at the time experienced a mere 5.6 percent “pop” on the first day of trading. But in the mid-1990s, as the industry recovered its financial stability, conversions continued; and stalwart mutual associations that had survived the industry’s worst crisis added IPO proceeds to their already strong capital positions.

Presented with large sums of preexisting net worth and opportunities for profitable growth, today’s mutual-form thrifts converting to stock form can expect nothing less than spectacular initial returns. The appraisal guidelines that regulators once applied to weak thrifts are no longer appropriate. In the 1980s, thrifts’

need for capital and access to equity markets caused hundreds of them to convert. Today, the impetus for conversions seems to derive more from competitive pressures and managerial desires for better compensation.⁶ The industry has fundamentally changed since the early 1980s, but the way mutual-to-stock conversions are valued has not.

Evidence That Windfall Gains Have Not Been Eliminated

Published Research on Initial Returns and Underpricing

Many recent studies have argued that conversions are not merely mispriced but impossible to price accurately under the current appraisal guidelines. An early study, by Jordan et al. (1986), surprisingly notes positive returns from many conversions in the 1980s and suggests the existence of a one-time transfer of wealth from those depositors who did not exercise their right to purchase shares to those who did. Two other studies discuss the general phenomenon of mutual-to-stock conversions and describe the general incentives managers have to underprice their institution’s initial public offering.⁷ The second of the two studies illustrates the difference between conversions and standard IPOs (as discussed above).

Another study, Barth et al. (1994), also discusses why conversions are unique relative to IPOs and confirms that initial returns have become more pronounced in recent years. The authors even suggest that a moratorium should be placed on conversions until a more equitable distribution of net worth can be found. Still another study, Unal (1997), argues that the regulatory appraisal methodology is invalid because assumptions in the pricing equations are unreasonable. This author, too, calls for a moratorium on conversions. Finally, the most recent study, by Wilcox and Williams (1998), shows that excess returns on conversions have been fairly consistent and predictable. Their research shows that mutual-to-stock conversions grant higher returns to investors for less-than-expected risk.

⁶ See Eccles and O’Keefe (1995).

⁷ Masulis (1987) and Maksimovic and Unal (1993).

Why Pricing Formulas Don't Work

A more detailed analysis of how conversions are valued will illustrate why it is not possible to eliminate first-day price appreciation in mutual-to-stock conversions.⁸ The post-conversion value of a thrift, V' , is equal to the net present value of the existing mutual institution and all future earnings generated by investment of the proceeds of the bank's initial public offering, V .

$$(1) V' = \text{NPV of Existing Bank} + \text{NPV of IPO Proceeds}$$

$$= W + \sum_{t=1}^{\infty} \frac{Vr}{(1+d)^t}$$

$$= W + \frac{Vr}{d}$$

where the variable r is the net rate of return for new IPO proceeds. If these proceeds are not leveraged, then r represents the simple return on investments funded by the new capital. If the new IPO proceeds are leveraged, then r represents the rate of return on new investments minus the cost of borrowed funds. The variable W is the preconversion net worth already present in the thrift. For the sake of simplicity, assume that r is constant over time. The variable d should represent some appropriate estimate of the market's discount rate on the thrift's earnings. Ideally, this would be an average return on assets for the industry. However, to illustrate the implicit assumptions made in the current conversion appraisal guidelines, assume that $d = 1/(P/E)$, where (P/E) is the price to earnings ratio for a group of comparable institutions.⁹ Then equation (1) becomes

$$(2) V' = W + \left(\frac{P}{E}\right)Vr$$

From (2) we see that a positive return on the IPO, $V' > V$, will be realized for any conversion if the proceeds from the public offering are positive ($V > 0$) and the bank is expected to invest these proceeds in positive NPV projects ($r > 0$, or equivalently, $W > 0$ and $r > 0$). These are reasonable assumptions for any prudent investor to make.

The 1994 appraisal guidelines attempt to eliminate windfall gains on IPOs by pricing the converting institution's stock such that the expected post-conversion price of the stock is exactly equal to the initial public offering price (that is, $V' = V$). Substituting V' for V in equation (2) and solving for the post-conversion value of the bank yields

$$(3) V' = W + \left(\frac{P}{E}\right)V'r$$

$$V' \left(1 - \left(\frac{P}{E}\right)r\right) = W$$

$$V' = \frac{W}{\left(1 - \left(\frac{P}{E}\right)r\right)}$$

Equation (3) represents the basic regulatory pricing model for mutual-to-stock conversions.¹⁰ For us to obtain a positive value for the initial price, V' in equation (3), two key assumptions discussed above must hold. First, setting $V' = V$ implies that any preexisting net worth is assumed to be zero. Second, the denominator of equation (3) must be positive, which implies that

$$(4) \quad 1 - \left(\frac{P}{E}\right)r > 0$$

$$\left(\frac{E}{P}\right) > r$$

$$d > r$$

This equation requires the institution to reinvest the proceeds of the offering in projects with negative net present values. These assumptions may have been reasonable in the 1980s, when many mutual savings associations had low net worth and less-than-desirable investment opportunities. However, such assumptions do not apply to the industry today, and thrifts that go public should not be valued as if such assumptions remain valid.

⁸ This section borrows from Cassidy (1975), Maksimovic and Unal (1993), and Unal (1997).

⁹ Where (P/E) is the ratio of a publicly traded thrift's stock price to its reported earnings.

¹⁰ Table 3 shows the three pricing equations actually used in appraisal reports submitted to the FDIC and the OTS.

Recent Data on Conversion Returns

The historical single-day returns for standard conversions support the hypothesis that the value of a converting thrift cannot be priced to eliminate all windfall gains. Single-day returns, or ‘pops’, for post-1994 conversions have been significantly higher than those for conversions during the 1987–1993 period (see figures 1 and 2). Since 1994, pops have averaged 24 percent (see table 1). Moreover, since year-end 1996, the lowest pop observed among 35 conversions has been 26 percent, and the largest pop was 105 percent. A likely explanation for the post-1994 returns is the increase of preconversion equity in mutual thrifts (see figure 3). In general, the larger this equity, the greater the first-day price pop will be. The appraisal process and specific pricing equations have not had the intended effect of minimizing IPO single-day returns.

Table 1

Single-Day Returns for Mutual-to-Stock Thrift Conversions, before and after 1994

Statistic	Single-Day Returns	
	1987–1993	1995–1998
Number of Conversions	79	143
Maximum Return	55.00%	105.63%
Minimum Return	-13.07%	-5.00%
Average Return	16.65%	23.94%
Standard Deviation	.1490	.1936

Source: SNL Securities

True, an extraordinary speculative market in financial-service stocks and regular IPOs may have contributed to these returns. However, when one factors out an average 0.06 percent daily return on a thrift index¹¹ in recent years and an average 14 percent initial return for other types of IPOs, mutual-to-stock conversions still appear to have generated remarkable single-day returns. Single-day returns greater than 20 percent seem even more conspicuous given that appraisers adjust valuations to account for current market conditions. These results are consistent across different-sized thrifts and are even more dramatic for larger conversions. In fact, for institutions with over \$1 billion in assets, returns have increased from an average of 17 percent before 1994 to over 30 percent since 1994 (see table 2)—even though at larger institutions capital ratios may be lower. In these cases, bandwagon effects and general market conditions may play a more important role in a conversion’s first-day price appreciation.

¹¹ SNL Securities Thrift Index.

Figure 1
Distribution of Single-Day Returns for Conversions, 1987–1993

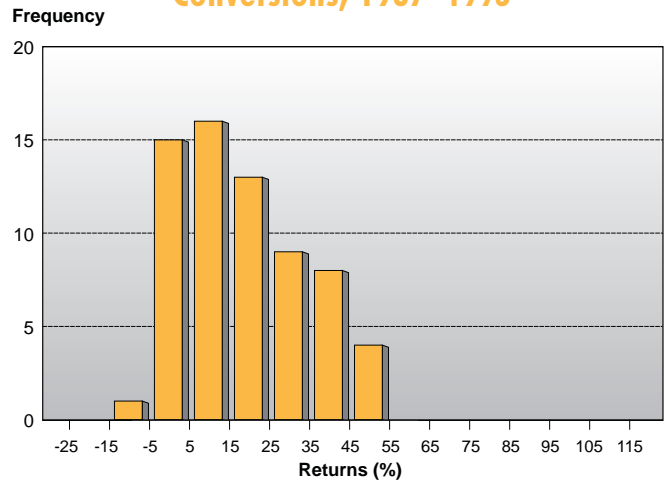


Figure 2
Distribution of Single-Day Returns for Conversions, 1995–1998

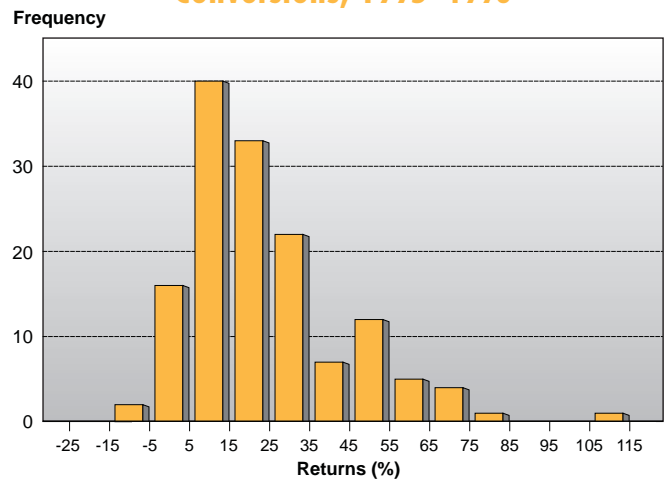


Figure 3
Mutual Thrift Preconversion Equity Levels

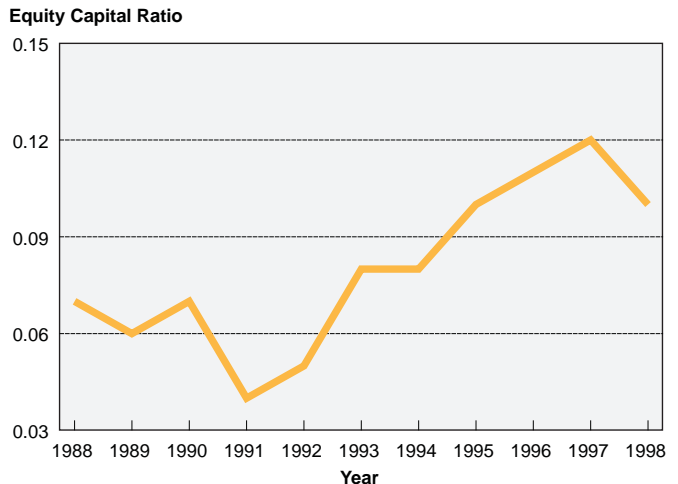


Table 2
Single-Day Returns for Thrift Conversions
by Asset Size, before and after 1994

	1987–1993	1995–1998
Small Thrifts		
Number	41	119
Maximum	55.00%	105.63%
Minimum	-13.07%	-5.00%
Mean	19.06%	18.70%
Standard Deviation	.169	.250
Medium Thrifts		
Number	11	15
Maximum	32.50%	83.44%
Minimum	1.47%	0.00%
Mean	16.83%	26.63%
Standard Deviation	.105	.220
Large Thrifts		
Number	14	9
Maximum	40.00%	72.50%
Minimum	0.00%	6.25%
Mean	17.03%	30.42%
Standard Deviation	.134	.240

Note: Large thrifts: Over \$1 billion in total assets.
 Medium thrifts: Between \$500 million and \$1 billion in total assets.
 Small thrifts: Under \$500 million in total assets.

Estimating the Factors Most Affecting Conversion First-Day Returns

To test how different market and valuation factors are related to conversion single-day returns, two simple models for analyzing these returns were estimated. The purpose of this exercise is not to develop a model for predicting returns but to identify the most important factors affecting them.

Among the most widely cited factors affecting conversion returns are preconversion equity, market conditions, institution size, size of the offering, and interest in the subscription. EQUITY is defined here as the ratio of preconversion equity to total assets. These data are obtained from the Call Report filed before a thrift's initial public offering date. The larger the EQUITY ratio, the more we would expect the converted thrift's market price to rise on the first day of trading, as previously undistributed equity is distributed to initial purchasers.

Favorable market conditions should have a positive effect on conversion values. A proxy for the returns to the thrift market, MRET, was constructed by averaging single-day returns to the SNL Thrift Index during the month in which a thrift converted. A dummy variable, MKT, was used to record whether the general thrift market was up or down on the day a particular thrift converted. Thus, MKT has a value of 1 if the

market rose on a thrift's conversion day, and 0 if the market fell on conversion day.

The size of an institution, as represented by its asset base, would also seem to be an important indicator of how much a converting thrift appreciates when first traded. A large conversion would generate more investor interest and possibly lead to a more dramatic pop. For this reason, the model uses total assets to help explain price appreciation. Since the relationship between the size of an institution and its pop is not likely to be strictly linear, the natural logarithm of assets, ASSET, is used.

Table 3
Calculation of Pro Forma Value after Conversion

Price Multiple	Symbol
Price-Earnings Ratio	(P/E)
Price-Book Ratio	(P/B)
Price-Assets Ratio	(P/A)
Valuation Parameter	
Preconversion Earnings	(Y)
Preconversion Book Value	(B)
Preconversion Assets	(A)
Reinvestment Rate	(R)
Estimated Conversion Expenses	(X)
Proceeds not Reinvested	(Z)
Estimated Employee Stock Ownership Plan (ESOP) Borrowings	(E)
Cost of ESOP Borrowings	(S)
Amortization of ESOP Borrowings	(T)
Calculation of Pro Forma Value after Conversion	
1. $V = (P/E) (Y - R(X+Z)) - ES - (1 - TAX)E/T - (1 - TAX)/(1 - (P/E)R)$	
2. $V = (P/B) (B - X - E) / (1 - (P/B))$	
3. $V = (P/A) (A - X) / (1 - (P/A))$	

Source: Attachment III-A of the OTS "Guidelines for Appraisal Reports for the Valuation of Savings Institutions Converting from the Mutual to the Stock Form of Organization" (Revised October 21, 1994).

The size of the offering would seem to have an effect on first-day returns. Therefore, the total gross proceeds, VAL, received during a thrift's subscription period was taken as a ratio of the thrift's preconversion equity. A larger VAL would imply a larger pop for the same reason ASSET has a positive effect on first day pops—more subscription interest and overall investor enthusiasm about the offering. Substantial interest in the stock during subscription increases the likelihood it will appreciate in the aftermarket. In the past, fully subscribed and oversubscribed offerings resulted in heavy aftermarket trading and significant one-day price appreciation.

The proposed model regresses simple one-day returns for thrift i , POP_i , on the factors mentioned above:

$$POP_i = \alpha + \beta_1 MRET + \beta_2 EQUITY_i + \beta_3 VAL_i + \beta_4 ASSET_i + \beta_5 MKT + \varepsilon_i$$

Standard OLS techniques were used to estimate all regression coefficients with a sample of 124 conversions for which Call Report data could be linked to market prices of converted institutions. Table 4 provides summary statistics for each of the variables in the model. Thrifts included in the regression averaged \$531 million in assets and converted to stock form between 1994 and 1998. A number of small conversions with incomplete price data and complex multithrift holding company conversions were excluded from the sample. The regression results are presented in table 5. The estimated coefficients appear in columns (2) and (3). The time dummy variables (Y95–Y98) attempt to explain effects not captured by the other variables.

Table 4
Descriptive Statistics for Variables Used in OLS Regression

Variable	Mean	Median	Standard Deviation
POP	0.209	0.202	0.139
ASSET	\$531,387	\$142,253	\$1,851,084
MRET	0.117	0.107	0.166
EQUITY	0.101	0.093	0.039
VAL	1.603	1.633	0.439

Note: Asset values expressed as thousands of dollars. Log(ASSET) used in regression.
The variable POP is a percentage expressed as a decimal.

Table 5
Ordinary Least Squares Regression Results

	POP	POP
Intercept	-0.721 (-4.833)*	-0.366 (-2.815)*
MRET	0.231 (3.841)*	0.154 (2.867)*
EQUITY	1.230 (4.342)*	0.694 (2.852)*
ASSET	0.052 (4.626)*	0.031 (3.315)*
VAL	0.117 (5.103)*	0.071 (3.584)*
MKT	-0.045 (-2.154)	-0.002 (-0.129)
Y95	—	-0.035 (-1.485)
Y96	—	-0.044 (-1.863)
Y97	—	0.146 (4.430)*
Y98	—	0.230 (4.741)*
Number of Observations	124	124
R ²	0.370	0.602
Adjusted R	0.344	0.570
F Value	13.99	19.30

Note: t-statistics appear in parentheses. An * indicates that the coefficient is significant at the 1 percent level.

The large and significant coefficient for EQUITY confirms the belief that preconversion equity is an important factor in determining one-day returns. As expected, the market into which a thrift converts is also an important factor in predicting POP, a result indicated by the significance of the MRET variable. The large negative intercept implies that under this model, negative single-day returns are still possible. These results are consistent with the recent findings of Wilcox and Williams (1998), mentioned above. When the time dummy variables were added to the pop model, the years 1997 and 1998 were statistically significant. This is not surprising, given the general market exuberance in both years and the fact that only conversions through mid-1998 were included in the data. Another possible explanation for this result is the large number of conversions and the resultant increase in investor awareness of the windfall gains accrued in conversions.

The model shows the relative importance of several financial and market factors in determining pops, and it supports the hypothesis that in many thrifts preconversion equity has a significant effect on first-day price appreciation. However, because of the low R² value, it

may not be appropriate to view the model as a forecasting model that one can use to predict actual increases in stock prices.

As discussed in the second section, one can form a measure of the expected pop by taking the ratio of pre-conversion equity to the proceeds raised during the thrift's initial public offering. The amount by which this expected pop deviates from the observed first-day return, on average, is presented in table 6 for the years 1994–1998. This deviation is defined as the observed pop minus the expected pop. Although some of the expected price appreciation can be explained by the factors discussed above, there appears to be a considerable discrepancy between expected and observed single-day price appreciation. On average, the actual one-day price appreciation is less than the expected pop. This may be caused by investors who value the converting thrift as if there were inherent equity in the

institution—leading to a higher appraised value (or a premium being built into the IPO price) and less price appreciation. The expected price appreciation presented in table 6 assumes that the appraised value does not account for this inherent equity but values the return on capital using market discount rates. The result is a lower initial public offering price and significantly greater first-day price appreciation. Nevertheless, it remains a mathematical certainty that no matter how the converting thrift is valued, some price appreciation is to be expected.

Conclusion

A total of 815 mutual-form thrifts, holding 16 percent of industry assets, still existed as of June 1998. Competitive pressures, need for additional capital, and numerous other factors will force hundreds of thrifts to convert to stock form in the future. The consistent market reaction to mutual-to-stock conversions sends a very important message: the current conversion process is flawed in theory and in practice. Mutual-to-stock conversions are inherently different from initial public offerings by stock-form firms, and policymakers need to recognize that under the current conversion process windfall gains cannot be entirely eliminated. If the goal of public policy is to minimize potential windfall gains to individual investors, alternative means of distributing the net worth of a thrift should be considered. Otherwise, regulators should let the market reduce the size of pops by incorporating into the initial public offering price the knowledge that they will occur.

Table 6
Average Deviations between Expected and Actual Pops, 1994–1998

Year	Actual Pop	Expected Pop	Deviation
1994	19.2%	46.7%	-27.5%
1995	17.0	60.9	-43.9
1996	16.1	46.0	-29.9
1997	38.8	81.8	-43.0
1998	55.2	86.6	-31.4

References

- Barry, C., R. Gilson and J. R. Ritter. 1998. Initial Public Offerings and Fraud on the Market. Unpublished Texas Christian University, Stanford University, and University of Florida Working Paper.
- Barth, James R., Dan Brumbaugh, Jr., and Allan W. Kleidon. 1994. Windfall Gains in Mutual-to-Stock Conversions of Thrift Institutions. *Challenge* July–August: 43–49.
- Cassidy, J. Henry. 1975. Conversion of S&Ls from Mutual to Stock Associations: An Analytic Examination of the Efficiency Question. Office of Economic Research, Federal Home Loan Bank Board, Working Paper No. 57.
- Eccles, Jennifer, and John P. O’Keefe. 1995. Understanding the Experience of Converted New England Savings Banks. *FDIC Banking Review* 8, no. 1: 1–18.
- Jordan, Bradford D., James A. Verbrugge, and Richard M. Burns. 1986. Returns to Initial Shareholders in Savings and Loan Conversions: Evidence and Regulatory Implications. Federal Home Loan Bank Board, Invited Research Working Paper No. 55.
- Maksimovic, Vojislav, and Haluk Unal. 1993. Issue Size Choice and “Underpricing” in Thrift Mutual-to-Stock Conversions. *Journal of Finance* 48, no. 5: 1659–92.
- Masulis, W. Ronald. 1987. Changes in Ownership Structure: Conversions of Mutual Savings and Loans to Stock Charter. *Journal of Financial Economics* 18: 29–59.
- Office of Thrift Supervision. 1994. Guidelines for Appraisal Reports for the Valuation of Savings Institutions Converting from the Mutual to the Stock Form of Organization. Revised.
- Unal, Haluk. 1997. Regulatory Misconceptions in Pricing Thrift Conversions: A Closer Look at the Appraisal Process. *Journal of Financial Services Research* 11, no. 3: 239–54.
- Wilcox, James A., and Zane D. Williams. 1998. Predicting Excess Returns with Public and Insider Information: The Case of Thrift Conversions. Research Program in Finance, Working Paper RPF-283, University of California at Berkeley.

The Influence of Examiners and Auditors on Loan-Loss Recognition

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The financial statements of a bank are studied by a number of people both inside and outside the bank (bank management, bank creditors and owners, state and federal regulators and industry analysts). Yet, the usefulness of these financial statements depends entirely on their scope, accuracy and truthfulness. And because bank managers have some discretion in how they recognize and record certain financial transactions, the financial statements may not be fully accurate. Moreover, managerial discretion is difficult to discern because valuation of a bank’s principal asset, the loan portfolio, is inherently subjective. The subjectivity reflects the fact that banks generate private information about loan customers¹—information not typically made available to others.

To constrain the opportunistic use of discretionary accounting practices, which may have adverse consequences, the banking industry has made widespread use of external monitors. These monitors include government agencies, which conduct financial safety-and-soundness examinations, and private firms, which conduct financial audits. Walter (1991) contends that when financial statements come out soon after a visit from examiners, they are more likely to accurately assess financial condition and realizable value; and the U.S. General Accounting Office (GAO) (1991) states that independent financial audits can improve the reliability of financial statements. Both Walter and the GAO suggest that external monitors can help verify whether banks are telling the truth in their published financial reports, thereby reducing the public’s uncertainty about banks’ financial condition.

The purpose of this article is to carry those conclusions further and determine whether examiners and auditors influence two key aspects of banks’ financial reporting: the timing of loan-loss recognition (charge-offs) and the provisioning for loan losses. The focus on loan losses is important partly because the Basle Committee on Bank Supervision has recently proposed to standardize the accounting treatment of loan losses around the world, and stated that accounting rules that do not require timely loan-loss recognition by bankers may give them an unfair competitive advantage.²

The loan-valuation process in banking consists of the interrelationships among provisions for loan losses, allowances for loan losses, and recognition of loan losses. Banks make provisions (an expense) for expected loan losses out of current revenue; and the provisions fund the allowance, which is a reserve against which losses *eventually* are charged. The establishment of provisions, allowances, and losses, some argue, can be subject to “misguided optimism or deliberate misrepresentation.”³ And the optimism may be related to bank managers’ incentives to defer recognition of prob-

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¹ See Ross (1989).

² *American Banker* (1998), p. 2.

³ See U.S. Department of the Treasury (1991).

lems, thereby forestalling regulatory sanctions⁴ or enhancing perceived managerial performance.⁵

We contend that if there are systematic differences between examined banks and unexamined banks in the timing of the recognition of loan losses, these differences would constitute evidence that examiners call risky loans to the attention of bank management. Similarly, we contend that if there are systematic differences between audited banks and unaudited banks in the timing of loan-loss recognition, these differences would constitute evidence that auditors may reasonably be expected to detect material misstatements of financial information. In other words, a finding that incidence of examination or audit is associated with more timely loss recognition would be consistent with a capacity of examiners or auditors to limit managerial incentives to delay loss recognition as long as possible.⁶ Because the provision for loan losses is closely related to recognition of losses, and more generally, to a willingness to recognize problems, parallel arguments apply to loss provisioning.

This article analyzes the effect of examinations and audits on loan-loss recognition for two categories of loans and on total provisions for loan losses for nearly all commercial and savings banks between 1987 and 1997.⁷ The two loan categories are commercial and industrial loans and loans secured by real estate. These two loan categories constitute the majority of banks' total loan portfolios: between 1987 and 1997, commercial and industrial loans averaged 18 percent of total loans and leases, and real-estate loans averaged 50 percent. More important, these two loan categories have different characteristics; thus, if empirical tests show that external monitors do influence loan-loss recognition, the results will be stronger.

The statistical tests treat recognition of bank loan losses as a function of (a) concurrent changes in nonperforming loans and (b) the lagged amounts of performing loans, nonperforming loans, allowances for loan losses, and other variables. Because loan-loss provisioning is driven primarily by the same set of factors that drives loan-loss recognition, parallel tests for provisioning are used.

External Monitoring

The primary responsibility for a bank's financial reporting lies with the members of senior management. Their accounting practices are overseen by regulators, auditors, and members of boards of directors (particularly those who are on audit committees). In

the United States, more than in other countries, external monitoring in the banking industry has traditionally emphasized government regulators rather than external auditors.⁸ In addition, examiners and auditors have traditionally been "wary" of each other. Recently, however, attempts have been made to foster greater cooperation, partly at the suggestion of the National Commission on Fraudulent Financial Reporting (the Treadway Commission), which encouraged banks to give auditors access to examiner reports and to give examiners access to audit information.⁹

Monitoring by Government Regulators

All banks are subject to periodic on-site examinations, which include evaluation of trust departments, electronic data processing systems, compliance with consumer protection laws, and overall financial safety and soundness. In this study we focus only on on-site safety-and-soundness examinations. During these examinations, examiners assess and rate a bank's capital adequacy, asset quality, management, earnings, liquidity, and sensitivity to market risk (hence the acronym CAMELS ratings). A composite safety-and-soundness rating (CAMELS rating) is assigned to the bank, ranging in integer value from 1 (for banks whose performance is significantly higher than average) to 5 (for banks whose performance is severely deficient and in need of immediate corrective actions). Depending upon whether a bank has a state or federal charter, bank examinations are conducted by the Federal Deposit Insurance Corporation (FDIC), state banking commissions, the Office of the Comptroller of the

⁴ See Beatty, Chamberlain, and Magliolo (1995), Collins, Shackelford, and Wahlen (1995), GAO (1990) and Moyer (1990).

⁵ See U.S. Department of the Treasury (1991) and Dahl (1993). On the other hand, bank managers may accelerate, rather than defer, recognition of problems for tax purposes. The application of this incentive to our study, however, is limited by the finding of Collins, Shackelford, and Wahlen (1995) that "bank managers are willing to incur greater tax costs, if necessary, to report lower charge-offs."

⁶ See GAO (1991) and Antle and Nalebuff (1991).

⁷ A small number of banks were excluded from the study because of incomplete financial data, or because they were recently chartered, or had rapid asset growth (annual asset growth rates over 100 percent). As a result, approximately 96 percent of all commercial and savings banks were included in the empirical tests presented in this study.

⁸ See Group of Thirty (1994).

⁹ Black (1990), in reporting the results of a pilot program to improve communication between examiners and auditors, stated that cooperation allowed auditors to evaluate loan quality more efficiently, while examiners offered to include in their credit review sample loans the auditors had identified for testing.

Currency (OCC), or the Federal Reserve Banks.¹⁰ We include all examinations conducted by state and federal bank regulators. Under the FDIC Improvement Act of 1991 (FDICIA), examinations occur annually for banks with assets of \$100 million or more, as well as for smaller banks with less than superior examination ratings. For smaller banks with superior ratings the intervals between examinations can be as long as 18 months.¹¹

Examiners focus on critical, high-risk areas, particularly those that reflect loan quality. They question bank personnel and review accounting records, loan documentation, financial data, and bank operating policies. Such activities are valuable if examiners obtain new information about a bank, process data advantageously, or are more likely than bankers to reveal what they find (because if a bank should fail, the government's losses would be greater than the losses of bank management).¹²

Gilbert (1993), who found that examiners identify problems that were not reflected in prior financial statements, has provided support for the notion that bank examinations do cause changes in loan valuation. This finding suggests that examiners “force the bank to restate loans and [allowances for losses]” when the bank's values deviate from the best estimates of regulators. It is consistent with the contention of the GAO (1991) that the accuracy of accounting data in banking is predicated on the recency of examination. In addition it is consistent with a variety of evidence, both anecdotal and statistical, that loan-loss recognition during the so-called credit crunch of the late 1980s was influenced by changes in examination standards.¹³

Monitoring by Private Auditors

Whereas examinations are required by law and regulation, banks themselves may demand external auditing. Such demands depend largely on a bank's need for an independent assessment of its financial reports. These assessments may be required by bank owners, creditors, and boards of directors, as well as by bank regulators. Auditors have been described as the “eyes and ears” of a bank's board of directors and shareholders (Seidman (1986)). As such, they have different monitoring incentives from examiners, who represent the interests of bank regulators and of the deposit insurer. Compared with examiners, auditors are likely to know more about accounting issues (Black (1990)) but less about the banking industry and current regulatory concerns.

An audit involves examination of the financial statements, accounting records, and other supporting evidence of a bank “of sufficient scope to enable the auditor to express an opinion on the bank's financial statements as to their presentation in accordance with generally accepted accounting principles.”¹⁴ (FDIC (1989)). The FDIC, along with the Federal Reserve Board and the OCC, identifies procedures that are to be undertaken during an audit, including detailed reviews of loans with respect to their documentation, concentrations, repayment potential, and growth. The procedures reflect guidelines promulgated by the American Institute of Certified Public Accountants (1986). Auditors objectively evaluate the reasonableness of the values management presents in financial statements, by assessing the policies, processes, and procedures management used to identify impaired assets. They also undertake specific tests—“asset by asset”—to determine likely repayment and potential loss. According to Antle and Nalebuff (1991) their assessments are generally thought to be conservative.

Although traditionally banks were not subject to a uniform requirement for an external audit, most large banks (and many smaller ones) received audits, partly as a result of specific requirements of the various regulatory agencies.¹⁵ The Financial Institutions Reform, Recovery, and Enforcement Act of 1987 (FIRREA), intensified the role of auditing in bank supervision, not only by expanding the enforcement authority of bank regulators to include institution-affiliated parties, such as accountants, but also by requiring banks to provide their auditors with copies of various supervisory reports. These components of FIRREA appear to have increased auditors' access to confidential bank information while simultaneously subjecting them to greater regulatory oversight.

¹⁰ To avoid excessive overlap of work, regulators normally alternate examinations between federal and state examiners. Both groups, however, may examine financially weak banks annually.

¹¹ The Riegle Community Development and Regulatory Improvement Act of 1994 increased the asset size of banks qualifying for the exclusion from annual examination from \$100 million to \$250 million.

¹² See Berger and Davies (1994).

¹³ See Berger and Udell (1994).

¹⁴ FDIC (1998), p. 5302.

¹⁵ Audits have been required for troubled banks (as a result of cease-and-desist orders), newly chartered national banks (OCC), newly insured banks (FDIC), large bank holding companies (Federal Reserve Banks), and state-chartered banks that are subject to the reporting requirements of the Securities Exchange Act of 1934.

Four years after passage of FIRREA, FDICIA further expanded the role of private-sector auditing, requiring that banks with total assets of \$500 million or more have annual independent audits (audits of affiliated banks can be satisfied by audits of the parent holding companies). The audits must attest to management's responsibilities for preparing financial statements and for maintaining adequate internal control structures for financial reporting. In an apparent attempt to strengthen auditor independence, the Act required banks to notify regulators (and explain) when they changed auditors.¹⁶ The overall effect of FDICIA's audit requirements has been described as "[deputizing] independent auditors to assist bank examiners in identifying problem areas" that examiners themselves should address.¹⁷

Further expansions of auditing are implicit in various proposals for bank reform that would reduce the role of federal deposit insurance (see Berger and Davies (1994)). These proposals reflect the closer relationship between regulators and auditors that exists in

other countries, as well as the greater utilization of auditors. In Canada, Denmark, New Zealand, Switzerland, and the United Kingdom, for instance, external auditors are delegated extensive responsibilities for on-site bank monitoring and in some cases have replaced regulatory supervisors.¹⁸

The ongoing expansion of bank auditing has occurred despite underlying doubts about auditor effectiveness. Auditors have difficulty measuring the amounts of loan losses (Moyer (1990)), have been sued for negligence after banks failed, have been forced to reissue their reports because of the findings of regulators (Black (1990)), and have agreed with overstatements of asset values made by failed banks (GAO (1990)).¹⁹ Part of the reason for such audit failures may be that auditors do not always exert sufficient independence, whether because of privity of client information, longstanding audit relationships, economic pressure to maintain clients, opinion shopping by bankers, or the hiring of audit personnel by clients.²⁰

Methodology

Our empirical tests focus on the recognition of loan losses embedded within a bank's loan portfolio, which are defined as gross losses for bank *i* in year *t*. These losses are presumed to be at least partly discretionary and therefore subject to manipulation.²¹ Such manipulation may involve concealing the extent of bad loans by extending the term of loans, lending new money so that insolvent borrowers can keep up the pretense of being current on their loans or weakening covenants so as to avoid recognizing default.²² We examined these issues separately for commercial and industrial loan losses and for real-estate loan losses, using the following behavioral model:

$$\text{Loan losses}_{(i,t)} = c_0 + c_1 * \text{Performing loans}_{(i,t-1)} + c_2 * \text{Nonperforming loans}_{(i,t-1)} + c_3 * \text{Changes in nonperforming loans}_{(i,t-1)} + c_4 * \text{Logarithm of assets}_{(i,t-1)} + c_5 * \text{CAMELS rating}_{(i,t-1)} + c_6 * \text{Examination interval}_{(i,t-1)} + c_7 * \text{Equity}_{(i,t-1)} + c_8 * \text{Allowance}_{(i,t-1)} + c_9 * \text{Monitoring}_{(i,t)} + \text{Error term}_{(i,t)}$$

Loan losses are defined as gross loan charge-offs on commercial and industrial loans or real-estate loans. Loan losses are measured as a percentage of gross loans and leases and should vary in value between zero and one. We, therefore, estimate the behavioral model using a technique specifically designed for data of this type (censored data)—Tobit estimation.

Variables

The losses, performing loans, nonperforming loans, and changes in nonperforming loans are all defined to match the loan category analyzed—commercial or real estate. We hypothesize that loan losses in any given year are determined by banks' loan quality and other relevant financial measures as of the start of the year. We therefore relate losses at each year-end to the "lagged" values of loss determinants, where lagged values are all measured for each bank at the end of the

¹⁶ For a summary of accounting and auditing reforms under FDICIA, see Fisher (1993).

¹⁷ *Review of Banking and Financial Services* (1992), p. 75.

¹⁸ See U.S. Department of the Treasury (1991) and Group of Thirty (1994).

¹⁹ Note also that the massive problems of savings-and-loan associations in the 1980s occurred despite mandatory external audits for virtually all institutions (U.S. Department of the Treasury (1991)).

²⁰ See GAO (1991).

²¹ See Collins, Shackelford, and Wahlen (1995), Beatty, Chamberlain, and Magliolo (1995), and Darin and Walter (1994).

²² See Rajan (1994).

year before the year over which loan losses are incurred. To measure loan quality we include levels of both performing and nonperforming loans. The lagged level of **performing loans** is intended to account for the effects on subsequent losses that are associated with generic lending risk rather than the risk of non-performance of specific loans.²³ **Nonperforming loans** are likely to be the main source of losses and consist of nonaccrual loans plus loans that are 90 days or more past due on interest and principal repayment. The specification of this variable presumes that a portion of loan losses is preceded by changes in nonperforming loans. The concurrent **change in nonperforming loans** is included to reflect recent improvement, or deterioration, in loan quality during a particular year. The use of this variable, which is measured as the change from the end of year $t - 1$ to the end of year t , presumes that nonperforming loans are not subject to extensive manipulation. Wahlen (1994) and Darin and Walter (1994), among others, contend that nonperforming loans are largely exogenous.²⁴

The model also includes other variables that may affect the extent of losses given the quality of the bank's loans. The **logarithm of lagged total assets** is included to account for the possibility that loan losses differ systematically across bank size groups. We anticipate that losses will also be related to examiners' assessments of financial condition and therefore have included the bank's **composite safety-and-soundness (CAMELS) rating** as of the start of the year. Since examiners target financially weaker banks for more frequent examinations, the inclusion of the examination rating is therefore intended also to control, in part, for the influence of condition upon the incidence of examination. (This issue is discussed at greater length in the section below on sample selectivity.) The **time interval since the last examination** is included to account for the possibility that the accuracy of financial reports is lessened by longer examination intervals. The examination interval is measured by the ratio of the number of days since a bank's last examination (before the year over which losses are measured) to the mean interval between examinations for all banks within that bank's CAMELS rating group. Lagged **equity capital** accounts for the possibility that—because of regulatory or other considerations—capitalization may influence the extent to which banks are able, or willing, to recognize loan losses. A bank's lagged **allowance for loan losses** accounts for the effect of accumulated prior provisions for loan losses on subsequent loss recognition.

Following Wahlen (1994), we hypothesize that larger lagged allowances—that is, larger accumulated provisions in prior periods—are associated with larger loan losses in the current period. All financial terms are divided by the bank's total gross loans and leases to mitigate the effects of potential heteroskedasticity. To account for **external monitoring**, a dummy variable, set equal to one if monitoring occurs and to zero otherwise, is used to represent the incidence of monitoring.

We anticipate that the ability to use discretion in loss recognition will vary across types of loans—that banks will have a greater ability to use discretion in loss recognition for commercial and industrial loans than for loans secured by real estate (real-estate loans). This is because, as reported to bank regulators in quarterly financial statements (Call Reports), commercial and industrial loans represent a mix of many types of loans to business, with varying terms and collateral (if any). Real-estate loans, however, are relatively more homogeneous and more able to reflect any industry standards for loss recognition.

The behavioral model we used to measure the influence of examinations and audits upon loan-loss provisioning is similar, but not identical. Banks provide regulators with data on total loan-loss provisions but not on provisions for losses by type of loan. Therefore, in the provisioning model we use total performing and nonperforming loans as explanatory variables, along with the other variables shown in the behavioral model above. In addition, in the provisioning model the financial terms are divided by total assets rather than by gross loans and leases, since the shares of total performing and nonperforming loans would necessarily sum to one if they had been scaled by total loans.

Sample Bias

In the approach described above a behavioral model of loan losses (or provisioning) included a dummy variable indicating whether a bank experienced external monitoring of a particular type. The results of this approach, however, may be skewed if the incidence of

²³ See Walter (1991), Turman and Beaver and Engle (1996).

²⁴ Some capacity for manipulation is suggested by the finding of Gilbert (1993) that examinations influence the levels of nonperforming loans and by the existence of "performing nonperforming loans," as described by Darin and Walter (1994). We note that alternative versions of our model, which excluded the change in nonperforming loans, did not materially affect our reported results.

monitoring is influenced by factors similar to those that influence the timing of loan-loss recognition (as well as provisioning). If this skewing does occur, the sample of banks for which examinations or audits take place during any given period may not be representative of the industry. Moreover, the sample may be biased toward banks with certain characteristics that are related to loan losses or loss provisions. Hence, any relationships between the incidence of examination or audit and loan losses (provisions) could have more to do with what drives examination or audit frequency than with the actions of examiners or auditors themselves.

In the case of examinations, this bias may occur if examinations are triggered by factors similar to those that determine loan losses (provisions), even though it is regulators and not bankers who determine the timing of examinations. In fact, we anticipate that such a bias is present among examined banks. It is well known that all bank regulators target financially weaker banks for more frequent examinations—doing so allows regulators to use limited examination resources where they can do the most good. If this is the case, the sample selection bias would cause examined banks to have high reported loan losses (provisions) relative to unexamined banks, but not because of the effect of examiners—rather, the reason would be that examined banks are in worse financial condition than unexamined banks. In the case of audits, the bias may occur if a significant number of banks choose to undergo audits when they believe they are in good financial condition or are otherwise capable of absorbing any unforeseen contingencies that the auditors may discover. Thus, audited banks may have low reported losses or low loss provisions not because of the effect of auditors but because they are in better financial condition than the typical unaudited bank during that period.

To address these potential biases, in part, we first estimated separate models for commercial and industrial loan losses and for real-estate loan losses. These biases are presumed to be general and to affect all loan categories, so if evidence indicates that monitoring makes a difference in one loan category but not the other, this outcome would probably not be the result of sample biases. Second, we include in the behavioral model three terms to partly control for potential targeting of monitoring: the CAMELS ratings, time since prior examination, and bank size variables. As discussed above, all three variables may be associated with the selection bias for exams or audits.

Data and Sample

Our sample consists of annual observations of nearly all commercial and savings banks between 1987 and 1997. A small number of banks were excluded from the study because of incomplete financial data. In addition, we excluded recently chartered banks and banks with annual asset growth rates over 100 percent. As a result, approximately 96 percent of all commercial and savings banks between 1987 and 1997 were included in the empirical tests and tables presented in this study.

Table 1 shows the frequency of examination for the banks in the sample. The overall proportion of banks examined increased from 71 percent in 1987 to 94 percent in 1993, before declining to 76 percent in 1997. The changes in examination frequency appear to reflect changes in regulatory requirements for examination frequency and in banks' condition over the sample period. Regulatory requirements for examination frequency became more stringent under FDICIA, as discussed above. In addition, regulatory policy and FDICIA both allow (within limits) examinations to be less frequent, the better the bank's financial condition. Hence, the widespread economic recovery after the 1991–92 recession and the good performance of the banking industry overall since 1993 have permitted some lengthening of the examination intervals.

Table 1
Examination Incidence

Year	Not Examined		Examined		Total
	(Number)	(Percent)	(Number)	(Percent)	
1987	3,911	29%	9,551	71%	13,462
1988	3,791	29	9,128	71	12,919
1989	3,155	25	9,454	75	12,609
1990	2,408	20	9,851	80	12,259
1991	1,897	16	10,017	84	11,914
1992	1,740	15	9,840	85	11,580
1993	695	6	10,518	94	11,213
1994	951	9	9,836	91	10,787
1995	1,579	15	8,657	85	10,236
1996	1,606	16	8,162	84	9,768
1997	2,167	24	7,049	76	9,216
Total	23,900	19%	102,063	81%	125,963

Note: The columns identify the number of banks examined and not examined by year-end (and as a percent of banks reporting).

Since 1987, banks have been required to report auditing activity in their quarterly Call Reports,²⁵ using the following categories, or levels of auditing services:

- Independent audit of the bank under generally accepted auditing standards conducted by a certified public accounting firm;
- Independent audit of the bank's parent holding company under generally accepted auditing standards conducted by a certified public accounting firm;
- Directors' examination of the bank conducted in accordance with generally accepted auditing standards by a certified public accounting firm;
- Directors' examination of the bank conducted by other external auditors;
- Review of the bank's financial statements by external auditors;
- Compilation of the bank's financial statements by external auditors;
- Other audit procedures (excluding tax preparation work); and
- No external audit work.

For the purpose of this study we define an "audit" as one that satisfies the conditions of the first category above—that is, an independent audit of the bank under generally accepted auditing standards by a certified public accounting firm. Table 2 shows the incidence of audit, by year, for the banks in our sample. For the entire sample period, an average of approximately 40 percent of all banks experienced audits. The frequency of audit has been relatively stable over time, with a slight downward trend in recent years.

Tables 1 and 2, together indicate that banks are subject to extensive and overlapping monitoring by examiners and auditors. Although the overlap of monitoring responsibility appears consistent with the objectives of FIRREA and FDICIA, which have increased both the frequency of examinations and the intensity of auditing, it suggests potential redundancy.²⁶ As pointed out by Berger and Davies (1994), examiners and auditors may play much the same role in "encouraging firms to report more accurately when an examination or audited report is conducted verifying the accuracy of these reports."

²⁵ Banks file Call Reports, also known as Reports of Income and Condition, with their primary federal regulators at each quarter end.

²⁶ See Group of Thirty (1994) and *CPA Journal* (1993).

Table 2
Auditing Incidence

Year	Not Audited		Audited		Total
	(Number)	(Percent)	(Number)	(Percent)	
1987	8,056	60%	5,406	40%	13,462
1988	7,639	59	5,280	41	12,919
1989	7,484	59	5,125	41	12,609
1990	7,246	59	5,013	41	12,259
1991	7,079	59	4,835	41	11,914
1992	6,891	60	4,689	40	11,580
1993	6,690	60	4,523	40	11,213
1994	6,562	61	4,225	39	10,787
1995	6,348	62	3,888	38	10,236
1996	6,141	63	3,627	37	9,768
1997	5,785	63	3,431	37	9,216
Total	75,921	60%	50,042	40%	125,963

Note: The columns identify the number of banks audited and not audited by year-end (and as a percent of banks reporting).

Estimation Results

We next present the results of estimations of the behavioral model. We first discuss estimates of the effects of audits and examinations on commercial and real-estate loan-loss recognition. Second, we present parallel tests for auditor and examiner influence on loan-loss provisioning. Finally, we present our conclusions.

Commercial and Real-Estate Loan Losses

The results of Tobit estimation of models of the determinants of commercial and industrial loan losses are presented in table 3 (effects of examinations) and table 4 (effects of audits). Similarly, estimates of models for real-estate loan losses are given in table 5 (effects of examinations) and table 6 (effects of audits). Since these two models are similar in many important ways, results for both of them are discussed jointly. The estimation periods shown in these tables indicate the year-ends for which loan losses occur. For example, in the 1987 estimation, loan losses over calendar year 1987 are related to performing and nonperforming loans, and other lagged terms, reported at year-end 1986.

In all of the estimated loan-loss equations (tables 3–6), the coefficients on the nonperforming loan variables were significantly and positively related to loan losses. The same was true for the performing loan variables, although the effect was smaller in magnitude. For example, a 100 percent increase in the proportion of nonperforming commercial loans in 1987 (table 3)

Table 3
Tobit Estimation of Commercial and Industrial Loan Charge-off Determination
Exam Effects for All Banks, Audited and Unaudited
Estimated Coefficients (Standard Errors)

Explanatory Variable	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Intercept	1.1897* (0.1544)	0.937* (0.1371)	0.6637* (0.1214)	0.1045 (0.1031)	-0.313* (0.8890)	-0.089 (0.0829)	0.0463 (0.0810)	0.0603 (0.1291)	0.4541* (0.1046)	-0.2376 (0.1636)	-0.0459 (0.1487)
Performing C&I loans	0.0116* (0.0008)	0.0134* (0.0008)	0.0115* (0.0007)	0.0093* (0.0006)	0.0112* (0.0006)	0.0085* (0.0006)	0.0062* (0.0005)	0.0059* (0.0006)	0.0054* (0.0005)	0.005* (0.0005)	0.0054* (0.0005)
Nonperforming C&I loans	0.2983* (0.0067)	0.2581* (0.0075)	0.2488* (0.0067)	0.2483* (0.0066)	0.2571* (0.0047)	0.2224* (0.0036)	0.2392* (0.0062)	0.2556* (0.0093)	0.2221* (0.0073)	0.2991* (0.0081)	0.2447* (0.0066)
Changes in nonperforming C&I loans	0.1292* (0.0069)	0.096* (0.0077)	0.0995* (0.0071)	0.1266* (0.0065)	0.1074* (0.0064)	0.0827* (0.0064)	0.1771* (0.0063)	0.1168* (0.0098)	0.1134* (0.0072)	0.1316* (0.0058)	0.108* (0.0066)
Logarithm of assets	-0.0962* (0.0093)	-0.0542* (0.0090)	-0.014 (0.0073)	0.0241* (0.0063)	0.016* (0.0061)	0.007 (0.0054)	0.0189* (0.0046)	0.0341* (0.0058)	0.0153* (0.0041)	0.0159* (0.0047)	0.0221* (0.0043)
LCAMEL1	-0.5761* (0.1158)	-0.9175* (0.0985)	-1.0145* (0.0900)	-0.7713* (0.0751)	-0.2451* (0.0662)	-0.245* (0.0620)	-0.5131* (0.0607)	-0.7524* (0.1083)	-0.8625* (0.0930)	-0.1154 (0.1539)	-0.4057* (0.1401)
LCAMEL2	-0.5332* (0.1128)	-0.835* (0.0946)	-0.8962* (0.0880)	-0.6418* (0.0732)	-0.1216 (0.0634)	-0.1378 (0.0601)	-0.4394* (0.0595)	-0.6625* (0.1072)	-0.7895* (0.0927)	-0.0717 (0.1536)	-0.3452 (0.1399)
LCAMEL3	-0.3481* (0.1123)	-0.6863* (0.0938)	-0.6497* (0.0884)	-0.4499* (0.0740)	0.0161 (0.0640)	0.01314 (0.0610)	-0.2865* (0.0606)	-0.5481* (0.1084)	-0.6414* (0.0941)	0.0469 (0.1555)	-0.1382 (0.1418)
LCAMEL4	-0.1998 (0.1135)	-0.3599* (0.0958)	-0.4* (0.0910)	-0.2542* (0.0766)	0.1462 (0.0672)	0.1702* (0.0634)	-0.1143 (0.0636)	-0.391* (0.1128)	-0.4423 (0.0993)	0.2149 (0.1641)	0.0008 (0.1544)
Exam interval	-0.06* (0.0121)	0.048* (0.0107)	0.025* (0.0088)	0.0071 (0.0075)	0.003 (0.0074)	0.0038 (0.0068)	-0.0012 (0.0056)	-0.0161 (0.0087)	0.0177 (0.0083)	0.0053 (0.0098)	-0.005 (0.0090)
Equity	-0.0054* (0.0008)	-0.006* (0.0008)	-0.0007* (0.0002)	-0.0007* (0.0002)	-0.0031* (0.0005)	-0.0024* (0.0005)	-0.001* (0.0003)	-0.0014* (0.0004)	-0.0001 (0.0001)	-0.0015* (0.0002)	-0.001* (0.0003)
Loan-loss allowance	0.2587* (0.0108)	0.2734* (0.0094)	0.144* (0.0080)	0.1168* (0.0073)	0.1092* (0.0055)	0.0536* (0.0032)	0.0382* (0.0039)	0.0432* (0.0062)	0.0324* (0.0041)	0.0388* (0.0051)	0.0449* (0.0059)
Monitor (exams)	0.0912* (0.0240)	0.026 (0.0233)	0.0813* (0.0206)	0.0664* (0.0195)	0.0866* (0.0206)	0.0776* (0.0186)	0.0563 (0.0238)	0.0394 (0.0256)	0.0155 (0.0149)	-0.0016 (0.0170)	0.0242 (0.0134)
-2xlog of likelihood	-19,568	-17,874	-15,524	-13,542	-12,951	-11,004	-8,754	-9,716	-6,722	-7,241	-5,751
Pseudo R squared	13.90%	13.80%	13.10%	13.40%	12.40%	12.60%	15.00%	8.00%	12.80%	10.90%	14.60%
Number of observations	13,071	12,581	12,316	11,948	11,604	11,251	10,858	10,405	9,874	9,418	8,893

Note: An asterisk indicates significance at the 1 percent confidence level.

would have led, on average, to an increase in loan losses (as a percentage of gross loans and leases) of 29 percent, while the same proportional increase in performing commercial loans would have led to an increase in loan losses of 1.2 percent.

Since all financial terms in tables 3–6 are computed as a percentage of a bank's gross loans and leases, the proportion or share of a bank's total loan portfolio composed of commercial and industrial loans is simply the sum of its performing and nonperforming commercial and industrial loans. Similarly, the share of total loans comprised of real-estate loans is the sum of performing and nonperforming real-estate loans. Therefore, the effect on loan-loss recognition of an increase in the share of total loans comprised of commercial loans, holding constant the mix of performing and nonperforming commercial loans, is given by the sum of the

coefficients for performing and nonperforming commercial loans. For example, the effect on commercial and industrial loan-loss recognition of an increase in the share of commercial loans in 1987 is estimated as 0.30099 (the sum of 0.0116 and 0.2983). The effects on real-estate loan-loss recognition of an increase in the share of total loans comprised of real-estate loans can be found similarly by the sum of the coefficients for performing and nonperforming real-estate loans.

Note that the relative effect of an increase in performing versus nonperforming loans differs considerably between commercial and industrial loans and real-estate loans. For commercial and industrial loans, the effect of nonperforming loans in generating loan losses is approximately 20 times greater than the effect of performing loans. For real-estate loans, by comparison, nonperforming loans are approximately 100 times

Table 4
Tobit Estimation of Commercial and Industrial Loan Charge-off Determination
Audit Effects for All Banks, Examined and Unexamined
Estimated Coefficients (Standard Errors)

Explanatory Variable	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Intercept	1.2869* (0.1527)	0.9537* (0.1341)	0.7485* (0.1190)	0.1728 (0.1005)	-0.2405* (0.0866)	-0.0293 (0.0803)	0.0915 (0.0776)	0.0896 (0.1263)	0.4379* (0.1033)	-0.2291 (0.1635)	-0.0412 (0.1488)
Performing C&I loans	0.0116* (0.0008)	0.0133* (0.0008)	0.0114* (0.0007)	0.0092* (0.0006)	0.011* (0.0006)	0.0084* (0.0006)	0.0062* (0.0005)	0.0058* (0.0006)	0.0054* (0.0005)	0.005* (0.0005)	0.0054* (0.0005)
Nonperforming C&I loans	0.2986* (0.0067)	0.2584* (0.0075)	0.2487* (0.0067)	0.2485* (0.0066)	0.2577* (0.0047)	0.2228* (0.0036)	0.2391* (0.0062)	0.2559* (0.0093)	0.2209* (0.0072)	0.2987* (0.0081)	0.245* (0.0066)
Changes in nonperforming C&I loans	0.129* (0.0069)	0.0958* (0.0077)	0.0995* (0.0071)	0.1268* (0.0065)	0.1077* (0.0064)	0.0828* (0.0064)	0.1772* (0.0063)	0.1172* (0.0098)	0.113* (0.0072)	0.1312* (0.0058)	0.1081* (0.0066)
Logarithm of assets	-0.098* (0.0093)	-0.0553* (0.0090)	-0.0162 (0.0072)	0.0221* (0.0063)	0.0147 (0.0061)	0.0049 (0.0054)	0.0185* (0.0046)	0.0336* (0.0058)	0.0155* (0.0040)	0.016* (0.0047)	0.0227* (0.0042)
LCAMEL1	-0.5964* (0.1158)	-0.9209* (0.0984)	-1.0298* (0.0899)	-0.7756* (0.0751)	-0.2473* (0.0662)	-0.2369* (0.0621)	-0.5083* (0.0608)	-0.7502* (0.1084)	-0.8488* (0.0926)	-0.1212 (0.1540)	-0.4088* (0.1401)
LCAMEL2	-0.5478* (0.1128)	-0.8396* (0.0944)	-0.9126* (0.0879)	-0.6476* (0.0732)	-0.1273 (0.0634)	-0.1313 (0.0601)	-0.4345* (0.0595)	-0.6594* (0.1072)	-0.776* (0.0922)	-0.0763 (0.1537)	-0.3475 (0.1399)
LCAMEL3	-0.3503* (0.1124)	-0.6884* (0.0938)	-0.6539* (0.0884)	-0.45* (0.0741)	0.0164 (0.0640)	0.022 (0.0610)	-0.2819* (0.0606)	-0.5473* (0.1084)	-0.6297* (0.0938)	0.0448 (0.1555)	0.1377 (0.1419)
LCAMEL4	-0.1971 (0.1136)	-0.3603* (0.0958)	-0.4024* (0.0911)	-0.2552* (0.0767)	0.1429 (0.0673)	0.1748* (0.0634)	-0.1118 (0.0636)	-0.3917* (0.1128)	-0.4372* (0.0992)	0.2141 (0.1641)	0.0005 (0.1544)
Exam interval	0.0607* (0.0121)	0.0486* (0.0107)	0.0258* (0.0088)	0.0066 (0.0075)	0.0026 (0.0074)	0.005 (0.0068)	-0.0005 (0.0056)	-0.0145 (0.0086)	0.0201 (0.0079)	0.0053 (0.0092)	0.0018 (0.0081)
Equity	-0.0054* (0.0008)	-0.0061* (0.0008)	-0.0007* (0.0002)	-0.0007* (0.0002)	-0.0031* (0.0005)	-0.0025* (0.0005)	-0.0011* (0.0003)	-0.0014* (0.0004)	-0.0001 (0.0001)	-0.0015* (0.0002)	-0.001* (0.0003)
Loan-loss allowance	0.2584* (0.0109)	0.2745* (0.0094)	0.1451* (0.0080)	0.1177* (0.0074)	0.1099* (0.0055)	0.0554* (0.0032)	0.0388* (0.0039)	0.0435* (0.0062)	0.0376* (0.0014)	0.0386* (0.0051)	0.0451* (0.0059)
Monitor (audits)	-0.0032 (0.0219)	0.0417 (0.0211)	0.0337 (0.0179)	0.0321 (0.0155)	0.0515* (0.0153)	0.0509* (0.0134)	0.0202 (0.0115)	0.0238 (0.0148)	0.01 (0.0105)	-0.0174 (0.0121)	0.0089 (0.0105)
-2xlog of likelihood	-19,575	-17,872	-15,530	-13,545	-12,955	-11,006	-8,755	-9,716	-6,723	-7,240	-5,752
Pseudo R squared	13.90%	13.80%	13.10%	13.30%	12.40%	12.60%	15.00%	8.00%	12.80%	10.90%	14.60%
Number of observations	13,071	12,581	12,316	11,948	11,604	12,251	10,858	10,405	9,874	9,418	8,893

Note: An asterisk indicates significance at the 1 percent confidence level.

more effective in generating loan losses than are performing loans. These results confirm our expectations that the characteristics of real-estate lending are considerably different from those of commercial lending and that analyzing each type separately allows for more efficient estimation of the effects of examination and audit on each.

Other results for the loan-loss model also confirm our prior expectations. Changes in the level of nonperforming loans, measured concurrently with loan losses, were significantly and positively related to loan losses for both commercial and industrial loans and real-estate loans. The effect of bank size, as measured by the lagged logarithm of assets, was also generally significant and positively associated with loan losses. A relatively consistent relationship is found between loan losses and banks' composite CAMELS rating, as measured by dummy variables indicating whether the

CAMELS rating was 1, 2, 3, or 4 at the start of each year (a dummy for CAMELS ratings of 5 was excluded from the models in order to avoid the problem of perfect collinearity between these five dummy variables). Tables 3–6 show that lower losses are associated with better CAMELS ratings—the dummy variable indicating a CAMELS rating of 1 (LCAMEL1) is usually significant and negative. The CAMELS rating result may be because of a combination of higher embedded losses on loans among poorly rated banks (as recognized by examiners) and the targeting of examinations at the weakest banks. Further, the effect of examiner ratings on loan losses differs by loan type, that is, it tends to be greater for commercial and industrial loans than for real-estate loans. This result may stem from examiners' greater sensitivity to commercial and industrial lending, given the greater complexity of these portfolios, than to real-estate portfolios, which tend to be

Table 5
Tobit Estimation of Real-Estate Loan Charge-off Determination
Exam Effects for All Banks, Audited and Unaudited
Estimated Coefficients (Standard Errors)

Explanatory Variable	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Intercept	-0.5642* (0.0870)	-0.9151* (0.0790)	-1.3990033* (0.0873)	-1.7362* (0.0856)	-1.6* (0.0735)	1.3178* (0.0665)	-1.0534* (0.0680)	-0.998* (0.0741)	-1.0346* (0.0804)	-0.8346* (0.0892)	-0.6757* (0.0942)
Performing real-estate loans	0 (0.0004)	0.0011* (0.0004)	0.0023* (0.0004)	0.0036* (0.0004)	0.0041* (0.0003)	0.0033* (0.0003)	0.0032* (0.0003)	0.0028* (0.0002)	0.0026* (0.0002)	0.0022* (0.0002)	0.0013* (0.0002)
Nonperforming real-estate loans	0.1998* (0.0044)	0.2162* (0.0043)	0.218* (0.0046)	0.2162* (0.0047)	0.1652* (0.0044)	0.1286* (0.0037)	0.1218* (0.0036)	0.1332* (0.0039)	0.1266* (0.0028)	0.0615* (0.0013)	0.118* (0.0025)
Changes in nonperforming real-estate loans	0.0868* (0.0042)	0.0754* (0.0042)	0.0874* (0.0044)	0.067* (0.0045)	0.044* (0.0044)	0.0296* (0.0035)	0.0634* (0.0041)	0.0589* (0.0047)	0.0257* (0.0051)	-0.0064 (0.0037)	0.0308* (0.0046)
Logarithm of assets	0.0355* (0.0052)	0.0585* (0.0050)	0.0734* (0.0052)	0.1074* (0.0052)	0.0915* (0.0047)	0.0923* (0.0041)	0.0949* (0.0038)	0.0874* (0.0034)	0.0802* (0.0034)	0.0629* (0.0028)	0.0538* (0.0029)
LCAMEL1	-0.2578* (0.0635)	-0.3398* (0.0543)	-0.0167 (0.0645)	-0.1891* (0.0604)	-0.0302 (0.0501)	-0.1703* (0.0466)	-0.5612* (0.0490)	-0.4705* (0.0600)	-0.2855* (0.0702)	-0.2027 (0.0839)	-0.2451* (0.0876)
LCAMEL2	-0.1995* (0.0617)	-0.269* (0.0528)	0.0446 (0.0620)	-0.0768 (0.0587)	0.063 (0.0478)	-0.1214* (0.0447)	-0.5043* (0.0474)	-0.4171* (0.0591)	-0.244* (0.0694)	-0.1553 (0.0835)	-0.2139 (0.0873)
LCAMEL3	-0.1478 (0.0616)	-0.1937* (0.0529)	0.1478 (0.0618)	0.05 (0.0594)	0.1434* (0.0478)	0 (0.0448)	-0.3995* (0.0477)	-0.3167* (0.0595)	-0.0744 (0.0701)	0.0158 (0.0839)	-0.1427 (0.0882)
LCAMEL4	-0.1135 (0.0624)	-0.1948* (0.0543)	0.1185 (0.0630)	0.0409 (0.0615)	0.188* (0.0496)	0.0608 (0.0463)	-0.1776* (0.0495)	-0.1219 (0.0611)	0.1652 (0.0737)	0.1263 (0.0881)	0.2549* (0.0955)
Exam interval	0.0389* (0.0069)	0.0357 (0.0064)	0.0239* (0.0063)	0.0147 (0.0062)	0.0156* (0.0056)	0.0072 (0.0051)	-0.0003 (0.0046)	-0.0059 (0.0050)	-0.0081 (0.0069)	-0.0132 (0.0060)	-0.0077 (0.0060)
Equity	-0.0025* (0.0005)	0 (0.0001)	-0.0031* (0.0005)	-0.0005 (0.0001)	-0.0032* (0.0005)	-0.0029* (0.0004)	-0.0015* (0.0004)	-0.0008 (0.0003)	-0.0037* (0.0003)	-0.0026* (0.0002)	-0.0009* (0.0003)
Loan-loss allowance	0.1085* (0.0059)	0.0981* (0.0053)	0.0935* (0.0057)	0.1022* (0.0062)	0.1109* (0.0054)	0.0768* (0.0047)	0.059* (0.0043)	0.0469* (0.0042)	0.0588* (0.0044)	0.0553* (0.0035)	0.0391* (0.0040)
Monitor (exams)	-0.0163 (0.0137)	0.0319 (0.0140)	0.0448* (0.0149)	0.021 (0.0166)	0.0154 (0.0159)	0.0098 (0.0142)	0.0727* (0.0207)	0.0153 (0.0155)	0.0036 (0.0126)	0.0086 (0.0103)	0.0211 (0.0091)
-2xlog of likelihood	-10,701	-9,859	-9,563	-9,372	-8,536	-7,318	-6,061	-4,775	-4,446	-3,432	-3,035
Pseudo R squared	16.40%	19.20%	18.00%	20.10%	22.60%	23.80%	26.10%	30.00%	27.10%	23.90%	25.60%
Number of observations	13,211	12,725	12,457	12,113	11,765	11,416	11,066	10,644	10,103	9,631	9,079

Note: An asterisk indicates significance at the 1 percent confidence level.

largely composed of residential mortgages. The (occasionally) positive relationship between losses and examination intervals is consistent with the finding of the GAO (1990) that the length of the elapsed time since the last examination affects the accuracy of financial reports. Lagged equity capital was usually significantly and negatively related to loan losses, while the lagged allowance for loan losses was usually significantly and positively related to losses.

Our key evidence on the capacity of auditors and examiners to influence the timing of loan-loss recognition is provided by the coefficients on the variables denoting incidence of external audit and examination, respectively, in the various annual estimations of the model of losses on real-estate and commercial loans. The coefficients on the dummy variable indicating the occurrence of an external audit (level 1 above, in the subsection “Data and Sample”) were almost always

insignificant (at the 1 percent confidence level) for commercial and industrial loan losses and usually insignificant for real-estate loan losses. The lack of an effect of auditors on commercial and real-estate loan losses contrasts with the effect of examinations. With respect to commercial and industrial loan losses, the variable representing incidence of examination is positive and significant in 1987, 1989, 1990, 1991, and 1992. This period includes the years with the highest industry loan losses between 1987 and 1997. This result is consistent with the belief that examiners call loans they believe to be risky to the attention of bank management, uncover new information about a bank, and more generally constrain management’s incentives to delay loss recognition as long as possible.²⁷ In contrast,

²⁷ See Graham and Humphrey (1978), Gilbert (1993) and GAO (1991).

Table 6
Tobit Estimation of Real-Estate Loan Charge-off Determination
Audit Effects for All Banks, Examined and Unexamined
Estimated Coefficients (Standard Errors)

Explanatory Variable	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Intercept	-0.5706* (0.0858)	-0.8593* (0.0770)	-1.3392* (0.0856)	-1.7004* (0.0832)	-1.5786* (0.0714)	-1.3031* (0.0646)	-0.9823* (0.0647)	-0.9908* (0.0723)	-1.0472* (0.0803)	-0.8417* (0.0889)	-0.6647* (0.0941)
Performing real-estate loans	0.0001 (0.0004)	0.0011* (0.0004)	0.0023* (0.0004)	0.0037* (0.0004)	0.0042* (0.0003)	0.0033* (0.0003)	0.0031* (0.0003)	0.0027* (0.0002)	0.0026* (0.0002)	0.0021* (0.0002)	0.0013* (0.0002)
Nonperforming real-estate loans	0.1998* (0.0043)	0.2168* (0.0043)	0.2185* (0.0046)	0.217* (0.0047)	0.1654* (0.0044)	0.1288* (0.0037)	0.1216* (0.0036)	0.1327* (0.0039)	0.1262* (0.0028)	0.061* (0.0012)	0.1178* (0.0025)
Changes in nonperforming real-estate loans	0.0871* (0.0042)	0.0758* (0.0042)	0.0879* (0.0045)	0.0672* (0.0045)	0.0442* (0.0044)	0.0298* (0.0035)	0.0635* (0.0041)	0.0586* (0.0047)	0.0254* (0.0051)	-0.0065 (0.0037)	0.0311* (0.0046)
Logarithm of assets	0.0358* (0.0052)	0.0573* (0.0050)	0.0724* (0.0052)	0.1066* (0.0051)	0.0913* (0.0047)	0.0921* (0.0041)	0.0945* (0.0038)	0.0873* (0.0032)	0.0804* (0.0030)	0.0632* (0.0028)	0.0545* (0.0028)
LCAMEL1	-0.2553* (0.0634)	-0.3471* (0.0542)	-0.0315 0.0644	-0.1898* (0.0604)	-0.0341 (0.0501)	-0.1734* (0.0466)	-0.5616* (0.0490)	-0.4675* (0.0600)	-0.2754* (0.0703)	-0.1968 (0.0837)	-0.2532* (0.0876)
LCAMEL2	-0.1965* (0.0617)	-0.2729* (0.0527)	0.0325 (0.0619)	-0.0758 (0.0587)	0.06 (0.0477)	-0.1237* (0.0448)	-0.5037* (0.0475)	-0.4148* (0.0591)	-0.2352* (0.0695)	-0.1512 (0.0832)	-0.221 (0.0873)
LCAMEL3	-0.1469 (0.0616)	-0.192* (0.0529)	0.1431 (0.0618)	0.0541 (0.0594)	0.1424* (0.0478)	-0.0007 (0.0448)	-0.3967* (0.0478)	-0.3168* (0.0594)	-0.0688 (0.0701)	0.0164 (0.0836)	-0.1459 (0.0883)
LCAMEL4	-0.1148 (0.0624)	-0.193* (0.0543)	0.1168 (0.0630)	0.0479 (0.0615)	0.1882* (0.0496)	0.0605 (0.0463)	-0.1746* (0.0495)	-0.1225 (0.0611)	0.1698 (0.0737)	0.125 (0.0878)	0.2524* (0.0955)
Exam interval	0.0381* (0.0069)	0.0362* (0.0064)	0.0237* (0.0063)	0.0138 (0.0062)	0.0151* (0.0056)	0.0071 (0.0051)	-0.0001 (0.0046)	-0.0052 (0.0050)	-0.0075 (0.0066)	-0.012 (0.0056)	-0.0019 (0.0055)
Equity	-0.0024* (0.0005)	0 (0.0001)	-0.0029* (0.0005)	-0.0005 (0.0002)	-0.0032* (0.0005)	-0.0029* (0.0004)	-0.0015* (0.0004)	-0.0008* (0.0003)	-0.0037* (0.0003)	-0.0026* (0.0002)	-0.0009* (0.0003)
Loan-loss allowance	0.108* (0.0059)	0.0971* (0.0053)	0.0928* (0.0058)	0.1014* (0.0062)	0.1104* (0.0054)	0.0766* (0.0047)	0.059* (0.0043)	0.0472* (0.0042)	0.0592* (0.0044)	0.0556* (0.0035)	0.0392* (0.0040)
Monitor (audits)	-0.0346* (0.0126)	-0.0497* (0.0126)	-0.0223 (0.0130)	-0.0367* (0.0131)	-0.0108 (0.0118)	-0.0065 (0.0104)	0.0047 (0.0097)	0.0195 (0.0089)	0.0216 (0.0089)	0.0305* (0.0073)	-0.0008 (0.0072)
-2xlog of likelihood	-10,698	-9,854	-9,566	-9,368	-8,536	-7,318	-6,067	-4,773	-4,443	-3,423	-3,037
Pseudo R squared	16.40%	19.20%	18.00%	20.10%	22.60%	23.80%	26.00%	30.00%	27.10%	24.10%	25.50%
Number of observations	13,211	12,725	12,457	12,113	11,765	11,416	11,066	10,644	10,103	9,631	9,079

Note: An asterisk indicates significance at the 1 percent confidence level.

examinations did not appear to have an effect upon real-estate loan-loss recognition. The variable representing incidence of examination is significant in the real-estate model in only two years, 1989 and 1993. The lack of an examination effect for real-estate loan losses is generally consistent with the more systematic industry standard for writing down home mortgages—the predominant loan type in the real-estate category. Losses on commercial and industrial loans, by contrast, are more discretionary insofar as most commercial loans are interest-only until maturity, when principal is due and when the value of the underlying collateral is considerably more difficult to determine.²⁸ Thus, the

lesser discretion in the valuation of real-estate loans suggests that external monitors are less likely to influence the recognition of losses within this category. Our results on the audit and examination variables—as well as the examiner ratings variable, the nonperforming loan variable, and the performing loan variable—highlight the existence of differences in the valuations of real-estate and commercial loans that are consistent with this perspective.

Total Loan-Loss Provisions

The results of Tobit estimation of the loan-loss provisioning behavioral model were very similar to those for loan losses for most of the explanatory variables (see tables 7 and 8). The estimation periods shown in tables 7 and 8 indicate the year-ends for which loan-loss provisions occur. For example, in the 1987 estima-

²⁸ Losses on consumer loans (not reported here) were also tested. Valuation of these loans is less subjective, and losses were unaffected by audits or examinations.

Table 7
Tobit Estimation of Loan-Loss Provision Determination
Exam Effects for All Banks, Audited and Unaudited
Estimated Coefficients (Standard Errors)

Explanatory Variables	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Intercept	-0.2203 (0.1299)	-0.2978* (0.1062)	-0.7555* (0.1017)	-1.3636* (0.1077)	-1.7851* (0.1036)	-1.4697* (0.0845)	-1.1116* (0.0828)	-0.8138* (0.1129)	-0.9280* (0.1129)	-1.9955* (0.1868)	-1.3374* (0.2115)
Performing loans	0.0127* (0.0007)	0.0109* (0.0006)	0.0090* (0.0005)	0.0119* (0.0006)	0.0137* (0.0006)	0.0117* (0.0004)	0.0097* (0.0004)	0.0090* (0.0004)	0.0083* (0.0004)	0.0079* (0.0005)	0.0069* (0.0005)
Nonperforming loans	0.3458* (0.0070)	0.3193* (0.0050)	0.2988* (0.0066)	0.3184* (0.0074)	0.2525* (0.0077)	0.1753* (0.0061)	0.1480* (0.0055)	0.1641* (0.0068)	0.1433 (0.0073)*	0.1742* (0.0092)	0.1670* (0.0095)
Changes in nonperforming loans	0.2945* (0.0066)	0.2831* (0.0050)	0.2555* (0.0064)	0.3001* (0.0066)	0.2138* (0.0077)	0.1350* (0.0062)	0.1610* (0.0065)	0.1319* (0.0081)	0.1495* (0.0083)	0.2462* (0.0099)	0.1697* (0.0106)
Logarithm of assets	-0.0264* (0.0075)	-0.0183 (0.0073)	0.0402* (0.0062)	0.0711* (0.0066)	0.0705* (0.0066)	0.0664* (0.0049)	0.0558* (0.0044)	0.0379* (0.0045)	0.0506* (0.0044)	0.0651* (0.0055)	0.0624* (0.0054)
LCAMEL1	-0.1709 (0.0975)	-0.2277* (0.0729)	-0.3438* (0.0820)	-0.1743 (0.0825)	0.0056 (0.0761)	-0.0125 (0.0651)	-0.1481 (0.0639)	-0.2752* (0.0981)	-0.2665* (0.1015)	0.5823* (0.1769)	-0.0601 (0.2026)
LCAMEL2	-0.1716 (0.0950)	-0.2102* (0.0698)	-0.3106* (0.0794)	-0.0960 (0.0799)	0.1091 (0.0734)	0.0628 (0.0634)	-0.0921 (0.0625)	-0.2468 (0.0971)	-0.2255 (0.1004)	0.6268* (0.1759)	0.0227 (0.2018)
LCAMEL3	-0.1431 (0.0938)	-0.1786* (0.0702)	-0.1680 (0.0784)	0.0758 (0.0797)	0.2341* (0.0732)	0.1188 (0.0632)	-0.0490 (0.0626)	-0.2607* (0.0972)	-0.1419 (0.1002)	0.6686* (0.1758)	0.1310 (0.2024)
LCAMEL4	-0.1179 (0.0936)	-0.0310 (0.0709)	-0.1294 (0.0792)	0.0731 (0.0813)	0.2186* (0.0757)	0.1289 (0.0644)	0.1785* (0.0646)	-0.1427 (0.0989)	-0.0997 (0.1039)	0.5752* (0.1853)	-0.0523 (0.2180)
Exam interval	0.0292* (0.0097)	0.0353* (0.0087)	0.0197* (0.0073)	0.0077 (0.0076)	-0.0002 (0.0077)	0.0040 (0.0059)	-0.0069 (0.0052)	-0.0061 (0.0065)	0.0113 (0.0084)	0.0266 (0.0110)	-0.0019 (0.0110)
Equity	0.0080* (0.0028)	0.0070* (0.0027)	0.0123* (0.0013)	0.0131* (0.0021)	0.0216* (0.0020)	0.0121* (0.0015)	0.0113* (0.0013)	0.0103* (0.0013)	0.0071* (0.0013)	0.0054* (0.0017)	0.0053* (0.0015)
Loan-loss allowance	0.0804* (0.0181)	0.1458* (0.0158)	0.0675* (0.0145)	-0.0265 (0.0161)	0.0968* (0.0156)	0.0614* (0.0114)	0.0690* (0.0113)	0.0698* (0.0113)	0.0833* (0.0124)	0.2131* (0.0154)	0.3212* (0.0142)
Monitor (exams)	0.0547* (0.0191)	0.0067 (0.0189)	0.0577* (0.0170)	0.0087 (0.0196)	0.0388 (0.0215)	0.0847* (0.0165)	0.0094 (0.0219)	0.0223 (0.0197)	0.0238 (0.0156)	-0.0150 (0.0192)	0.0061 (0.0167)
-2xlog of likelihood	-17,872	-16,279	-13,998	-13,848	-13,497	-9,903	-7,929	-7,490	-7,083	-8,499	-7,669
Pseudo R squared	14.60%	14.00%	15.30%	17.50%	14.00%	17.30%	17.60%	13.10%	12.60%	12.10%	13.80%
Number of observations	13,256	12,598	12,292	11,926	11,583	11,160	10,480	10,020	9,722	9,427	8,927

Note: An asterisk indicates significance at the 1 percent confidence level.

tion, provisions over calendar year 1987 are related to performing and nonperforming loans, and other lagged terms, reported at year-end 1986. Briefly, loan-loss provisions tended to be significantly and positively related to total performing loans and leases, nonperforming loans and leases, changes in nonperforming loans and leases, bank size (as measured by the logarithm of assets), the examination interval, the loss allowance, and equity capital. The variable of key interest to us here—the indicator of external monitoring—indicated that audits had a significant effect on provisioning in every year between 1992 and 1997. Examinations, however, were generally not significantly related to provisioning, being significant in only 3 of the 11 years over which the model was estimated. Although the significance of audits for provisioning coincides with the post-FDICIA emphasis upon external auditing in

banking, we are unaware of any changes in the nature of audits over the same period that would explain this result.

Robustness of the Results

To assess the robustness of the results shown in tables 3–8 we investigated the effects of several changes to our methodology on those results. Those changes, each of which was considered separately, include altering the definition of external monitoring by auditors, using different samples of banks for model estimation, and adding dummy variables for prior year examinations to the behavioral model. On balance, we find that estimation of the behavioral model after making these changes yields results that are very similar to those in tables 3–8. The specific findings are discussed next.

Table 8
Tobit Estimation of Loan-Loss Provision Determination
Audit Effects for All Banks, Examined and Unexamined
Estimated Coefficients (Standard Errors)

Explanatory Variable	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Intercept	-0.1524 (0.1285)	-0.2871* (0.1036)	-0.6858* (0.0992)	-1.348* (0.1047)	-1.7487* (0.1007)	-1.3928* (0.0824)	-1.1239* (0.0797)	-0.8180* (0.1107)	-0.9449* (0.1124)	-2.0189* (0.1866)	-1.3626* (0.2112)
Performing loans	0.0129* (0.0007)	0.0109* (0.0006)	0.0089* (0.0005)	0.012* (0.0006)	0.0137* (0.0006)	0.0116* (0.0004)	0.0096* (0.0004)	0.0091* (0.0004)	0.0083* (0.0004)	0.0079* (0.0005)	0.007* (0.0005)
Nonperforming loans	0.3456* (0.0070)	0.3195* (0.0050)	0.2986* (0.0066)	0.3192* (0.0074)	0.2518* (0.0077)	0.1738* (0.0062)	0.1466* (0.0055)	0.1614* (0.0068)	0.1408* (0.0074)	0.1729* (0.0093)	0.1656* (0.0095)
Changes in nonperforming loans	0.2935* (0.0066)	0.2834* (0.0050)	0.2557* (0.0064)	0.3004* (0.0066)	0.2135* (0.0077)	0.1346* (0.0062)	0.1604* (0.0065)	0.1305* (0.0081)	0.1484* (0.0083)	0.2457* (0.0099)	0.1694* (0.0105)
Logarithm of assets	-0.0268* (0.0075)	-0.0184 (0.0073)	0.039* (0.0062)	0.071* (0.0065)	0.0697* (0.0066)	0.0642* (0.0049)	0.055* (0.0043)	0.0362* (0.0045)	0.0498* (0.0044)	0.064* (0.0054)	0.061* (0.0053)
LCAMEL1	-0.1884 (0.0974)	-0.2299* (0.0729)	-0.3568* (0.0820)	-0.176 (0.0825)	0.0064 (0.0761)	-0.0051 (0.0652)	-0.1338 (0.0639)	-0.2599* (0.0979)	-0.2467 (0.1014)	0.5936* (0.1769)	-0.0412 (0.2024)
LCAMEL2	-0.1832 (0.0949)	-0.2115* (0.0698)	-0.3228* (0.0740)	-0.0964 (0.0799)	0.1079 (0.0734)	0.0686 (0.0634)	-0.0815 (0.0625)	-0.2357 (0.0969)	-0.2093 (0.1003)	0.6342* (0.1759)	0.0378 (0.2016)
LCAMEL3	-0.1467 (0.0938)	-0.1786 (0.0703)	-0.1714 (0.0784)	0.0773 (0.0796)	0.2355* (0.0732)	0.1278 (0.0632)	-0.0441 (0.0625)	-0.2596* (0.0969)	-0.1324 (0.1001)	0.6696* (0.1758)	0.1416 (0.2022)
LCAMEL4	-0.1194 (0.0936)	-0.0308 (0.0709)	-0.1307 (0.0792)	0.0769 (0.0813)	0.2177* (0.0757)	0.1337 (0.0644)	0.1778* (0.0645)	-0.146 (0.0987)	-0.0912 (0.1037)	0.5741* (0.1853)	-0.0484 (0.2177)
Exam interval	0.0287* (0.0097)	0.0354* (0.0087)	0.0201* (0.0073)	0.0072 (0.0076)	-0.0002 (0.0077)	0.0052 (0.0059)	-0.0058 (0.0052)	-0.0042 (0.0064)	0.0147 (0.0081)	0.0233 (0.0103)	-0.0012 (0.0100)
Equity	0.0086* (0.0028)	0.0071* (0.0027)	0.0123* (0.0013)	0.0133* (0.0021)	0.0212* (0.0020)	0.0115* (0.0015)	0.011* (0.0013)	0.01* (0.0013)	0.0068* (0.0013)	0.0053* (0.0017)	0.0051* (0.0015)
Loan-loss allowance	0.0771* (0.0182)	0.1451* (0.0158)	0.0684* (0.0146)	-0.0287 (0.0161)	0.0986* (0.0157)	0.0663* (0.0115)	0.0731* (0.0113)	0.0736* (0.0113)	0.0863* (0.0124)	0.2142* (0.0154)	0.3227* (0.0142)
Monitor (audits)	-0.065* (0.0175)	-0.0135 (0.0171)	0.007 (0.0148)	-0.0235 (0.0157)	0.0289 (0.0161)	0.0537* (0.0120)	0.0521* (0.0108)	0.0722* (0.0112)	0.0588* (0.0111)	0.0407* (0.0138)	0.0644* (0.0132)
-2xlog of likelihood	-17,869	-16,279	-14,005	-13,847	-13,497	-9,906	-7,917	-7,470	-7,070	-8,495	-7,657
Pseudo R squared	14.60%	14.00%	15.20%	17.50%	14.00%	17.20%	17.70%	13.40%	12.80%	12.10%	13.90%
Number of observations	13,256	12,598	12,292	11,926	11,583	11,160	10,480	10,020	9,722	9,427	8,927

Note: An asterisk indicates significance at the 1 percent confidence level.

We first investigated the effects of auditors upon loan-loss recognition and provisioning using a broader measure of external monitoring by auditors. Specifically, we redefined audits to include both independent audits of a bank by a certified public accounting firm (audit level 1) and independent audits of a bank's parent holding company by a certified public accounting firm (audit level 2). Using this broader measure of audits, and the original behavioral model and samples of banks, we obtain results that are very similar to those shown in tables 4, 6, and 8. Audits are not, in general, significantly related to commercial and industrial loan-loss recognition and to real-estate loan-loss recognition. Audits, however, are significantly related to provisioning for loan losses.

We next considered the possibility that the influence of one group of external monitors upon loan-loss recognition and provisioning overshadows that of

another group of external monitors. First, we investigated the influence of examiners upon provisioning using annual samples of banks that had not been audited (audit level 1) during the year. Estimates of the original behavioral model, using samples of unaudited banks, agree with those shown in table 7, indicating that examiners have no significant influence on provisioning. Second, we investigated the influence of auditors (audit level 1) upon loan-loss recognition for annual samples of banks that had not been examined during the year. Estimates of the original behavioral model, using these samples of unexamined banks, agree with those shown in tables 4 and 6, indicating that auditors have no significant influence upon loan-loss recognition for both commercial and real-estate loans.

We also considered the effects of adding a dummy variable for prior year examinations to the behavioral

model. Specifically, we added a dummy variable indicating whether an examination occurred during the prior year to the behavioral model used to estimate the influence of examinations on loan-loss recognition. Estimates of the revised model, using the original samples of banks, agree with those shown in tables 3 and 5. Estimates of the revised model indicate that examinations that occur during the year over which loan losses are recognized have a significant influence upon commercial loan-loss recognition but no significant influence on real-estate loan-loss recognition. In addition, the dummy variable for prior year examinations was generally not significantly related to commercial and real-estate loan-loss recognition. Unfortunately, we could not investigate the influence on loan-loss recognition (or provisioning) of both current and prior year audits in the same manner as we did for examinations. This is because audits are highly collinear over time. The Pearson correlation coefficient for the dummy variable measuring audits this year and the dummy variable measuring audits last year was nearly 80 percent between 1988 and 1997. When explanatory variables are highly collinear one cannot include both in the behavioral model being estimated.

Conclusions

We find that when bankers have some discretion in their treatment of loan losses, bank examiners—but not auditors—influence the timing of loan-loss recognition. This conclusion is based on our finding that the incidence of examinations had a significant and positive effect upon commercial and industrial loan-loss recognition, but no effect on real-estate loan-loss recog-

ognition. The lack of a similar finding for audits does not, however, indicate that auditors have no effect on discretionary accounting practices by bankers. Rather, auditors appear to focus on other aspects of bank accounting—the provision for loan losses. This statement rests on our finding that auditors tended to have a significantly positive effect on provisions for loan losses between 1992 and 1997, whereas examinations generally had no significant effect on provisioning.

We should mention that these results agree with the expectations of several researchers familiar with auditing practices to whom we showed earlier drafts of this article. They suggested that examiners, with their concern for banks' safety and soundness and insured depositors, would tend to focus on areas with the greatest effect on the realizable value of loans and bank equity—loan charge-offs (loan losses). Auditors, however, focus upon evaluating the net book value of the bank's loan portfolio, assets and income. Since the loan-loss allowance and loan-loss provisions that fund the allowance directly affect those book values, auditors would focus upon provisions and the allowance more than loan charge-offs.

Finally, our results support the findings of three recent studies on the informational content of bank examinations (Berger and Davies (1994); Flannery and Houston (1995); and Berger, Davies, and Flannery (1997)). These studies all focus on stock market reaction to bank examinations. Our results are also consistent with the findings of Gilbert's (1993) earlier research that bank examiners influence the preparation of financial reports.

References

- American Banker*. 1998. Basle Committee Urges International Standards for Loan-Loss Reserves. October 15.
- American Institute of Certified Public Accountants. 1986. Auditing the Allowance for Credit Losses of Banks.
- Antle, R., and B. Nalebuff. 1991. Conservatism and Auditor–Client Negotiations. *Journal of Accounting Research* 29: 31–54.
- Beatty, A., S. Chamberlain, and J. Magliolo. 1995. Managing Financial Reports of Commercial Banks: The Influence of Taxes, Regulatory Capital and Earnings. *Journal of Accounting Research* 33: 231–62.
- Beaver, W., and E. Engel. 1996. Discretionary Behavior with Respect to Allowances for Loan Losses and the Behavior of Security Prices. *Journal of Accounting and Economics* 22: 177–206.
- Berger, A., and S. Davies. 1994. The Information Content of Bank Examinations. Working Paper, Federal Reserve Board, Washington, DC.
- Berger, A., S. Davies, and M. Flannery. 1997. Comparing Market and Regulatory Assessments of Bank Performance: Who Knows What When. Working Paper, Federal Reserve Board, Washington, DC.
- Berger, A., and G. Udell. 1994. Did Risk-Based Capital Allocate Bank Credit and Cause a “Credit Crunch” in the U.S.? *Journal of Money, Credit and Banking* 26: 585–634.
- Black, R. 1990. Auditors and Bank Examiners: A New Era of Cooperation. *Journal of Accountancy* (September), 77–82.
- Chow, C. 1982. The Demand for External Auditing: Size, Debt and Ownership Influences. *Accounting Review* 57: 272–91.
- Collins, J., D. Shackelford, and J. Wahlen. 1995. Bank Differences in the Coordination of Regulatory Capital, Earnings and Taxes. *Journal of Accounting Research* 33: 263–92.
- CPA Journal*. 1993. Bank Regulators Discuss Auditor Performance. (March), 40–43.
- Dahl, D. 1993. Managerial Turnover and Discretionary Accounting Decisions in Banks with Concentrated Ownership. *Proceedings of a Conference on Bank Structure and Competition*, 269–84. Federal Reserve Bank of Chicago.
- Darin, R., and J. Walter. 1994. Were Bank Examiners Too Strict with New England and California Banks? Federal Reserve Bank of Richmond *Economic Quarterly* (Fall), 25–47.
- Federal Deposit Insurance Corporation (FDIC). 1998. *Federal Deposit Insurance Corporation: Laws, Regulations, Related Acts*. Volume 2. August 31.
- Fein, Melanie L. 1992. The FDIC Improvement Act of 1991. *The Review of Banking and Financial Services* 8: 75.
- Fisher, D. 1993. The Impact of the Accounting and Auditing Requirements. *ABA Bank Compliance* (Autumn), 3–17.

- Flannery, M., and J. Houston. 1995. The Value of a Government Monitor for Firms with Hard-to-Value Assets. Working Paper, University of Florida.
- Froot, K., and J. Stein. 1997. Risk Management, Capital Budgeting and Capital Structure Policy for Financial Institutions: An Integrated Approach. Working Paper, Harvard Business School.
- Gilbert, R. Alton. 1993. Implications of Annual Examinations for the Bank Insurance Fund. Federal Reserve Bank of St. Louis *Economic Review* (January/February), 35–52.
- Graham, D., and D. Humphrey. 1978. Bank Examination Data as Predictors of Bank Net Loan Losses. *Journal of Money, Credit and Banking* 10: 491–504.
- Greene, William H. 1993. *Econometric Analysis*. 2d ed. New York, NY.
- Group of Thirty. 1994. Defining the Roles of Accountants, Bankers and Regulators in the United States. Washington, DC.
- Heckman, J. 1979. Sample Selection Bias as a Specification Error. *Econometrica* 44: 153–61.
- Liu, C., and S. Ryan. 1995. The Effect of Bank Loan Portfolio Composition on the Market Reaction to and Anticipation of Loan-Loss Provisions. *Journal of Accounting Research* 33: 77–94.
- Moyer, S. E. 1990. Capital Adequacy Ratio Regulation and Accounting Choices in Commercial Banks. *Journal of Accounting and Economics* 13: 123–154.
- Office of the Comptroller of the Currency (OCC). 1990. Advisory letter (February 9).
- Rajan, R. 1994. Why Bank Credit Policies Fluctuate: A Theory and Some Evidence. *Quarterly Journal of Economics* (May), 399–441.
- Ross, S. 1989. Institutional Markets, Financial Marketing and Financial Innovation. *Journal of Finance* 44: 541–66.
- Seidman, L. William. 1986. The Role of Outside Auditors in Today's Banking Industry. *Issues in Bank Regulation* (Autumn), 20–24.
- Turman, K. 1991. Evaluating a Bank's Loan-Loss Reserve Adequacy. *Internal Auditor* (February), 52–58.
- U.S. Department of the Treasury. 1991. *Modernizing the Financial System*. Washington, DC.
- U.S. General Accounting Office (GAO). 1990. Bank Insurance Fund: Additional Reserves and Reforms Needed to Strengthen the Fund. GAO/AFMD-90-100.
- . 1991. Failed Banks: Accounting and Auditing Reforms Urgently Needed. GAO/AFMD-91-43.
- Wahlen, J. 1994. The Nature of Information in Commercial Bank Loan-Loss Decisions. *Accounting Review* 69: 455–78.
- Walter, J. 1991. Loan-Loss Reserves. Federal Reserve Bank of Richmond *Economic Review* (July/August), 20–30.

Recent Developments Affecting Depository Institutions

by Lynne Montgomery*

REGULATORY AGENCY ACTIONS

Interagency Actions

Guidance on Loan-Loss Reserves

Federal bank and securities regulators announced on November 24, 1998, a joint agreement to work with the public accounting and banking industries to develop new guidance to ensure the adequacy of banks' loan-loss reserves and prevent inappropriate earnings manipulation. The agreement states that institutions should link loan-loss reserves to specific credits that are likely to be delinquent and should include a "margin for imprecision" that reflects the uncertainty associated with estimating credit losses in their loan portfolios. The joint release stresses that, although management's process for determining allowance adequacy is judgmental, it must not be used to manipulate earnings or mislead investors, funds providers, regulators, or other parties. The Securities and Exchange Commission (SEC), the Federal Reserve Board, the Federal Deposit Insurance Corporation (FDIC), the Office of the Comptroller of the Currency (OCC), and the Office of Thrift Supervision (OTS) issued the joint statement.

BBR, 11/30/98, p. 817.

Year 2000 Guidelines

Federal bank and thrift regulators published a notice in the *Federal Register* on October 15, 1998, which states that the regulators are establishing interagency safety-and-soundness standards for depository institutions preparing their computer systems for

the century date change. The joint Year 2000 safety-and-soundness guidelines are based on eight existing interagency Y2K bulletins issued by the Federal Financial Institutions Examination Council since 1996; however, the interagency Y2K guidelines will now be legally enforced. The new standards were issued jointly by the FDIC, the Federal Reserve Board, the OCC, and the OTS and are effective immediately. *BBR, 10/19/98, p. 584.*

Common Form for Merger Applications

On November 4, 1998, the OCC, the OTS, and the FDIC submitted a uniform bank merger application form to the Office of Management and Budget for review. If approved, the new Interagency Bank Merger Act application form would be used by institutions seeking approvals to merge, consolidate, or combine. The action is part of the regulatory agencies' continuing effort to promote consistency and reduce regulatory burden. *NR 98-113, OCC, 11/4/98.*

Federal Deposit Insurance Corporation

Director Neely Resigns

FDIC Board member Joseph H. Neely resigned his position as a director, effective October 1, 1998. Mr. Neely returned to Mississippi to pursue private-

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Reference sources: *American Banker* (AB); *The Wall Street Journal* (WSJ); *BNA's Banking Report* (BBR); and *Federal Register* (FR).

sector consulting work. He served on the FDIC Board since January 1996, and he led the FDIC's regulatory review initiative, a comprehensive effort mandated by Congress to streamline and update federal agencies' regulations and policy statements. His six-year term was due to expire in January 2002. *BBR*, 9/14/98.

Assessment Rates

The FDIC Board of Directors voted on October 27, 1998, to leave the current assessment rate schedules for the Bank Insurance Fund (BIF) and the Savings Association Insurance Fund (SAIF) unchanged for the first half of 1999. Every six months the FDIC decides whether to adjust the federal deposit insurance premium scale for banks and thrifts on the basis of projected changes in expected insurance losses, growth in insured deposits, and changes in the funds' net income. The FDIC is required to maintain a minimum reserve ratio of 1.25 percent, or \$1.25 for every \$100 of insured deposits, in the BIF and the SAIF to cover the costs of resolving failed banks and thrifts. In addition, the FDIC must administer the insurance funds under a risk-based assessment system, charging the weakest institutions a higher premium for deposit insurance. The FDIC forecasts the BIF reserve ratio to range between 1.38 and 1.44 percent by June 30, 1999. *BBR*, 11/2/98, p. 671.

Third-Quarter 1998 Financial Results

The BIF earned \$808 million for the first nine months of 1998, and the SAIF earned \$363 million for the same period. Both funds closed the third quarter with record balances, the BIF with \$29.1 billion and the SAIF with \$9.7 billion. The continuing low numbers of bank and thrift failures contributed to the strong results. Only three BIF-insured banks failed during the first nine months of 1998, and there were no failures of SAIF-insured thrifts. Revenue for the BIF totaled \$1.3 billion, including \$1.25 billion in interest on investments in U.S. Treasury securities and \$16 million in deposit insurance assessments. The SAIF earned \$431 million in revenue during the first three quarters of 1998, consisting of \$421 million in interest on investments in U.S. Treasury securities and \$10 million in deposit insurance assessments.

The FSLIC Resolution Fund (FRF) assets in liquidation were reduced by 32 percent over the nine-month period, to a balance of \$1.6 billion on

September 30, 1998. Federal Financing Bank borrowings for the FRF, including accrued interest, were fully repaid in August 1998. *PR-75-98, FDIC*, 11/5/98.

Real-Estate Survey—October 1998

The October 1998 issue of the *Survey of Real Estate Trends* reported that the nation's residential and commercial real-estate markets remained largely unchanged from the previous three-month period. The survey, which was conducted in late October, polled 295 senior examiners and asset managers from federal bank and thrift regulatory agencies about developments in their local markets in the preceding three months. Results of the survey hinted that the gains in commercial real-estate markets that had been observed almost continuously since 1996 appeared to have leveled off. Respondents were less positive about the strength of housing markets in October than in recent surveys, with 36 percent noting better conditions than three months earlier, compared to 61 percent in July. However, most of this difference represented a switch to reports of no change (53 percent, compared to 35 percent in July), and there was only a slight uptick in reports of worsening conditions.

The national composite index used by the FDIC to summarize results for both residential and commercial real-estate markets was 62 in October, down from 77 in July and from 71 in October 1997. Index readings for residential and commercial markets were down in every region. Index scores above 50 indicate improving conditions, while index scores below 50 indicate declining conditions. *Survey of Real Estate Trends, FDIC, October 1998*.

Report on Underwriting Practices

The October 1998 issue of the *Report on Underwriting Practices* reported a slight increase in the risk associated with loan underwriting practices at FDIC-supervised banks. The FDIC examiners reported greater concerns about some current underwriting practices, such as written lending policies differing from actual practices, as well as concerns about the risk in loan administration. The survey of loan underwriting practices is aimed at providing early warnings of potential problems in underwriting practices at FDIC-supervised, state-chartered nonmember banks. The focus of the survey is threefold: material changes in underwriting standards for new loans, degree of risk in current practices, and specific

aspects of the underwriting standards for new loans. The October report includes surveys from 1,104 FDIC-supervised banks that were examined during the six months ending September 30, 1998. *Report on Underwriting Practices, FDIC, October 1998.*

Updated Trust Exam Manual

The FDIC revised its Trust Examination Manual, simplifying and clarifying the materials that FDIC examiners use to evaluate the safety and soundness of depository institutions' trust departments. The new trust guidance includes revised principles of trust department management, which are intended to reflect current banking and fiduciary practices. The FDIC advises that the institutions' boards of directors should ensure that trust departments conduct their activities away from all other areas of the bank. In addition, trust assets should be separate from other bank assets, and the assets of each trust account should be separate from other trust assets. The institution should maintain separate financial books and records for the trust department's fiduciary activities. An institution's board of directors should also designate a qualified officer to administer the trust department's daily operations, and name a trust committee consisting of at least three officers to oversee the trust department. The guidance also sets forth numerous minimum responsibilities for the trust committee. *FDIC FIL-100-98, 9/10/98; BBR, 9/21/98, p. 405.*

Year 2000 Disclosure

On October 8, 1998, the FDIC sent an advisory letter to depository institutions recommending that the institutions follow guidance issued by the Securities and Exchange Commission to provide appropriate disclosure of Year 2000 issues in public documents that report on the institution's financial results. The SEC guidance, titled *Statement of the Commission Regarding Disclosure of Year 2000 Issues and Consequences by Public Companies, and Municipal Securities Issuers*, went into effect on August 4, 1998. *BBR, 10/26/98, p. 636.*

New Application Procedures

On November 5, 1998, the FDIC adopted a revised regulation that expedites the processing of applications filed by well-managed, well-capitalized banks and savings associations that want to sell real estate, underwrite securities or engage in a variety of other activities. Institutions that meet specific eligi-

bility requirements will merely have to notify the FDIC of their intent to establish a majority-owned securities or real-estate subsidiary. If the FDIC does not object within 30 days, the applicant can begin operations. *PR-76-98, FDIC, 11/5/98.*

Semiannual Agenda of Regulations

The FDIC published its semiannual agenda of regulations in the *Federal Register* on November 13, 1998, to inform the public of the Corporation's regulatory actions and encourage participation in the rule-making process. Many of the actions are the result of the FDIC Board's ongoing efforts to reduce the regulatory burden on banks, simplify rules, improve efficiency and comply with the Riegle Community Development and Regulatory Improvement Act of 1994. The agenda contains 26 regulatory actions. Five actions have been completed and the remainder are in various stages of the rulemaking process. *PR-77-98, FDIC, 11/13/98.*

Federal Reserve Board

Interest Rates

On September 29, 1998, the Federal Open Market Committee voted to trim the targeted federal funds rate by 25 basis points, which reduced the rate from 5.5 percent to 5.25 percent. This was the first time the Federal Reserve Board eased the stance of monetary policy since January 31, 1996. Rates were further reduced on October 15, 1998, when the Federal Reserve Board approved a 25-basis-point reduction in the discount rate from 5 percent to 4³/₄ percent, which dropped the federal funds rate down to 5 percent. The Board of Governors approved an additional 25-basis-point reduction in the discount rate on November 17, 1998, which resulted in a discount rate of 4¹/₂ percent. The federal funds rate declined to 4³/₄ percent. *FR-PR 9/29/98, 10/15/98 and 11/17/98.*

Reduced Service Fees

On November 4, 1998, the Federal Reserve Board voted to cut the fees for 1999 that regional Federal Reserve Banks charge member institutions for electronic funds transfer and payment clearing services. According to its 1999 fee schedules, the Federal Reserve Banks will reduce the price index for Fedwire funds transfers by almost 30 percent, and reduce the fee for electronic securities transfers by approximately 25 percent. In addition, the price

index for automated clearinghouse services was reduced slightly in an attempt to increase banks' use of the electronic payment system. The Federal Reserve Board increased the fees for processing paper checks by 3.7 percent over 1998 levels, in order to give the banks incentive to use electronic services. *BBR, 11/9/98, p. 710.*

New Threshold for Reserves

On November 24, 1998, the Federal Reserve Board adjusted its policies for reserve requirements. The new policies state that banks do not have to hold reserves against the first \$4.9 million of deposits and other liabilities subject to reserve requirements, which is an increase from the \$4.7 million threshold. Additionally, the new policies require banks to hold 3 percent in reserves on deposits between \$4.9 million and \$46.5 million, and all remaining deposits are subject to a 10 percent reserve requirement. *AB, 11/25/98.*

Office of the Comptroller of the Currency

Hawke Named Comptroller

On December 7, 1998, President Clinton named John D. Hawke, Jr. to serve as Comptroller of the Currency. The President assigned Mr. Hawke to a recess appointment, which allows Mr. Hawke to serve one year without Senate confirmation. Mr. Hawke has served as Treasury Undersecretary for Domestic Finance since 1995. *The Washington Post, 12/8/98.*

Expanded Reinsurance Activity

According to an OCC decision made available on October 8, 1998, a national bank may expand the activities of its mortgage reinsurance operating subsidiary to include reinsuring mortgage insurance on loans serviced by the bank or its affiliates. Mortgage insurance protects a lender against default by the mortgagor. Reinsurance is a process by which an original insurer reduces its underwriting risk by passing all or part of this risk to another insurance company. The decision was made in response to a request from Mellon Bank. *BBR, 10/19/98, p. 601.*

Community Bank Supervision Handbook

The OCC issued new guidance to examiners on September 3, 1998, to make examinations of national banks with assets of less than \$1 million more risk-focused and less burdensome to banks. The

Community Bank Supervision handbook combines two existing handbooks, *Community Bank Procedures for Noncomplex Banks* and *Community Bank Risk Assessment System*. The new handbook will help alleviate unnecessary regulatory burden and make exams more efficient by focusing examiner attention on key areas of risk. *BBR, 9/14/98, p. 356.*

Fees on International Loans

On October 26, 1998, the OCC released a final regulation requiring national banks to use generally accepted accounting principles for fees on international loans. The rule, which is effective on January 1, 1999, applies to fees that banks charge when they restructure international loans. The rule prohibits banks from charging fees that exceed the administrative costs of restructuring the loan, unless that fee is amortized over the life of the loan. *BBR, 11/2/98, p. 677.*

Office of Thrift Supervision

New Receivership

On October 8, 1998, the Office of Thrift Supervision placed New West Federal Savings and Loan Association in receivership and appointed the FDIC as receiver. New West was created in 1988 to liquidate the nonperforming assets of the failed American Savings, Stockton, California. New West's assets total \$18.4 million. The institution has no deposits and had fulfilled its task of self-liquidation. *OTS 98-77, 10/8/98.*

No Changes to 1999 Thrift Report Form

The OTS announced on November 24, 1998, that it will make no changes to the 1999 quarterly Thrift Financial Report form (TFR) in order to allow the thrift institutions to concentrate on Year 2000 compliance issues. The OTS had proposed to reorganize the TFR's equity section and to collect additional information on the TFR, such as high loan-to-value lending data. However, the OTS decided to postpone any changes. *OTS 98-85, 11/24/98.*

New Assessment Rates

The OTS adopted a revised formula to bring the assessments on savings institutions more in line with the actual cost of regulating them. The new assessment formula will be based on three components: a thrift's size, its condition, and the complexity of its operations. The new size component retains the cur-

rent economies of scale approach, but also builds some of OTS' fixed supervisory costs into the base assessment level. Under the new formula, institutions with a CAMELS rating of 4 or 5 will continue to pay a 50 percent premium over the asset-based assessment because they require more supervision. However, for the first time, institutions with a CAMELS rating of 3 will be required to pay a 25 percent premium. In addition, the OTS will charge a higher assessment to large thrifts that are involved in complex activities. The OTS estimates that over 90 percent of the thrifts it supervises will pay the same or a lower assessment under the new schedule. The new formula is effective for the first semiannual assessment of 1999. *OTS 98-88, 11/30/98.*

Derivatives Rule and Risk Management Guidance

On December 1, 1998, the OTS adopted new comprehensive guidance to assist savings associations in managing their risk. The guidance, which covers interest-rate risk, investment securities, and use of financial derivatives, is published in the Thrift Bulletin 13a. This bulletin replaces seven existing OTS thrift bulletins. The OTS also adopted a new rule that replaces three outdated regulations concerning forward commitments, futures transactions, and financial options transactions. The new rule establishes requirements applicable to all derivative instruments and is designed to work in conjunction with the new bulletin. The goal of the new rule is to ensure the safe-and-sound management of the risks associated with financial derivatives and reduce regulatory burden. The rule is effective on January 1, 1999, and the bulletin is effective upon publication. *OTS 98-90, 12/1/98.*

National Credit Union Administration

New Conversion Rule

On November 19, 1998, the National Credit Union Administration approved an interim final rule that revised the agency's regulations on the conversion of federal credit unions to mutual savings banks. The revisions are intended to simplify the charter conversion process and reduce regulatory burden for insured credit unions that choose to convert. Under the new rule, conversion to a mutual savings bank requires the approval of the credit union's members, but credit unions no longer need prior NCUA

approval. However, a credit union must provide the NCUA with notice of its plans to convert at least 90 days before the membership vote. The new rule was mandated by the Credit Union Membership Access Act. *BBR, 11/30/98, p. 833.*

Federal Housing Finance Board

Board Appointee

On October 21, 1998, President Clinton announced the nomination of Douglas M. Miller to the Federal Housing Finance Board. Mr. Miller previously served as Chief of Staff and Administrative Assistant to former Senator Larry Pressler (R-SD) from 1991 to 1997, and also served as Legislative Director and Legislative Assistant from 1979 to 1991. If approved, Mr. Miller would replace Art Agnos, who is the Department of Housing and Urban Development's designee on the Board. *BBR, 10/26/98, p. 647.*

Mortgage Pilot Program Expanded

On September 23, 1998, the Federal Housing Finance Board authorized the expansion of a Mortgage Partnership Finance Program in a manner that would allow any Federal Home Loan Bank to offer a Mortgage Partnership Finance Program to its members. The program, which was piloted in Chicago in late 1996, allows FHLBank members to sell loans to the FHLBank rather than to Fannie Mae or Freddie Mac, and thus avoid paying guarantee fees to Fannie Mae or Freddie Mac. The FHLBank can sell participation interests in the program to other FHLBanks. The program is capped at \$9 billion for all 12 FHLBanks. *BBR, 9/28/98, p. 473.*

Community Lending Rules Approved

On October 28, 1998, the Federal Housing Finance Board approved two final rules that extend community lending options for the Federal Home Loan Bank System. The rules establish a framework for Community Investment Cash Advance (CICA) programs and provide guidance for issuing standby letters of credit. In 1989, Congress gave the FHLBanks the authority to make advances to support community investment with CICAs; however, there were no standards for what types of loans the FHLBanks may support under this authority. Under the new regulation, FHLBanks will develop and adopt an annual Community Lending Plan, which requires each FHLBank to identify and address

credit needs and market opportunities. The new rule will help spread out advances to support more economic development and housing credit needs.

The Finance Board adopted a second rule that provides guidance on existing policies to permit expanded use of standby letters of credit by the 12 FHLBanks. Standby letters of credit are issued by FHLBanks to a member to serve as a form of guarantee that the member will fulfill its obligations

under a contract with a third party. The new rule expands the types of collateral the FHLBanks can accept for letters of credit to include items such as secured small-business loans and investment-grade bonds. However, the expanded letters of credit are restricted to those that support the FHLBanks' mission of economic development and housing. *BBR*, 11/2/98, p. 685.

STATE LEGISLATION AND REGULATION

Louisiana

On October 20, 1998, the OCC granted national banks in Louisiana the power to sell insurance from offices in big cities. The OCC ruling expands the powers awarded to national banks in 1997, which let banks sell insurance statewide as long as the insurance subsidiary was based in a place with 5,000 or fewer residents. The new ruling marks the first time the OCC has explicitly ruled that banks may open insurance agency offices outside of small towns. The OCC based its ruling on a Louisiana law that specifically granted bank insurance affiliates the same rights as other insurance agencies. *AB*, 11/12/98.

Pennsylvania

A proposed bill would require the FDIC to insure all Pennsylvania building-and-loan institutions. Pennsylvania's building-and-loan institutions are currently insured by the Pennsylvania Savings Association Insurance Corporation, a private entity created in 1979. However, regulators argue that private insurance is less secure than federal deposit insurance. The bill would give building-and-loan institutions 30 months to either get FDIC insurance, merge with an institution that already has FDIC insurance, or liquidate. *AB*, 12/4/98.

BANK AND THRIFT PERFORMANCE

Second-Quarter 1998 Results for Commercial Banks and Savings Institutions

Insured commercial banks posted record profits in the second quarter of 1998, with net income for the three-month period at an all-time high of \$16.1 billion. Strong growth in noninterest revenues, especially income from trust activities and other fees, attributed to much of the increase in banks' second-quarter earnings. Banks' annualized return on assets (ROA) was 1.25 percent in the second quarter, compared to 1.26 percent in the first quarter and 1.24 percent in the second quarter of 1997. The number of problem banks declined from 67 to 64 during the quarter, while assets of problem banks remained at \$5 billion. There was one failure of an insured commercial bank during the second quarter.

FDIC BIF-insured mutual savings institutions posted earnings of \$2.8 billion in the second quarter of 1998, up from the previous record of \$2.6 billion set in the second quarter of 1996. The annualized ROA rose to 1.09 percent in the second quarter, compared to 1.01 percent in the first quarter and 0.95 percent in the second quarter of 1997. The number

of problem thrifts increased by 2 to 18 at the end of the second quarter 1998, and assets of problem thrifts rose from \$2.3 billion to \$2.9 billion. *FDIC Quarterly Banking Profile, Second Quarter 1998*.

Second-Quarter 1998 Results for Thrifts

The nation's thrift industry earned \$2.1 billion in the second quarter of 1998, which was up from \$1.87 billion in the first quarter of 1998 and \$1.69 billion in the second quarter of 1997. Profitability and capital levels also increased in the second quarter, while troubled assets and delinquent loans decreased. The equity capital to assets ratio rose from 8.40 percent in the first quarter to 8.56 percent in the second quarter of 1998.

The thrift industry's ROA was 1.07 percent in the second quarter, up from 0.97 percent in the first quarter and 0.89 percent in the second quarter of 1997. The number of problem thrifts increased to 18, compared to 14 institutions in the first quarter of 1998 and 25 in the second quarter of 1997. The OTS attributed the strong industry earnings to higher fee income, improved asset quality, gains on sales of

mortgage loans to the secondary market, and a stable net interest margin. *OTS 98-68, 9/2/98.*

Third-Quarter 1998 Results for Commercial Banks and Savings Institutions

The commercial banking industry earned \$15 billion in the third quarter of 1998, following the record \$16.1 billion in profits earned in the previous quarter. The earnings decline was caused by weaknesses in the overseas operations and the trading activities of a few of the largest banks. The ROA fell to 1.15 percent in the third quarter, down from 1.25 in the second quarter of 1998 and from 1.22 percent in the third quarter of 1997. The number of problem banks increased from 64 to 70 during the quarter, and assets of problem banks rose from \$5.0 billion to \$5.4 billion. Two commercial banks failed during the quarter.

FDIC BIF-insured mutual savings institutions reported \$3.0 billion in net income for the third quarter of 1998, surpassing the previous industry record of \$2.8 billion set in the second quarter. The industry's average annualized return on assets was 1.14 percent, the second consecutive quarterly record for this profitability measure. For the eighth consecutive quar-

ter, there were no savings institution failures. The number of problem thrifts remained unchanged at 18 and assets for this group were stable at \$2.9 billion. *FDIC Quarterly Banking Profile, Third Quarter 1998.*

Third-Quarter 1998 Results for Thrifts

The thrift industry earned a record \$2.23 billion in the third quarter of 1998, passing the previous record of \$2.10 billion in the second quarter. The industry's equity capital also reached a new high, while its ratio of troubled assets to total assets declined to a new low. The equity capital to total assets ratio reached a record high of 8.58 percent in the third quarter, up from the previous record of 8.56 percent in the second quarter. Ninety-eight percent of OTS-supervised thrifts met or exceeded the requirements for the highest capital category, "well-capitalized."

The thrift industry's ROA was 1.13 percent in the third quarter, which exceeded the previous record of 1.07 percent in the second quarter of 1998 and was up from 0.71 percent in the third quarter of 1997. The number of problem thrifts remained at 18 in the third quarter of 1998, which is the same as in the second quarter. In the third quarter of 1997, the OTS reported that there were 23 problem thrifts. *PR 98-91, OTS, 12/2/98.*

RECENT ARTICLES AND STUDIES

On June 11, 1998, the Federal Reserve Board released a report entitled *Annual Report to the Congress on Retail Fees and Services of Depository Institutions*. The report concludes that banks operating in multiple states generally charged significantly higher fees than those operating in a single state. The Independent Bankers Association of America (IBAA) analyzed the data and suggested that the size of a bank is a greater factor in fee assessment than geography. According to a September 1998 IBAA analysis of the Federal Reserve Board's report to Congress, fees and minimum balance requirements at large banks were 20 to 79 percent higher than at small banks in 1997. The studies define small banks as having less than \$100 million in assets, and large banks as having more than \$1 billion in assets. *BBR, 9/21/98, p. 406.*

A study published by the Federal Reserve Bank of Dallas reports that the recent trend of mergers among financial-services institutions shows that the industry is creating new opportunities from breakthroughs in technology and deregulation, and as a

result, new forms of competition are emerging in the industry. The report, entitled *Bank Mergers: Creating Value or Destroying Competition*, states that technology is creating incentives to merge because advancements in communications have created a wider array of service products. Although mergers have reduced the number of institutions in the marketplace, an increased variety of financial-services offerings and reduction in geographic restrictions have kept competition strong within the industry, the study said. *BBR, 11/30/98, p. 822.*

A paper entitled *Bank Diversification: Laws and Fallacies of Large Numbers* states that bigger banks are not necessarily safer than smaller institutions. The paper states that banks do not become less risky as they grow larger because any single failure becomes more harmful to the economy. Instead, banks become less likely to fail. The paper was written by Joseph G. Haubrich, an economist at the Federal Reserve Bank of Cleveland. *AB, 12/11/98.*

A paper written by Kevin T. Jacques of the OCC and Raj Aggarwal of John Carroll University reports

that prompt corrective action rules have caused banks to increase capital and operate more safely. The authors report that equity capital held by U.S. banks rose 28 percent in the two years after Congress adopted the Federal Deposit Insurance Corporation

Improvement Act of 1991, which authorized regulators to seize banks when capital falls below two percent. The paper is entitled *Assessing the Impact of Prompt Corrective Action on Bank Capital and Risk*. *AB*, 11/13/98.

INTERNATIONAL DEVELOPMENTS

Japan

On October 12, 1998, Japan's Parliament approved legislation that is intended to revive the banking system. The legislation allows the Government to deal with large, failing banks by nationalizing them, liquidating them or transforming them into publicly owned "bridge banks," which take over the good loans and try to collect on the bad loans. Under the new law, the Government would establish a public institution to resell the good assets and deal with the bad ones in a process similar to that of the Resolution Trust Corporation, which was established to help resolve the savings-and-loan crisis in the early 1990s.

Japanese Prime Minister Keizo Obuchi appointed a new minister to oversee the cleanup of the financial sector. Hakuo Yanagisawa was appointed to the new ministerial post and will oversee the use of up to 60 trillion yen of public money to rebuild the banking system.

On October 23, 1998, Prime Minister Obuchi announced that Japan would nationalize its tenth-largest bank, Long-Term Credit Bank of Japan Ltd. (LTCB), in order to protect the stability of the financial system. Under the nationalization plan, the Government will buy out all of LTCB's shares at a price near zero and provide funds to keep the bank operating. All of LTCB's deposits, debentures and financial market obligations will be guaranteed with government money, and a new board of directors will be appointed.

The Government announced another bank nationalization on December 13, 1998, when it took over Nippon Credit Bank Ltd. Regulators are working out a plan for disposing of Nippon Credit's assets. Nippon Credit had approximately \$27 billion in problem loans and liabilities that exceeded assets by \$787 million. *The New York Times*, 10/13/98; *WSJ*, 12/14/98.

Russia

Russia's three major commercial banks, Onexim-bank, Bank Menatep, and Most Bank announced that they would merge into a new bank by January 1,

1999. Russia's Central Bank welcomed the merger by the former archrivals, and stated that the merger is a "factor of stability for the entire Russian banking system." The recent financial turmoil in Russia is expected to cause additional bank mergers. There are currently 1,600 commercial banks in Russia, compared to 2,500 only a few years ago. *BBR*, 8/31/98, p. 342.

A statement issued on November 21, 1998, announced that Russia's Cabinet and Central Bank have set up a new federal agency with wide-ranging powers for restructuring the country's ailing banking system. The Agency for Restructuring Credit Organizations (ARKO) will oversee bankruptcy procedures to be launched against failing banks, serve as the government's vehicle for strengthening the banking sector, and shape a market for debts of credit organizations and their debtors. ARKO will have the right to acquire controlling stakes in failed banks, manage and sell their equity stakes, fire and hire bank managers, and attract financial resources by issuing securities both for the operation of banks under its control and for its own needs. The agency will be managed jointly by the Cabinet and the Central Bank. *BBR*, 11/30/98, p. 845.

Basle Committee

The Basle Committee on Banking Supervision issued a paper on September 22, 1998, entitled *Framework for Internal Control Systems of Banking Organizations*. In the paper, the Basle Committee presents the first internationally accepted framework for supervisors to use in evaluating the effectiveness of the internal controls over all on- and off-balance-sheet activities of banking organizations. The paper describes elements that are essential to a sound internal control system, recommends principles that supervisors can apply in evaluating such systems, and discusses the role of bank supervisors and external auditors in this assessment process. The internal control framework described in the paper is designed for international banking organizations. The Com-

mittee issued two additional guidance papers on September 22, 1998, which dealt with transparency and operational risk management. *FR-PR 10/22/98.*

The Basle Committee issued a fourth paper on October 14, 1998, which provides guidelines to encourage banks to disclose more about their credit risks and to adopt more universal accounting techniques for assessing loans. While most of the “sound practices” recommended by the Committee follow generally accepted U.S. standards, the public disclosure guidance is new for many countries. The report stipulates that not all banks need make all the disclosures. An institution may not necessarily provide all the disclosures recommended if a particular disclosure item is not relevant to the assessment of the bank. On the other hand, banks relying on capital markets and larger institutions with complex operations would be expected to make more extensive disclosures. *BBR, 10/19/98, p. 607.*

On October 28, 1998, the Basle Committee issued an interpretation on instruments that are eligible for Tier 1 regulatory capital treatment under the Basle capital framework of the Basle Accord. The Basle Accord was endorsed by the G-10 Governors in 1988 and applies to internationally active banks. The Committee’s interpretation stresses the importance of ensuring that the predominant form of Tier 1 capital in the Basle Accord framework is in the form of common shareholders’ funds. The interpretation also states that minority interests in equity accounts of consolidated subsidiaries that take the form of spe-

cial-purpose vehicles may be included in Tier 1 capital provided they meet certain criteria, including permanence and the ability to absorb losses within the bank on a going-concern basis. The interpretation also stresses the need for banks to disclose periodically each component of Tier 1 capital. The FDIC and the OCC will work with the other U.S. banking agencies to determine how the Basle Committee interpretation will be applied to U.S. banks. *PR-72-98, FDIC, 10/28/98.*

Mexico

On September 14, 1998, the Mexican political parties agreed on basic principles for resolving the deadlock over FOBAPROA, a 1995 bank bailout fund that rescued the Mexican banking system by buying non-performing loans from struggling Mexican banks. Mexican President Ernesto Zedillo Ponce de Leon is seeking to convert the liabilities of FOBAPROA into public-sector debt, which ultimately would be paid by Mexican taxpayers. But opposition parties in the Mexican congress have blocked movement on the issue, saying that banks managed by corrupt or incompetent bankers should pay for the bailout. The inability to resolve the bank bailout issue has weighed heavily on Mexican markets and contributed to a depreciation of the peso. The new agreement is too vague to be considered a solution to FOBAPROA, but it shows willingness on the part of Mexico’s government to punish corrupt bankers. *BBR, 9/28/98, p. 484.*