

Preliminary and incomplete. Please do not quote or distribute without the authors' permission.

Earnings Management and Initial Public Offerings: The Case of the Depository Industry

Brian Adams
*Pamplin School of Business
University of Portland
Portland, Oregon*

Kenneth Carow*
*Kelley School of Business
Indiana University
Indianapolis, Indiana*

Tod Perry
*Kelley School of Business
Indiana University
Indianapolis, Indiana*

October 2006
(Original version: October 2006)

*Corresponding Author:
Kenneth Carow, Kelley School of Business, Indiana University, 801 W. Michigan St.,
Indianapolis, IN 46202 (kcarow@iupui.edu)

The authors would like to thank and acknowledge financial support from the FDIC's Center for Financial Research.

Earnings Management and Initial Public Offerings: The Case of the Depository Industry

ABSTRACT

In a typical IPO, insiders are “net sellers” of IPO shares; however, in a demutualizing thrift insiders are “net buyers” of IPO shares. Using a sample of mutual and non-mutual depository IPOs, we find evidence consistent with earnings management prior to the conversion of mutual thrifts. We find on average that mutuals report lower ROA and increased loan loss provisions and loan loss reserves in the period prior to the demutualization. Using a two-stage approach, we also find that the level of discretionary loan loss provisions is positively related to the first day returns to investors in mutuals. Our results are consistent with management of mutual thrifts benefiting at the conversion from reduced pre-IPO earnings and book equity resulting from earnings management.

Earnings Management and Initial Public Offerings: The Case of the Depository Industry

1. Introduction

“Earnings management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers.” [Healy and Wahlen (1999)]

In a typical initial public offering (IPO), private owners of the firm are “net sellers,” either by directly selling secondary shares in the offering or through the sale of primary shares that reduce the percentage of equity retained by the prior owners. As net sellers, the owners and managers of the firm have incentives to increase reported earnings prior to the offering in order to obtain the highest potential initial offering price. A mutually-owned financial institution, however, may have significantly different incentives. Since depositors effectively own the mutual institutions prior to the initial public offering and demutualization, the percentage of the firm typically owned by management is small because their ownership is limited except for individual roles as a depositor or employee. The management of mutual institutions often purchases a significant share of the demutualizing firm in the initial public offering at the subscription price, thus making management “net buyers” of the firm. Therefore, managers have the incentive to minimize the value of the offer price so that directors and insiders can increase their proportional ownership in the firm at the lowest possible price.

Because individuals in management participate on equal terms with other depositors in the mutual thrift IPOs, lower initial subscription prices can result in greater returns for management. In addition, a conflict of interest exists because management can acquire a disproportionate share of the equity built up in the mutual firm if depositors do not participate in

the conversion. Since management effectively controls both the timing of the decision to demutualize and the reporting of financial information, incentives arise to potentially mislead depositors regarding the underlying financial condition or performance of the firm. Unlike typical earnings management schemes that seek to either smooth or increase reported earnings, the incentives in a demutualization are to reduce reported earnings and capital levels, leading to lower valuations at the IPO.¹ Masulis (1987) argues that investors transacting in the secondary market following the initial public offering will fully value the company's net worth plus the gains from conversion, resulting in positive returns to investors in the initial offering. Carow, Cox, and Roden (2006) report initial first-day returns to investors in thrift IPOs of 20.78% for a sample of 347 thrifts that demutualized between 1991 and 2004.

Although the appraisal process mandated by the banking regulations provides limits to opportunistic managerial behavior, thrift IPO valuations are generally established using relative valuation models, including price-to-book and price-to-earnings multiples [Masulis (1987) and Unal (1997)]. Therefore, discretionary choices that affect reported accounting numbers are likely to impact the initial valuation established for the conversion of the mutual.

Using a sample of depository IPOs that include both mutual and non-mutual firms, we examine whether firms manage earnings and capital levels around the IPO. We find on average that mutuals increase loan loss provisions and the level of loan loss reserves in the period prior to the IPO, resulting in lower reported ROA and lower equity book value for these firms. We observe the opposite behavior for the private banks: a decrease in loan loss provisions and loan loss reserves and a corresponding increase in ROA prior to the IPO.

¹ When using the term "earnings management" in this paper, we mean any management of accounting information consistent with the definition provided by Healy and Wahlen (1999). Thus, "earnings management" consists of discretionary accounting choices by management that can affect both the reported earnings of the firm and the reported financial position or equity of the firm.

In order to examine the influence of earnings management on these trends, we use a two-stage regression framework to isolate the discretionary components of loan loss provisions and loan loss reserves. We find that discretionary loan loss provisions increase significantly in the year prior to the IPO for mutuals. We also find that discretionary loan loss provisions in the period prior to the IPO are positively related to the first-day returns for mutuals. Likewise, mutuals increase the discretionary component of loan loss reserves in the period prior to the IPO, and the discretionary increases to the loan loss reserves is positively related to the first-day returns for mutuals. Our results are consistent with management of demutualizing firms benefiting from earnings management prior to the conversion to corporate form.

The paper proceeds as follows. Section 2 discusses the incentives associated with demutualizations and the possible role of earnings management. In section 3, we discuss our data and provide descriptive statistics relating to the IPOs for our mutual and non-mutual banks. In section 4, we present the results of our two-stage multivariate analysis that examines earnings management around the IPO, and in section 5 we conclude.

2. Earnings Management and Initial Public Offerings of Depositorys

As discussed in Masulis (1987) (savings and loans) and Mayers and Smith (2004) (property-liability companies), changes to organizational form and specifically conversions from mutual form to a stock charter can provide a unique setting to examine incentives. When a thrift demutualizes, banking regulations require an appraisal that establishes the value of the depositors underlying equity claim.² If earnings management can affect the valuation of these equity claims, than management of the converting thrift may benefit by reporting lower earnings or

² Masulis (1987) provides an excellent background on the conversion process and the unique ownership situation between depositors and the management.

lower book value of equity prior to the conversion. The differential ownership structure between non-mutual banks and mutual thrifts provides a natural experiment to evaluate incentives to manage earnings surrounding an IPO. In addition, the regulatory structure for depository institutions results in the availability of consistently reported financial data both prior to and subsequent to the initial public offering.

Despite regulatory oversight in the depository industry, several studies have found evidence of earnings management, particularly in the use of loan loss provisions. [See Beaver, Eger, Ryan, and Wolfson (1989), Moyer (1990), Scholes, Wilson, and Wolfson (1990), Wahlen (1994), Beatty, Chamberlain, and Magliolo (1995), Collins, Shackelford, and Wahlen (1995), Beaver and Engel (1996), Liu and Ryan (1995), Liu, Ryan, and Wahlen (1997), and Karaoglu (2005)] Capital-raising events are a likely impetus for earnings management, and Teoh, Welch, and Wong (1998a, 1998b), Teoh, Wong, and Rao (1998), and Erickson and Wang (1999) report increased accruals resulting in enhanced earnings prior to initial public offers, seasoned equity offers, and stock-financed acquisitions for non-depository institutions. Teoh, Wong, and Rao (1998) and Erickson and Wang (1999) also provide evidence of a subsequent reversal of unexpected accruals following IPOs and stock financed acquisitions. When reviewing these papers, Healy and Wahlen (1999) conclude that some managers inflate reported earnings before public equity offers in order to influence investors' expectations of future performance and increase the offer price. As for demutualization thrifts, Carow, Cox, and Roden (2006) provide evidence that managers influence the terms of the conversion offer and that greater levels of management participation in the offering are associated with lower offer sizes and greater initial IPO returns.

While market efficiency arguments would suggest that investors unwind transparent attempts to manage earnings, demutualizations are different because ownership claims are nontransferable prior to the conversion. Therefore, insiders need only influence regulators and appraisers to benefit from prior earnings management. Under the appraisal process for a demutualizing organization, the appraiser selects a sample of comparable firms, standardizes their financial statements, and uses valuation ratios, including price-to-earnings and price-to-book multiples, to obtain an initial offering price range [Unal (1997)]. Maksimovic and Unal (1993) point out that “[t]he offer price of the public offering must lie within the previously estimated range and is determined just prior to the offering by negotiation between the thrift’s management, the underwriter and the appraiser ... [and] must also be approved by the OTS immediately prior to the issue.” Given the use of valuation ratios to estimate the initial offering price, any prior adjustment to the issuing firm’s earnings or book value of equity will have a direct impact on the firm’s offer price and the potential for managerial gain at the expense of other equity claimants.

The motivation for managers to reduce reported earnings in our paper is similar to the logic observed in Jones (1991) and Perry and Williams (1994). Jones (1991) demonstrates that firms manage earnings downward through discretionary accruals during import relief investigations. Perry and Williams (1994) find that managers increase discretionary accruals in the year prior to announced management buyouts. By increasing accruals, managers report lower earnings in the period immediately preceding the MBO, thereby benefiting management participating in the MBO who may be able to purchase the firm at a lower valuation or more easily justify the fairness of an offer.

A related stream of IPO research investigates the influence of managers in setting initial offering prices and the impact on first-day returns. Ljungqvist and Wilhelm (2003) find that the proportion of shares allocated to friends and family in internet IPOs is positively related to underpricing, which suggests managerial influence in the process. On the other hand, Lowry and Murphy (2006) investigate executive stock options issued at the IPO offer price and find no relation between the options and underpricing and conclude that claims of managerial rent-seeking in the literature may be overstated. Our paper sheds additional light on this topic by demonstrating how managers can influence the initial offering price for a set of demutualizing firms. In our specific case, it is not clear that regulators normally concerned with preventing firms from improving appearance prior to raising capital will be as concerned with firms managing earnings downward prior to an offering.

3. Data and methodology

3.1 Sample of depository IPOs

Our sample of depository IPOs is obtained from SNL DataSource and includes 84 private bank and 471 demutualizing thrift IPOs between 1992 and 2004. We report the mix of mutual and non-mutual firms by year in table I. For each firm in the sample, we collect information related to the IPO, firm characteristics and performance data, and selected financial reporting information including loan loss provisions and loan loss reserves. We require each firm to have at least 4 years of financial data on ROA and loan loss provisions, including the two years prior to, the year of, and the first complete fiscal year following the IPO. As shown in table I, the number of depository non-mutual banks going public peaked in 1998 (26 IPOs), while demutualizations were more common in the mid 1990s with 75 in 1994 and 79 in 1995.

Table II provides descriptive statistics related to the firms in the sample, separated by whether the firm is a non-mutual bank or mutual thrift at the time of the IPO. The private banks in the sample tend to be larger than the mutuals, have greater pre-IPO growth in assets (*Growth*), and are more likely than the thrifts to be exchange-traded (*Exchange*). Equity in the bank IPOs sold at greater price-to-book ratios than the thrifts (*P/B*), however this difference may be partially due to the timing of IPO cycles and higher overall valuations in the late 1990s, as reflected in the differences in the industry average price-to-book ratios across the two groups (*IND_P/B*). The mutual IPOs experience significantly greater initial returns (*1-Day Return*) at the time of the IPO (21% compared to 8% for banks), and have a higher level of Tier-1 capital (*Core*). Lower relative valuations at the time of the IPO and greater first day underpricing for mutuals are both consistent with the possibility of management influencing the IPO process in a manner that allows for greater inside participation and wealth transfers to management. We examine these issues more closely in a multivariate setting in section 4 of the paper.

3.2 Earnings management; Loan loss provisions and loan loss reserves

Prior research demonstrates that earnings management in financial institutions commonly occurs using loan loss provisions (Beatty, Ke, and Petroni, 2002). Hasan and Wall (2004, p. 132) provide an excellent summary of the accounting process used to determine the level of the balance sheet account *Loan Loss Reserves* (also called allowances), and the income statement account *Loan Loss Provisions*.

“Banks operating under U.S. generally accepted accounting principles (GAAP) follow a multistep process to determine their allowance for loan and lease losses (LLA). At the end of each accounting period, a bank determines the probable value of the loan losses in its existing portfolio. The bank then debits its loan loss expense (or provision) by an amount equal to the difference between its estimated loan losses and the current balance in its LLA. The offsetting credit increases the bank’s LLA. The LLA is shown

on the balance sheet as a reduction in the value of its outstanding loans (in accounting terms, it is a contra-asset account). As the period progresses, a bank will recognize that it is unlikely to collect the full value of selected loans and charges off the portions of those loans that are unlikely to be collected. As individual loans are charged off, the offsetting entry is a reduction in the LLA. In some cases, the bank will find that it can recover part or all of the value of a loan that had been previously charged off. The offsetting entry for these recoveries is an increase in the LLA. The combined effect of charge-offs and recoveries in the LLA is often simply referred to as charge-offs net of recoveries, or net charge-offs. At the end of the period, the process repeats. The bank compares the remaining values of its LLA with the losses in its existing portfolio.”

Given the nature of discretionary choices associated with these accounts for depositories, we examine loan loss provisions (“*LLP*”) and loan loss reserves (“*RESERVES*”) for evidence of earnings management. In table III we report ROA, *LLP* scaled by average loans, and *RESERVES* scaled by average loans, for three years prior to and three years following the IPO. We report means and medians for both the non-mutual private banks and the mutual thrifts, and graphically present the data in figures 1, 2, and 3.

Although the levels of ROA are similar for the two sets of firms, we note an interesting pattern in the last reporting period prior to the IPO event in figure 1 and table III. The ROA for the non-mutuals improves in the period prior to the IPO, while the reported ROA for the mutuals decreases. Using a t-test of differences, we find that the change in ROA for the non-mutual banks in the period prior to the IPO is significantly different than the change in ROA for the mutual thrifts.

We also find that on average, *LLP* are higher for the non-mutual banks, which is likely due to the difference in typical loan portfolios for banks relative to thrifts. When we examine changes in the loan loss provisions, however, we find that the *LLP* increases for the thrifts and decreases for the banks in the periods prior to the IPO. Using a t-test of differences, we find that the change in loan loss provisions for non-mutual banks in the period prior to the IPO is

significantly different than the change in *LLP* for the mutual thrifts. As reported in table III and represented in figure 2, the mutuals increase loan loss provisions prior to the IPO which will usually translate into lower reported earnings and decreased book equity for the firm at the time of the conversion. Given that the appraisal process relies heavily on book value and price-to-book ratios in establishing the offering price, higher *LLP* for mutuals potentially allows management to purchase shares of the thrift in the IPO at lower prices than would be available in the absence of earnings management. In addition, if participants in the aftermarket see through the prior earnings management and value the firm based on “unmanaged” earnings, than we would expect to see greater underpricing and higher first day returns for thrift IPOs, which is consistent with results reported in table II.

An increase in loan loss reserves prior to the IPO will also lower the book value of equity or capital level in the firm. Reasons for increasing *RESERVES* include greater net charge-offs and/or lower quality loans being granted by the depository. When looking at *RESERVES* prior to the IPO for non-mutual banks and the mutuals, we observe a pattern similar to the loan loss provisions (Figure 3). While the level of *RESERVES* decreases for the private banks prior to the offering, the level of *RESERVES* increases in the two years prior to the IPO for the thrifts. Using a t-test of differences, we find that the change in *RESERVES* for banks in the period prior to the IPO is significantly different than the change in *RESERVES* for the thrifts. The median level of *RESERVES* for mutual thrifts increases by over 25% in the year prior to the IPO, but then remains relatively flat in the year of the IPO and the two years following the IPO. The level of *RESERVES* suggests that the changes in *LLP* are a result of discretionary choices by management rather than a reduction in loan quality or net charge-offs.

Given the regulatory oversight required in the banking industry for both public and private firms, one might expect that the ability to manage earnings would be mitigated. The changes in ROA, *LLP*, and *RESERVES* in the periods prior to the IPO, however, are consistent and suggestive of earnings management by mutual thrifts. Although regulators and other users of financial statements are normally concerned with management overstating financial performance and condition of the firm prior to raising capital, in the case of mutual thrifts the managers have financial incentive to reduce the appraised valuation of the underlying firm. In the next section we provide additional analysis using multivariate regressions to control for additional factors beyond organizational form that influence loan loss provisions and loan loss reserves.

4. Analysis and Discussion

The prior analysis relies on univariate tests. In the tests below, we control for firm specific and industry specific changes to *LLP* and *RESERVES* in order to provide additional evidence of earnings management around demutualizations. To examine the influence of managerial discretion on reported financial information, we use a two-stage process to identify discretionary loan loss provisions and discretionary loan loss reserves. In the first stage, we estimate an “expected” or “normal” level for *LLP* and *RESERVES*, controlling for a number of factors described below that have been shown to influence these variables. To extract the discretionary component of *LLP*, we first model non-discretionary *LLP* scaled by average total loans of the firm. For a sample of depository institutions that went public between 1988 and 2004, we use the following model and report the results in model 1 of table IV:

$$LLP/TL = f(\text{CHARGE-OFFs}, RESERVES_{T-1}, NPA_{T-1}, \Delta NPA, CORE, THRIFT, YEAR) \quad (1)$$

Net charge-offs (CHARGE-OFFs) are the combined effect of charge-offs and recoveries. Charge-offs are the portion of loans that a bank recognizes are unlikely to be collected in full, and recoveries are the portion of previously charged off loans that a bank finds it can recover. As net charge-offs reduce the level of reserves, loan loss provisions are used to replenish the *RESERVES* account in the current period. Once the firm establishes the level of net charge-offs, the firm may choose to replace the reserves through loan loss provisions. As in Beatty, Chamberlain, and Magliolo (1995), we expect a positive relation between the level of loan loss provisions and the amount of net charge-offs over the period.

Loan loss reserves ($RESERVES_{T-1}$) provide evidence of past decisions regarding loan loss provisions. Firms with higher levels of prior loan loss reserves are more likely to continue to provision for higher levels of loan losses. This is consistent with the positive relation documented by Dewenter and Hess (2006) and Beatty, Ke, and Petroni (2002). However, Dewenter and Hess (2006) show that the relationship between prior loan loss reserves and loan loss provisions depends on whether the sample is primarily relationship or transactional banks.

When estimating the expected level of loan loss provisions, Beatty, Chamberlain, and Magliolo (1995), Collins Shackelford, and Wahlen (1995), Ahmed, Takeda, and Thomas (1999), and Dewenter and Hess (2006) all include non-performing loans in the prior period (NPA_{T-1}) and the change in non-performing loans (ΔNPA). Firms with larger increases in the level of nonperforming loans need to include greater provisions for loan losses to cover the potential losses.

We also include the level of Tier 1 capital (CORE). Collins et al. (1995) find that managers of poorly capitalized banks decrease the level of loan loss provisions, while Dewenter and Hess (2006) show that banks with high levels of capital provision differently than banks with

low levels of capital. Banks with higher levels of capital have more flexibility to provision for non-performing loans. Given our sample is highly capitalized, we only include a single measure of capital.

To qualify as a thrift, a depository institution must maintain a minimum of 65% of their assets in qualified thrift investments, primarily residential mortgages and related investments.³ In general, these investments have lower default rates and greater collateral, leading to a lower estimate of loan loss provisions. Beatty, Ke, and Petroni (2002) show that firms with more commercial loans have higher loan loss provisions. To control for the differing loan portfolios of mutual thrifts versus non-mutual banks, we incorporate an indicator variable equal to one for mutual thrifts, and zero otherwise (THRIFT). Finally, we also control for changes in the economic conditions over the sample period by including yearly indicator variables.

The first-stage model estimating the nondiscretionary or expected component of *LLP* for our firms has an adjusted R-squared of 68%, and each of the explanatory variables are statistically significant. Consistent with our predictions, *LLP* is positively related to net charge-offs to loans, the prior year's level of non-performing assets to loans, and the change in non-performing assets to loans. *LLP* is negatively related to the level of prior period loan loss reserves and the tier one capital ratio. Mutual thrifts also have lower *LLP* than the non-mutual banks, which is consistent with the results reported in table II.

We use the residuals from the first-stage regression as our estimate of discretionary loan loss provisions (*DLLP*) for firms in the sample. In the second-stage regression, reported in model 3 of table IV, we examine the relation between *DLLP* and status as a mutual or non-mutual bank in periods prior to the IPO. The explanatory variables are dummy variables

³ “The Economic Growth and Regulatory Paper Reduction Act” of 1996 expanded the list of qualified investments for thrifts and increased the amount of consumer-oriented loans that can be counted as qualifying assets. (Koch and MacDonald, 2003)

corresponding to the timing of the IPO. We find that *DLLP* is significantly higher in the year prior to the IPO and the year of the IPO for mutuals. This result is consistent with managers of demutualizing firms increasing the discretionary component of *LLP* in the period prior to the IPO, resulting in lower reported earnings for the firm immediately before the IPO. For the sample of non-mutual banks, we do not find any relation between *DLLP* and the timing of the IPO.

To confirm these results and given that an increase in the loan loss reserves reduces the book equity or capital available to equity claimants, we also estimate a regression to extract the discretionary component of *RESERVES*, scaled by average total loans of the firm. For the first stage regression, we use the following model with the same explanatory variables as before, reported as model 2 in table IV:

$$RESERVES/TL = f(\text{CHARGE-OFFs}, RESERVES_{T-1}, NPA_{T-1}, \Delta NPA, CORE, THRIFT, YEAR) \quad (2)$$

Our first-stage regression explains 84% of the variation in loan loss reserves, and each of our explanatory variables are significant. Because loan loss provisions and loan loss reserves are linked, it is not surprising that the results from the second-stage regression reported in model 4 are strikingly similar to the results for discretionary *LLP*. Mutuals significantly increase the discretionary component of *RESERVES* in the year prior to the IPO, which reduces the book value of equity or capital just prior to the conversion. Again, this result is consistent with managers of demutualizing firms managing down the reported financial condition of the firm immediately before the IPO. For the sample of non-mutual banks, we do not find any relation between discretionary *RESERVES* and the timing of the IPO.

Although we have suggested that management of demutualizing firms have incentive to reduce pre-IPO earnings and that our results are consistent with earnings management in this

direction, we have not yet established that management benefits from the behavior. Underlying our suggestion is an assumption that lower pre-IPO earnings and book value of equity benefits the managers of mutual depositories in at least two ways. First, weaker pre-IPO performance may discourage depositors from investing in the IPO and result in greater opportunity for management to purchase undervalued shares in the offering. Second, lower earnings and book value can be reflected in the valuation observed in the initial offering price, meaning that participants in the offering will get shares at a lower price than would occur with unmanaged earnings. We examine these two possibilities in additional tests reported in table V.

In table V we report regressions that estimate the relation between *DLLP*, as a proxy for earnings management, and the level of participation by insiders in the demutualization. Because inside participation is not typically relevant to non-mutual IPOs, we estimate this regression using only the mutual thrifts. In addition, we control for additional factors shown by Carow et al. (2006) to be related to insider participation in demutualizations.

In model 1, we estimate the relation between *DLLP* for the year prior to the IPO and the level of insider participation in the IPO, as measured by the percentage of the firm purchased by management. Although the coefficient on *DLLP* for the year prior to the IPO is positive, it is not statistically significant at conventional levels. One possible explanation for these results is that a lowered valuation and offering price will also attract greater participation by depositors, leaving fewer shares available for purchase by management.

In model 2, we examine the relation between *DLLP* for the year prior to the IPO and the first-day price change or underpricing that occurs (*1-DAY RETURN*). We find that *DLLP* is positively related to the first-day stock price reaction and is statistically significant at the 10% level. This evidence is consistent with managers of mutuals benefiting from a lower IPO

valuation and the market recognizing and unwinding the impact of prior earnings management in thrifts.

In models 3 and 4 of table V, we estimate similar regressions using *DRES*, the discretionary component of *RESERVES*. Our results are consistent with the results using *DLLP*, as we do not find a relation between inside participation and *DRES*, but we find a positive and significant relation between the first day returns to investors and the discretionary component of *RESERVES*.

We also performed several robustness tests which we do not report in tabular form. We estimate a model of the relation between *DLLP* and the subsequent 3-year stock performance of the firm (after the first day's price change), and find no relation between subsequent performance and earnings management prior to the IPO. In addition, our estimates of the non-discretionary component of loan loss provisions are estimated using a sample of firms that went public at some point after 1987. Expanding this sample to include all firms with available data from SNL DataSource provides similar results to those reported herein, demonstrating that the highest levels of discretionary loan loss provisions are in the year prior to the IPO. We also use the modified Jones (1991) methodology used by Cornett, McNutt, and Tehranian (2006) with loan loss provisions, and our results confirm that the level of discretionary loan loss provisions is greater in the year prior to the IPO. Finally, we evaluate the gains and losses on securities sales, following prior research that indicates these accounts can also be used to manage earnings [Beatty, Ke, and Petroni (2002) and Karaoglu (2005)]. We find no evidence that mutual managers are taking fewer gains or greater losses than expected from sale of securities in the periods prior to the IPO.

5. Conclusion

In this paper, we provide evidence of earnings management by mutual thrifts prior to demutualization. Our results are consistent with the proposition that managers who own the firm (non-mutuals) increase earnings prior to the IPO, while managers that are net buyers in the IPO (mutuals) use discretion to reduce reported earnings prior to the demutualization. Given that Unal (1997) shows that regulators and appraisers value the company using comparable price-to-earnings and price-to-book multiples, the lower reported earnings and book value of the mutual helps justify a lower initial price for demutualizing firms. We also show that earnings management by mutuals is positively related to initial day returns, which suggests that managers participating in the demutualization benefit from having reported reduced earnings in the prior period.

As stated in Healy and Wahlen (1999), “the evidence shows that at least some firms appear to manage earnings for stock market reasons. Whether the frequency of this behavior is widespread or infrequent is still an open question.” In addition, Mayers and Smith (2004) argue that detecting earnings management in highly regulated industries is important because it demonstrates that to the extent earnings management is a problem, regulatory solutions may not be the answer. We believe our results shed light on whether regulators ‘see through’ earnings management, as the findings of this study help demonstrate the impact of opposing incentives to manage earnings that exist between mutual and non-mutual firms.

References

- Ahmed, A., C. Takeda and S. Thomas, (1999), Bank loan loss provisions: a reexamination of capital management, earnings management and signaling effects, *Journal of Accounting and Economics*, Vol. 28, 1-25.
- 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*, Vol. 33, No. 2, 231-261.
- Beatty, A., B. Ke and K. Petroni, 2002, Earnings management to avoid earnings decline across publicly and privately held banks, *The Accounting Review*, Vol. 77, No. 3, 547-570.
- Beaver, W., C. Eger, S. Ryan, and M. Wolfson, 1989, Financial reporting, supplemental disclosures, and bank share prices, *Journal of Accounting Research*, Vol. 27, No. 2, 157-178.
- Beaver, W., and E. Engel, 1996, Discretionary behavior with respect to allowances for loan losses and the behavior of security prices, *Journal of Accounting & Economics* Vol. 22, 177-206.
- Carow, K., S. Cox, and D. Roden, 2006, The role of insider influence in mutual-to-stock conversions, *Journal of Money, Credit, and Banking*, forthcoming.
- Collins, J., D. Shackelford, and J. Wahlen, 1995, Bank differences in the coordination of regulatory capital, earnings and taxes, *Journal of Accounting Research* Vol. 33, No. 2, 263-291.
- Cornett, M., J. McNutt and H. Tehranian, 2006, Earnings Management at Large U.S. Bank Holding Companies, working paper, Southern Illinois University at Carbondale.
- Dewenter, K., and A. Hess, 2006, International evidence on relationship and transactional banks as delegated monitors, working paper, University of Washington.
- Erickson, M., and S. Wang, 1999, Earnings management by acquiring firms in stock for stock mergers, *Journal of Accounting and Economics*, Vol. 27, 149-176..
- Handorf, W., and L. Zhu, 2006, US bank loan-loss provisions, economic conditions, and regulatory guidance, *Journal of Applied Finance*, Vol. 16, Iss. 1, 97-114.
- Hasan, I., and L. Wall, 2004, Determinants of the loan loss allowance: Some cross-country comparisons, *The Financial Review*, Vol. 39, 129-152.
- Healy, P., and J. Wahlen, 1999, A review of the earnings management literature and its implications for standard setting, *Accounting Horizons*, Vol. 13, No. 4, 365-383.

- Jones, J.J., 1991, Earnings management during import relief investigations, *Journal of Accounting Research*, Vol. 29, 193-228.
- Karaoglu, N., 2005. "Regulatory capital and earnings management in banks: The case of loan sales and securitizations," Working paper, FDIC Center for Financial Research, No. 2005-05.
- Koch, T., and S. MacDonald, 2003, *Bank Management* (5th Ed.), United States: Thomson South-Western.
- Liu, C., and S. Ryan, 1995, The effect of loan portfolio composition on the market reaction to and anticipation of loan loss provisions, *Journal of Accounting Research*, Vol. 33, No. 1, 77-94.
- Liu, C.C., S. Ryan, and J. Wahlen, 1997, Differential valuation implications of loan loss provisions across banks and fiscal quarters, *The Accounting Review*, Vol. 72, Iss. 1, 133-146.
- Lowry, M., and K. Murphy, 2006, Executive stock options and underpricing, forthcoming *JFE*.
- Ljungqvist, A., and Wilhelm, W., 2003. IPO pricing in the dot-com bubble, *Journal of Finance*, Vol. 58, 723-752.
- Maksimovic, V. and H. Unal, 1993, Issue size choice and "Underpricing" in thrift mutual conversions, *Journal of Finance*, Vol 68, No. 5, 1659-1692.
- Masulis, R., 1987, Changes in ownership structure: Conversions of mutual savings and loans to stock charter, *Journal of Financial Economics*, Vol. 18, 29-59.
- Mayers, D., and C. Smith, Jr., 2004, Incentives for managing accounting information: Property-liability insurer stock-charter conversions, *The Journal of Risk and Insurance*, Vol. 71, No. 2, 213-251.
- Moyer, S., 1990, Capital adequacy ratio regulations and accounting choices in commercial banks, *Journal of Accounting and Economics*, Vol. 12, 123-154.
- Perry, S., and T. Williams, 1994, Earnings management preceding management buyout offers, *Journal of Accounting and Economics*, Vol. 18, Iss. 2, 157-179.
- Scholes, M., G. P. Wilson, and M. Wolfson, 1990, Tax planning, regulatory capital planning, and financial reporting strategy for commercial banks, *Review of Financial Studies* 3: 625-650.
- Teoh, S.H., I. Welch, and T.J. Wong, 1998a, Earnings management and the long-run market performance of initial public offerings, *Journal of Finance*, Vol. 53, No. 6, 1935-1974.

Teoh, S.H., I. Welch, and T.J. Wong, 1998b, Earnings management and the post-issue underperformance of seasoned equity offerings, *Journal of Financial Economics*, Vol. 50, 53-99.

Teoh, S.H., T.J. Wong, and G. Rao, 1998, Incentives and opportunities for earnings management in initial public offerings, *Review of Accounting Studies*, Vol. 3, 175-208.

Unal, H., 1997, Regulatory misconceptions in pricing thrift conversions: A closer look at the appraisal process, *Journal of Financial Services Research*, Vol. 11, No. 3, 239-254.

Wahlen, J., 1994, The Nature of Information in Commercial Bank Loan Loss Disclosures, *The Accounting Review*, Vol. 69, Iss. 3, 455-478.

Table I
Sample of depository firms undertaking an IPO from 1992 through 2003

Year	Mutuals	Non-mutuals
1992	26	2
1993	60	8
1994	75	10
1995	79	3
1996	60	9
1997	40	4
1998	54	26
1999	30	7
2000	14	3
2001	14	1
2002	12	4
2003	7	7
Total	471	84

Table II
Summary Statistics of Selected Variables

This table provides descriptive statistics for a sample of depository firms that undertook an IPO between 1992 and 2003. The sample is separated into firms that were non-mutual banks and firms that were mutual thrifts at the time of the IPO. *Ln(ASSETS)* is calculated as the log of the firm's total assets in thousands from the year prior to the IPO. *EXCHANGE* is equal to one if traded on the NYSE, AMEX, or NASDAQ – zero otherwise. *CORE* is the Tier 1 capital level. *GROWTH* is the percent increase in assets from the year prior to the IPO. *ROA* is the percent return-on-assets in the year prior to the IPO. *P/B* is the ratio of the offer price-to-book value. *IND_P/B* is the industry average price-to-book ratio at the year end prior to the IPO. *INSIDE SHARES BOUGHT AT OFFERING* is the percent of the total shares offered that were purchased by officers and directors in the demutualization. *1-DAY RETURN* is the underpricing or first-day percentage price change of the IPO. Reported p-values for differences in means are from t-tests.

Variable	Non-mutual Firms			Mutual Firms			Diff. in Means
	N	Mean	Median	N	Mean	Median	p-value
<i>Ln(Assets)</i>	81	12.40	12.23	462	12.03	11.92	0.01
<i>Exchange</i>	84	89.29%	N/A	471	73.46%	N/A	0.00
<i>Core</i>	79	12.56%	10.67%	443	19.11%	16.71%	0.00
<i>Growth</i>	77	29.17%	14.30%	454	8.07%	4.08%	0.00
<i>ROA (Year Prior to IPO)</i>	84	0.82%	0.87%	471	0.68%	0.74%	0.17
<i>P/B</i>	42	109.91%	119.50%	456	65.41%	66.60%	0.02
<i>IND_P/B</i>	84	143.55%	140.60%	471	91.55%	91.50%	0.00
<i>Inside shares bought at offering</i>		N/A	N/A	444	8.74%	7.17%	N/A
<i>1-Day Return</i>	59	8.11%	5.55%	422	21.23%	19.73%	0.00

Table III
Earnings Management around IPOs

This table provides the mean and median ROA, Loan Loss Provisions (*LLP*), and Loan Loss Reserves (*RESERVES*) for a sample of mutual and non-mutual depository IPOs. Both *LLP* and *RESERVES* have been scaled by average loans for the firm. ROA, *LLP*, and *RESERVES* are measured for three years prior to and three years following the IPO, where the year of the IPO is the fiscal year that the IPO occurred. The variables in the table below are reported in percentage terms.

Timing to IPO	ROA						LLP/Avg. Loans						Reserves/Avg. Loans					
	Non-mutual Firms			Mutual Firms			Non-mutual Firms			Mutual Firms			Non-mutual Firms			Mutual Firms		
	N	Mean	Median	N	Mean	Median	N	Mean	Median	N	Mean	Median	N	Mean	Median	N	Mean	Median
3 years before	63	0.51	0.70	375	0.82	0.82	64	0.66	0.44	374	0.19	0.11	41	1.56	1.34	207	0.75	0.62
2 years before	84	0.68	0.77	471	0.75	0.83	84	0.54	0.40	466	0.25	0.10	53	1.45	1.30	354	0.85	0.66
1 year before	84	0.82	0.87	471	0.68	0.74	84	0.50	0.41	466	0.31	0.21	53	1.41	1.30	354	0.95	0.83
Year of IPO	84	0.74	0.98	471	0.73	0.76	84	0.44	0.34	466	0.21	0.11	53	1.33	1.26	354	0.94	0.81
1 year after	84	0.91	0.98	471	0.78	0.80	84	0.34	0.32	466	0.20	0.10	52	1.22	1.19	351	0.92	0.79
2 years after	72	0.89	0.93	427	0.75	0.77	72	0.40	0.37	421	0.17	0.09	46	1.21	1.23	311	0.90	0.78
3 years after	66	0.83	0.86	367	0.76	0.76	66	0.44	0.39	363	0.18	0.10	42	1.18	1.15	268	0.87	0.80

Table IV
Two-stage Regressions of Discretionary Loan Loss Provision and
Discretionary Loan Loss Reserves around the Time of the IPO

Models 1 and 2 report the first-stage regressions estimating the non-discretionary component of loan loss provisions (*LLP*) to loans in model 1 and loan loss reserves (*RESERVES*) to loans in model 2. Models 3 and 4 report the second stage regressions explaining the discretionary loan loss provisions to loans in model 3 and discretionary loan loss reserves to loans in model 4. Models 1 and 2 include a series of firm characteristics and yearly indicator variables (not reported) to estimate the non-discretionary component of *LLP* and *RESERVES*. *CHARGE-OFFS* is the net charge-offs to loans during the year. *RESERVES_{T-1}* is the level of reserves to loans in the prior period. *NPA/LOANS* is the non-performing assets to loans in the prior period. Δ *NPA/LOANS* is the change in non-performing loans to loans during the year. *CORE* is the Tier 1 capital level. *THRIFT* is an indicator variable equal to 1 if a company is identified as a thrift in the year of the IPO and zero otherwise. T-values appear in parentheses below the coefficient estimates, and *, **, and *** denote significance at the .1, .05, and .01 levels respectively for two-tailed tests

<i>First Stage Regression</i>			<i>Second Stage Regression</i>		
	<i>Dependent Variable</i>			<i>Dependent Variable</i>	
	(1)	(2)		(3)	(4)
<i>Independent Variables</i>	<i>LLP/Avg. Loans</i>	<i>RESERVES/Avg. Loans</i>	<i>Independent Variables</i>	<i>Discretionary Loan Loss Provisions</i>	<i>Discretionary Loan Loss Reserves</i>
<i>Intercept</i>	0.256 (10.27)***	0.142 (5.95)***	<i>Intercept</i>	-0.014 (-3.61)***	-0.009 (-2.15)**
<i>CHARGE-OFFS</i>	0.922 (77.25)***	0.075 (6.54)***	<i>IPO YEAR</i>	0.041 (3.61)***	0.010 (0.91)
<i>RESERVES_{T-1}</i>	-0.087 (-11.78)***	0.816 (115.68)***	<i>1 YEAR PRIOR TO IPO</i>	0.061 (5.12)***	0.068 (6.00)***
<i>NPA_{T-1}/LOANS</i>	0.037 (6.26)***	0.064 (11.25)***	<i>2 YEARS PRIOR TO IPO</i>	0.010 (0.63)	0.012 (0.74)
Δ <i>NPA/LOANS</i>	0.136 (14.84)***	0.162 (18.44)***	<i>IPO YEAR, NON-MUTUAL</i>	0.034 (1.31)	-0.023 (-0.95)
<i>CORE</i>	-0.002 (-5.04)***	-0.001 (-2.44)***	<i>1 YEAR PRIOR TO IPO, NON-MUTUAL</i>	-0.006 (-0.22)	-0.035 (-1.27)
<i>THRIFT</i>	-0.135 (-13.18)***	-0.036 (-3.71)***	<i>2 YEARS PRIOR TO IPO, NON-MUTUAL</i>	-0.041 (-1.10)	-0.023 (-0.64)
Observations	4135	4135	Observations	4135	4135
Adjusted R2	0.683	0.839	Adjusted R2	0.010	0.008
p-value of F-test	<.0001	<.0001	p-value of F-test	<.0001	<.0001

Table V
Ordinary Least Square Regression of Discretionary Loan Loss Provisions, Discretionary Loan Loss Reserves, and Management Benefits from Demutualization

In models 1 and 3, the dependent variable *INSIDE* is the percentage of the total shares offered that were purchased by officers and directors of the demutualizing thrifts. In models 2 and 4, the dependent variable *I-DAY RETURN* is the underpricing or first-day price change of the IPO for both mutuals and non-mutuals. *Ln(ASSETS)* is calculated as the log of the firm's total assets in thousands from the year prior to the IPO. *EXCHANGE* is equal to one if traded on the NYSE, AMEX, or NASDAQ – zero otherwise. *CORE* is the Tier 1 capital level. *GROWTH* is the percent increase in assets from the year prior to the IPO. *ROA* is the percent return-on-assets in the year prior to the IPO. *IND_P/B* is the industry average price-to-book ratio at the year end prior to the IPO. *THRIFT* is an indicator variable equal to 1 if a company is identified as a thrift in the year of the IPO and zero otherwise. *DLLP* is the discretionary component of loan loss provisions in the year prior to the IPO, as estimated in the two-stage regression reported in table IV. *DRES* is the discretionary component of loan loss reserves in the year prior to the IPO, as estimated in the two-stage regression reported in table IV. T-values appear in parentheses below coefficient estimates, and *, **, and *** denote significance at the .1, .05, and .01 levels, respectively, for two-tailed tests.

<i>Independent Variables</i>	<i>Dependent Variable</i>			
	<i>INSIDE</i>	<i>I-DAY RETURN</i>	<i>INSIDE</i>	<i>I-DAY RETURN</i>
	(1)	(2)	(3)	(4)
Intercept	50.094 (13.26)***	-52.344 (-4.71)***	49.902 (13.20)***	-53.075 (-4.79)***
<i>Ln(Assets)</i>	-2.885 (-9.41)***	2.728 (3.17)***	-2.875 (-9.37)***	2.735 (3.18)***
<i>Exchange</i>	-2.122 (-2.71)***	-0.160 (-0.07)	-2.078 (-2.65)**	-0.032 (-0.01)
<i>Core</i>	-0.130 (-4.21)***	0.043 (0.46)	-0.128 (-4.15)***	0.051 (0.55)
<i>Growth</i>	0.004 (0.20)	0.082 (1.63)	0.008 (0.40)	0.103 (2.11)**
<i>ROA (Year Prior to IPO)</i>	0.397 (0.81)	3.507 (2.72)***	0.362 (0.74)	3.537 (2.77)***
<i>IND_P/B</i>	-0.031 (-4.06)***	0.138 (7.04)***	-0.031 (-4.04)***	0.138 (7.04)***
<i>THRIFT</i>		24.477 (8.35)***		24.625 (8.44)***
<i>DLLP for mutuals</i>	1.453 (1.35)	6.040 (1.83)*		
<i>DLLP for Non-mutuals</i>		5.429 (0.58)		
<i>DRES for mutuals</i>			0.771 (0.76)	6.456 (2.06)**
<i>DRES for Non-mutuals</i>				8.698 (0.87)
Observations	407	447	407	447
Adjusted R ²	.311	.184	.309	.187
<i>p</i> -value of <i>F</i> -test	<.0001	<.0001	<.0001	<.0001

Figure 1
ROA for Depository IPOs

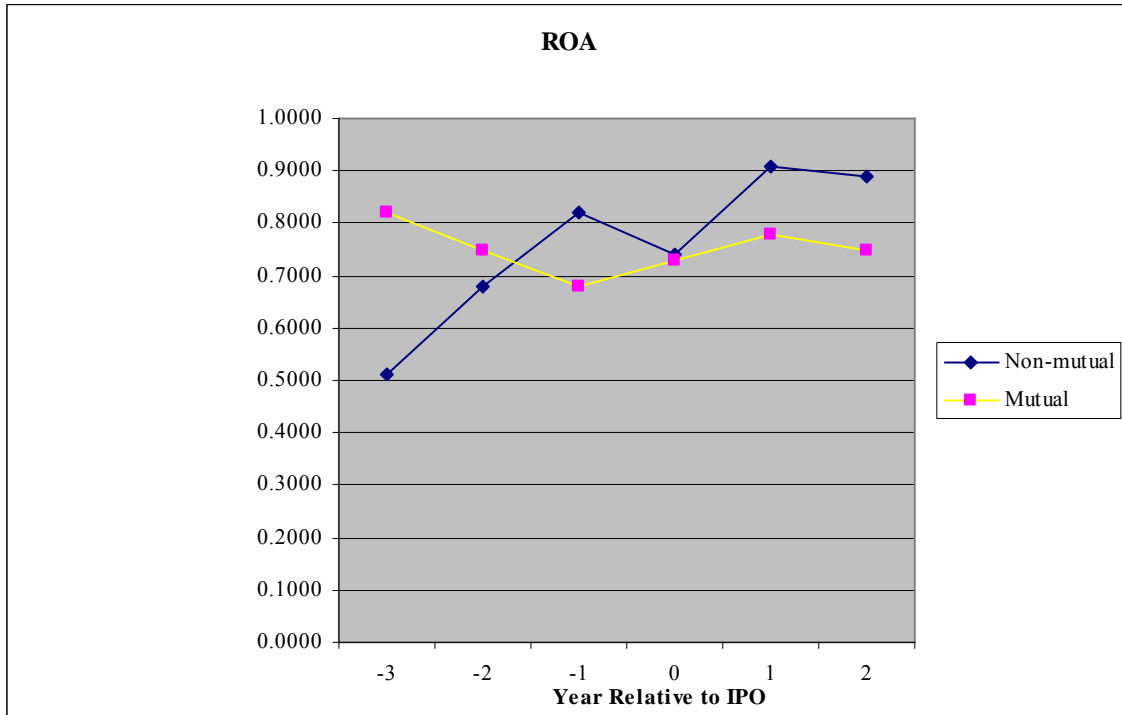


Figure 2
Loan Loss Provisions/Average Loans for Depository IPOs

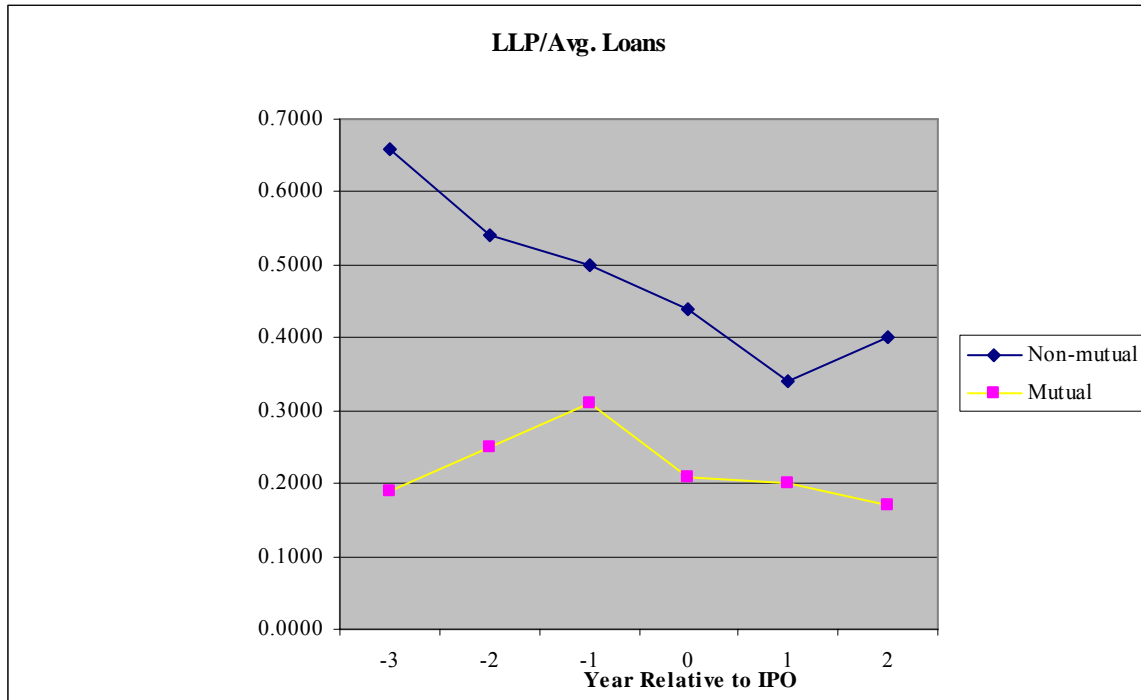


Figure 3
Loan Loss Reserves/Average Loans for Depository IPOs

