CORPORATE GOVERNANCE AND EARNINGS MANAGEMENT
AT LARGE U.S. BANK HOLDING COMPANIES

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Abstract

This paper examines whether corporate governance mechanisms affect earnings management at the largest publicly traded bank holding companies in the United States. We find that the use of discretionary loan loss provisions is positively related to a bank’s unmanaged cash flow returns, capital ratios, and asset size. In contrast, the use of discretionary loan loss provisions is negatively related to a bank’s non-discretionary loan loss provisions and market-to-book ratios. Further, the use of discretionary loan loss provisions to manage earnings is significantly related to the fraction of shares owned by the bank’s CEO, the fraction of shares owned by all directors, the existence of CEO/chair duality, and the CEO’s pay-for-performance sensitivity. However, this practice is found to be significantly reduced when the board is composed of more independent outside directors. For the sample of large banks examined in this paper, the much of the earnings management results in an increase in net income. Thus, while bank managers appear to use discretionary loan loss provisions to increase earnings and, subsequently, their own personal wealth, corporate governance mechanisms can be incorporated to effectively constrain discretion in earnings management.
Corporate Governance and Earnings Management at Large U.S. Bank Holding Companies

1. Introduction

Accountants and financial economists have recognized for years that firms use latitude in accounting rules to manage their reported earnings in a wide variety of contexts. Healey and Wahlen (1999) conclude in their review article on this topic that the evidence is consistent with earnings management “to window dress financial statements prior to public securities offerings, to increase corporate managers’ compensation and job security, to avoid violating lending contracts, or to reduce regulatory costs or to increase regulatory benefits.” Since then, evidence of earnings management has only mounted. For example, Cohen et al. (2004) find that earnings management began to increase steadily around 1997, peaking in 2002. Performance-based compensation (e.g., option and stock) emerged as a particularly strong predictor of aggressive accounting behavior in these years (see Gao and Shrieves (2002), Cohen et al. (2004), Bergstresser and Philippon (2004), and Cheng and Warfield (2005)).

While there is an extensive literature on opportunistic earnings management in response to specific incentives to achieve one result or another, research looking at the impact of corporate governance on earnings management is quite limited. The few papers that address these issues (e.g., Klein (2002) or Warfield et al. (1995)) focus more on the magnitude than the direction of earnings management, and thus shed little light on the ability of these variables to offset the one-sided incentive of management to increase reported earnings that results from stock and option-based compensation. More recently, Cornett et al. (2006) examine the impact of incentive-based compensation and corporate governance on firm performance in light of potential earnings management. While incentive-based compensation has a significant impact on financial performance as measured by reported earnings, once those earnings are adjusted for discretionary accruals, the link between compensation and performance disappears. In contrast, the estimated impact of corporate governance variables on performance more than doubles when discretionary accruals are removed from measured profitability.
The Securities and Exchange Commission (SEC) has the authority to set accounting procedures (including the use of discretionary accruals) for financial reporting by publicly traded firms. However, in most cases the SEC has designated the Financial Accounting Standards Board (FASB) as the organization responsible for setting standards of financial accounting and reporting. The principles for financial accounting established by the FASB are primarily concerned with the measurement of a firm’s net income over a given period. Accordingly, the FASB focuses on losses expected to result from events during a given period and explicitly excludes the expected effect of future events.

Unlike industrial firms, commercial banks record few if any accruals with which to manage earnings. Rather, in the case of commercial banks, loan loss provisions are a main tool used by management to manage earnings. Loan loss provisions are an expense item listed on the income statement reflecting management’s current period assessment of the level of future loan losses. As managers increase loan loss provisions net income decreases, while a decrease in the recording of loan loss provisions increases net income. These loan loss provisions are intended to capture expected future losses that will occur if a borrower does not repay the bank in accordance with a loan contract. Commercial bank regulators view accumulated loan loss provisions (the loan loss allowance account on the balance sheet) as a type of capital that should be built up during good times to absorb losses during bad times. If a bank’s loan loss allowance balance exceeds its expected loan losses, the bank can absorb more unexpected losses without failing and imposing losses on the Federal Deposit Insurance Corporation (FDIC). Conversely, if a bank’s loan loss allowance is less than expected losses this ultimately reduces the bank’s equity capital. This implies that the bank’s capital ratio overstates its ability to absorb unexpected losses.

In contrast to the FASB, commercial bank regulators use more of a conservative, future oriented view of the use of loan loss allowance that better serves their goal of maintaining the safety and soundness of banks. This perspective differs from that of the FASB in that it recommends maintaining a loan loss allowance balance greater than expected losses during a given period. However, this conservative view of regulators means that bank managers should overestimate loan loss provisions to build up the loan loss allowance and the bank’s equity cushion against loan losses. However, inflating loan loss provisions lowers
net income and thus, bank performance. When manager’s compensation is based on firm performance, managers would be reluctant to adhere to regulators’ views. Consequently, banks would not build up their loan loss allowance during good times, which could put the safety and soundness of the bank, and at the extreme the entire financial system, in jeopardy during bad times. Accordingly, the degree to which earnings management exists at commercial banks can differ from that in other industries. Thus, monitoring and oversight of earnings management by regulators in the commercial banking industry is critical.

This study examines earnings management at publicly traded commercial bank holding companies in the United States and, particularly, how corporate governance mechanisms affect earnings management. A bank’s management has discretion with respect to the size of loan loss provisions recorded in any period. Thus, during periods of low profit in other areas of the bank, management can delay the recording of loan loss provisions to increase net income and vice versa. Management discretion in the recording of loan loss provisions implies that management of commercial bank earnings can impact a bank’s performance, cash flows, market value, and capital adequacy. Indeed, despite any monitoring and oversight by regulators, ultimately a bank’s reported loan loss provision is largely under the control of its managers. Managers of the firm will use their discretion to attain their own goals, which may differ from regulators and threaten the safety and soundness of the financial system.

We study earnings management at publicly traded U.S. commercial bank holding companies during the 1994 through 2002 period. In particular, we look at the interactions between firm performance, corporate governance mechanisms, and earnings management. We find that banks’ use of discretionary loan loss provisions is positively related to unmanaged cash flow returns, capital ratios, and asset size. In contrast, the use of discretionary loan loss provisions is negatively related to a bank’s non-discretionary loan loss provisions and market-to-book ratios. Further, the use of discretionary loan loss provisions to manage earnings is significantly related to the fraction of shares owned by the bank’s CEO, the fraction of shares owned by all directors, the existence of CEO/chair duality, and the CEO’s pay-for-performance sensitivity. However, this practice is found to be significantly reduced when the board is composed of more independent outside directors. For the sample of large banks examined in this paper, much of the earnings management
results in an increase in net income. Thus, while bank managers appear to use discretionary loan loss provisions to increase earnings and, subsequently, their own personal wealth, corporate governance mechanisms can be incorporated to effectively constrain discretion in earnings management.

The remainder of the paper is organized as follows. Section 2 reviews the literature on earnings management and reviews internal corporate governance mechanisms shown to be important in other contexts. Section 3 describes the data and methodology. Section 4 describes the empirical results and Section 5 concludes the paper.

2. Earnings Management and Corporate Governance

2.1. Opportunistic Earnings Management

The opportunistic earnings management literature largely originated with Healy (1985), who concludes that managers use accruals to strategically manipulate bonus income. For example, managers can defer income through accruals when an earnings target for a bonus plan cannot be reached or when bonuses have already reached maximum levels, and can accelerate income in other periods.2

More recent work focuses on the use of earnings management to affect stock prices, and with it, managers’ wealth.3 Option and restricted stock compensation is a particularly direct route by which management can increase its wealth by inflating stock prices. Indeed, evidence that such compensation is associated with higher degrees of earnings management is prevalent. Gao and Shriever (2002), Bergstresser and Philippon (2004), Cohen et al. (2004), and Cheng and Warfield (2005) all find that the use of discretionary accruals and earnings management is more prevalent at firms where top management compensation is more closely tied to the value of stock in general, and options more particularly. Burns and Kedia (2003) show that firms whose CEOs have large option positions are more likely to file earnings restatements.

As earnings management applies to banking, previous studies have found that banks use their loan loss provisions to manage earnings and capital levels. However, the results on the direction of the earnings management are mixed. Specifically, Collins et al. (1995), Beaver and Engel (1996), and Ahmed et al. (1999) find that discretionary loan loss provisions are negatively related to capital, while Beatty et al. (1995)
find that discretionary loan loss provisions are positively related to capital. Further, Collins et al. and Beaver and Engel find that banks use loan loss provisions to manage earnings, while Beatty et al. and Ahmed et al. find that banks do not use provisions of loan losses to manage earnings.

Gunther and Moore (2003) look at factors that lead to regulatory mandated restatements of loan loss provisions. They find that the higher the level of past due loans, the more likely the bank will be forced by regulators to restate their loan loss provisions—and thus the more likely managers are under-reporting loan losses in an effort to over-state earnings. Wahlen (1994) shows that managers increase discretionary loan loss provisions when expectations of future cash flows improve. Positive stock price reactions for both announcement date and yearly returns confirm the cash flow findings.

Kim and Kross (1998) look at the effect of regulatory changes in capital requirements on banks’ use of loan loss provisions and allowances for loan losses. Subsequent to 1989, allowances for loan and lease losses are no longer part of Tier 1 regulatory capital. Their results lead to the conclusion that banks with relatively low capital ratios increased their write-offs and decreased their loan loss provisions after the regulatory change. These actions by relatively inadequately capitalized banks are taken as an effort on the part of management to ensure adequate equity capital.

2.2. The Impact of Corporate Governance on Earnings Management

The literature on the impact of corporate governance on earnings management is sparse. Klein (2002) shows that board characteristics such as audit committee independence predict lower discretionary accruals. She focuses on absolute rather than signed accruals, however. Therefore, her measure of earnings manipulation does not allow for systematic aggressiveness of accounting choice. Rather, it better captures the noise introduced in earnings numbers due to managerial discretion. Warfield et al. (1995) also examine the impact of corporate governance variables on earnings management. They find that a high level of managerial ownership is positively related to the explanatory power of reported earnings for stock returns. They also examine the absolute value of discretionary accruals and find that they are inversely related to managerial ownership. Like Klein, they conclude that corporate governance variables may affect the degree to which latitude in accounting rules affect the informativeness of reported earnings, but do not address the
degree to which governance or compensation variables affect the average aggressiveness of accounting choice.

Xie et al. (2003) examine discretionary accruals from a corporate governance perspective in a cross-section of industries. Earnings management is found to be mitigated when boards have more independent outside directors (i.e., more independent monitors), boards meet more often (i.e., more active monitors), and directors have corporate or investment banking experience (i.e., more competent monitors).

Finally, Chung et al. (2002) find that institutional investors prefer that managers do not engage in earnings management. They show that when situations suggest earnings management may be more likely to occur (e.g., instances where potential agency costs are high) institutional investors will take measures to mitigate opportunistic value decreasing managerial discretion.

2.3. Corporate Governance Mechanisms

Corporate governance variables have been shown in other contexts to affect firm behavior. Such variables include CEO stock ownership, CEO pay-for-performance sensitivity, board of director stock ownership, board of director characteristics, and CEO age and tenure. We discuss these next.

2.3.1. CEO’s Stock Ownership and Pay-for-Performance Sensitivity

The relation between managerial compensation and shareholder wealth has been well documented in the finance literature. For example, Jensen and Murphy (1990a) find that CEO wealth increases by $3.25 per $1,000 increase in shareholder wealth. Jensen and Murphy (1990b) suggest that the level of pay alone is not important in resolving the agency issues between the CEO and the firm’s shareholders. Rather, what is crucial is the strength of the pay-for-performance relationship. That is, in order to induce CEOs to maximize shareholder wealth, boards should construct compensation contracts that are performance or stock price oriented.

Equity holdings in the bank can be bought by the CEO independent of the direct shares received in accordance with the compensation contract. Equity ownership of the CEO aligns incentives between CEOs and the firm’s shareholders (see Jensen and Murphy (1990a, 1990b), Palia (2000), and Brown and Maloney
This congruence of interests allows us to create a second definition of CEO compensation that relates pay to performance: the percentage of equity held by the CEO in the firm.\textsuperscript{4}

However, when the CEO owns stock, either through direct purchase or pay-for-performance contracts, management’s use of discretionary loan loss provisions affects the CEO’s personal wealth. Higher stock ownership by the CEO may encourage him to use discretionary accruals to improve the apparent performance of the firm, thereby increasing his personal wealth. Consequently, higher stock ownership by the CEO may result in greater use of discretionary loan loss provisions to inflate earnings and, consequently, his personal wealth. Thus, stock ownership by the CEO and pay-for-performance sensitivity in the CEO’s compensation contract would be associated with a greater use of discretionary loan loss provisions.

2.3.2. Board of Director Stock Ownership

Several studies argue that stock ownership by board members gives them an incentive to monitor managers carefully (see Brickley et al. (1988) and Brown and Maloney (1999)). However, as with the CEO, when board members own stock, they may be more likely to approve or allow the use of discretionary loan loss provisions to improve the apparent performance of the firm and, consequently, board member’s personal wealth. In this case, stock ownership by this group would be associated with a greater use of discretionary loan loss provisions.

2.3.2. Board of Director Characteristics

2.3.2.a. Percent of Independent Outside Directors on the Board

There is considerable literature regarding the effect of the composition of the board of directors (i.e., inside versus outside directors) on firm performance. Boards dominated by outsiders are arguably in a better position to monitor and control managers (Dunn (1987)). Outside directors are independent of the firm’s managers, and in addition bring a greater breadth of experience to the firm (see Firstenberg and Malkiel (1980) and Vance (1983)). A number of studies have linked the proportion of outside directors to financial performance and shareholder wealth (see Brickley et al. (1994), Byrd and Hickman (1992), Subrahmanyan et al. (1997), and Rosenstein and Wyatt (1990)). These studies consistently find better stock returns and operating performance when outside directors hold a significant percentage of board seats. Consequently, if
outside directors on the board enhance monitoring, they would also be associated with lower use of discretionary loan loss provisions to inflate earnings.

2.3.2.b. CEO/Chair Duality

In about 80 percent of U.S. companies, the CEO is also the chairman of the board (Brickley et al. (1997)). CEO/Chair duality concentrates power in the CEO’s position, potentially allowing for more management discretion. The dual office structure also permits the CEO to effectively control information available to other board members and thus impede effective monitoring (Jensen, 1993). Consequently, if CEO/Chair duality impedes effective monitoring, it would also be associated with greater use of discretionary loan loss provisions.

2.3.2.c. Board Size

Jensen (1993) argues that small boards are more effective in monitoring a CEO’s actions, as large boards have a greater emphasis on “politeness and courtesy” and are therefore easier for the CEO to control. Yermack (1996) also concludes that small boards are more effective monitors than large boards. These studies suggest that the size of a firm’s board should be inversely related to earnings management. If small boards lead to more effective monitoring in a firm, they would also be associated with less use of discretionary loan loss provisions.

It should be noted that boards of directors at commercial banks are generally larger than those of other firms. Baysinger and Zardkoohi (1986) suggest that boards of regulated firms (such as public utilities) have more symbolic directors than boards of less regulated firms. They interpret these findings as evidence that boards are a more important governance structure in less regulated firms than in public utilities. Many of these directors perform functions related to product market differences, liability concerns, or even regulatory concerns that might lead to differences in board composition from industrial firms. For example, Agrawal and Knoeber (2001) find that outside directors play a political role by providing advice and insight into the workings of government or by acting to influence the government directly. Such skills can come from i) prior participation in government and thus knowledge of procedures as well as friendships with important decision-makers, or ii) experience dealing with government as an adversary in administrative or legal
proceedings. For those industries in which politics is most important, they find that directors with political experience are most important. Specifically, they find that during the 1990s, relative to manufacturing firms, the boards of electric utilities contained increasingly more politically experienced outside directors. Outside directors, adept at politics, can aid in the political dealings of a firm by using their skills to predict government actions. Thus, rather than service intended to reduce agency conflicts, these outside directors are selected based on their political usefulness and may have less of an impact on earnings management.

2.3.2.d. Number of Board Meetings per Year

Vafeas (1999) finds that a greater level of involvement and oversight by the board of directors is characteristic of firms that are value maximizers for their owners. Specifically, he finds that a greater number of board meetings per year are associated with increased firm performance. Pertinent to this paper, previous findings suggest that if frequent board meetings lead to more effective monitoring in a firm, they would also be associated with the reduced usage of discretionary loan loss provisions to inflate earnings.

2.3.3. Age and Tenure of CEO

The age and tenure of the CEO may determine his or her effectiveness in managing the firm. Some studies suggest that top officials with little experience have limited effectiveness because it takes time to gain an adequate understanding of the company (see Bacon and Brown (1973) and Alderfer (1986)). These studies suggest that the older or the longer the tenure of the firm’s CEO, the greater the understanding of the firm and its industry, and the better the performance of the firm. Consequently, if older, more experienced CEOs enhance firm performance, they would also be associated with lower use of discretionary accruals.

3. Data and Methodology

3.1. Data

The sample examined in this study includes the largest bank holding companies (BHCs) headquartered in the United States and operating during the 1994 through 2002 period. We begin with the 100 largest BHC’s as ranked by 1993 year-end book value of total assets. Asset sizes of the largest BHCs, as well as all accounting and merger data used throughout the study are obtained from bank-level Call Report of Income and Condition databases and merger databases found on the Chicago Federal Reserve’s Web-site.
Table 1 lists the number of BHC’s with Call Report data available by year. Due to mergers, only 46 of the top 100 BHC’s operating in 1994 exist as independent entities in 2002. Thus, we analyze a total of 595 bank years.

We study the 100 largest banks because they are among the largest firms in the country, representing a large share of aggregate market capitalization. Consequently, these banks command great interest among investors and regulators. Moreover, this sample is interesting precisely because these banks are relatively stable. Prior studies have shown that earnings management is more prevalent in poorly-performing firms (see Cohen et al. (2004) and Kothari et al. (2005)) and that models of discretionary accruals are least reliable when applied to firms with extreme financial performance (Dechow et al. (1995)). We look at influences on earnings management in “normal” times and on the degree to which measured performance of the largest banks is affected by that management. The fact that these firms are all free of financial distress makes the augmentation of the Jones model (discussed below) less of an issue. This is a conservative sample-selection choice in that the 100 largest banks should be a relatively difficult sample in which to find heavy use of discretionary accruals.

3.1.1. Discretionary Accruals

To analyze earnings management at the sample banks, we follow Cornett et al. (2006) to define earnings as operating pretax cash flow return on assets (OPCF), equal to earnings before income taxes and extraordinary items plus interest paid on subordinated notes and debentures to total year-end assets. To manage earnings, then, is to manage OPCF. Panel A of Table 2 reports descriptive statistics for OPCF. The average level of OPCF for the sample banks is 2.29 percent, the minimum is 0.19 percent, and the maximum is 8.31 percent. In banks, the level of OPCF is driven predominately by the performance of the loan portfolio. The amount of loans over 90 days past due and still accruing interest and the amount of loans no longer accruing interest are observable measures of the current loans in jeopardy of default. Recording loan loss provisions to reflect the level of these “bad” loans reflects management of the normal, or non-discretionary, loan loss provisions of the bank. With banks, however, there is also an opportunity to manage
earnings. That is, through discretionary actions in the recording of loan loss provisions, executives can manipulate reported earnings to a measurable extent.

The challenge, then, is to quantify a measure of discretionary loan loss provisions (DLLP’s), or more specifically, a measure of earnings management. The case of banking is special in that each bank manager’s basis for judgment with respect to accruals is subject to periodic review by regulators. As such, loan loss provisions are the combination of both a non-discretionary component—that part of loan loss provisions that bring loan loss allowances to an acceptable level—and a discretionary portion which is seemingly closely regulated. Gunther and Moore (2003) find that while there are many instances of regulator mandated revisions in loan loss provisions, only six in their study involve banks with over $500 million in total assets, and only four involve banks that are publicly traded. Thus, loan loss provisions analyzed in this study (involving only the very largest BHC’s) appear on the surface to be tacitly allowed (and in fact certified via non-revision) by regulators.

Dechow et al. (1995) compare several models of accrual management and conclude that the so-called “modified Jones model” provides the most power for detecting such management. Bartov et al. (2001) also support the use of the modified Jones model, estimated in a cross-section using other firms in the same industry. Discretionary or abnormal accruals in the modified Jones model are calculated as the difference between actual and “normal” accruals, using a simple regression formula to estimate normal accruals.

While banks do not record accruals, this study uses the amount of loans over 90 days past due and still accruing interest and the level of non-accruing loans to consider what the normal, or non-discretionary, level of loan loss provisions might be. Both of these variables indicate the extent to which the bank has or will have loan losses. Adapting the model of Jones (1991) and following Bartov et al., we estimate the following equation for our sample banks each year during the period 1994 through 2002:

\[
\frac{LLP_i}{TA_i} = \gamma_0 \frac{1}{TA_i} + \gamma_1 \frac{90DAY_i}{TA_i} + \gamma_2 \frac{NONACRU_i}{TA_i} + \epsilon_i
\] (1)
where LLP\textsubscript{i} is the loan loss provisions of BHC\textsubscript{i}, TA\textsubscript{i} is the total assets of BHC\textsubscript{i}, 90DAY\textsubscript{i} is the total amount of loans past due 90 days or more and still accruing interest of BHC\textsubscript{i}, NONACRU\textsubscript{i} is the total amount of non-accruing loans of BHC\textsubscript{i}, and \( \gamma_0, \gamma_1, \) and \( \gamma_2 \) are the parameters being estimated. Panel A of Table 2 presents descriptive statistics for the three variables. The average regression results are as follows (t-statistics are in parentheses):\(^{12}\)

\[
\frac{LLP\textsubscript{i}}{TA\textsubscript{i}} = -1.85E+06 \frac{1}{(-0.57)} + 0.65 \frac{90DAY\textsubscript{i}}{TA\textsubscript{i}} (4.18) + 0.50 \frac{NONACRU\textsubscript{i}}{TA\textsubscript{i}} (6.11), \quad \text{Adj. R-squared} = 79.5\%
\]

Note that the average adjusted R-squared for the regression is almost 80 percent. Thus, equation 1 appears to be capturing a significant amount of the variation in the loan loss provisions. Next, for the sample banks, we estimate the level of non-discretionary loan loss provisions (NDLLP) using the estimated coefficients from equation 1:

\[
\text{NDLLP}_i = \hat{\gamma}_0 \frac{1}{TA_i} + \hat{\gamma}_1 \frac{90DAY_i}{TA_i} + \hat{\gamma}_2 \frac{NONACRU_i}{TA_i}
\]

where the coefficients are those from the nine annual regression runs of equation 1.

Finally, discretionary loan loss provisions (DLLP) (i.e., our measure of earnings management) for each sample bank is the difference between the actual amounts of loan loss provisions standardized by total year-end assets and the estimate of the amount the BHC should report given the amount of loans over 90 days still accruing interest and the amount of non-accruing loans (NDLLP):

\[
\text{DLLP}_i = \hat{\epsilon}_i = \frac{LLP_i}{TA_i} - \text{NDLLP}_i
\]

High levels of DLLP amount to over-reporting loan loss provisions which, all else equal, brings income down. Low levels of DLLP (which are often negative) suggest under-reported loan loss provisions that increase operating income.

Panel A of Table 2 reports descriptive statistics for NDLLP and DLLP. The average level of NDLLP’s for the sample banks is 0.28 percent, the minimum is -0.01 percent, and the maximum is 1.53 percent. The average level of DLLP’s is 0.01 percent, the minimum is -0.67 percent, and the maximum is 0.85 percent. Note that while the average level of DLLP over the nine-year period of analysis is close to
zero, the range in this measure shows that large banks indeed using discretionary loan loss provisions to manage earnings. Large values of discretionary loan loss provisions are conventionally interpreted as indicative of earnings management. Because discretionary loan loss provisions can be used to both increase or decrease earnings, in some contexts (e.g., Klein (2002) and Cohen et al. (2004)), the absolute value of discretionary accruals is the appropriate measure to use to determine whether earnings management occurs.\textsuperscript{13} We examine the properties of the signed as well as the absolute value of discretionary loan loss provisions.

Moreover, when we examine measures of firm performance, we adjust OPCF to its unmanaged value by adding back discretionary loan loss provisions. That is, we define “unmanaged earnings” as reported earnings plus discretionary loan loss provisions. This requires that actual discretionary accruals, not their absolute values, be added to reported earnings. While mean OPCF based on reported earnings is 2.29 percent, the average value of unmanaged OPCF is 2.23 percent. Further, unmanaged earnings range from -0.12 percent to 7.05 percent.

3.1.2. Corporate Governance Data

Having defined earnings and earnings management, we next look at variables that may explain variations in the measures. Panel B of Table 2 presents summary statistics on corporate governance variables used in the paper. The focus of this study is not only to identify earnings management in banks, but to identify governance mechanisms that effectively align executive decisions with shareholder interests such that earnings are managed to maximize the value of the bank and thus shareholder wealth. As the board of directors represents the shareholders, we examine board characteristics to identify important corporate governance mechanisms. Board of director data are obtained from BHC proxy statements available in the LEXIS/NEXIS database. We use proxy statements for each year to obtain CEO ownership, board of director stock ownership, board size, board composition (insiders, affiliated outsiders, and independent outsiders on the board), CEO/chair duality, CEO age, and CEO tenure. CEO compensation (salary, bonus, options, stock grants, long-term incentive plan payouts, and other) data come from ExecuComp.

CEO ownership (CEOW) is the percentage of total shares outstanding owned by the CEO. As noted above, when the CEO owns stock, management’s use of discretionary loan loss provisions affects the CEO’s
personal wealth. Consequently, higher stock ownership by the CEO may result in greater use of discretionary
loan loss provisions to inflate earnings and, consequently, his personal wealth. The mean CEO ownership is
2.70 percent and it ranges from a low of 0.00 percent to a high of 59.17 percent. We include the natural log
of the total percentage of equity ownership held by the CEO at the end of the year in our regressions.

In addition to direct ownership in the firm, CEOs can be induced to maximize shareholder wealth
when their compensation contracts are performance or stock price oriented. However, when the CEO’s
compensation is based on market performance, management’s use of discretionary loan loss provisions
affects the CEO’s personal wealth. Consequently, the greater the pay-for-performance relationship in the
CEO’s compensation contract, the greater is the use of discretionary loan loss provisions to inflate earnings
and, consequently, his personal wealth. The pay-for-performance sensitivity (PPS) of the CEO is derived
using information in the ExecuComp database. PPS is defined as the actual dollar change in top executive
compensation relative to the previous year for every thousand dollar change in the market value of equity of
the bank during the year. As shown in Table 2, the mean and median values of PPS are -4.06 and 0.21,
respectively.14

CEO ownership is not the only ownership variable with the potential to influence earnings at banks.
The ownership of the board can play a role in resolving agency conflicts between directors and shareholders.
However, when board members own stock, management’s use of discretionary loan loss provisions affects
board members’ personal wealth. Consequently, higher stock ownership by directors may cause managers to
use discretionary loan loss provisions to inflate earnings and, consequently, board members’ personal wealth.
Thus, stock ownership by this group would be associated with a greater use of discretionary loan loss
provisions. As reported in Table 2, the boards of directors in the sample banks (excluding any ownership by
the CEO) own (DOWN) an average of 4.20 percent of the bank’s stock, the minimum value is 0.02 percent,
and the maximum is 62.50 percent. We include the natural log of the percentage of equity ownership by the
board of directors in our regressions.

While the ownership of the board may be important, so to is the composition of the board. Members
of the boards of directors are divided into three categories: inside directors, affiliated directors, and
unaffiliated directors. Inside directors (INDI) are defined as the number of directors who are BHC or bank executives and any director who was an executive officer of the bank and is currently serving as chairman of the board of directors divided by the total number of board members. The average percentage of inside directors is 17.14, the minimum is 4.17 percent, and the maximum is 87.50 percent. Affiliated directors (AFDI) are those directors who have relationships with the bank listed in the proxy statement beyond loans made in the normal course of business divided by board size.\(^{15}\) The average percentage of affiliated board members is 16.34, the minimum is 0.00, and the maximum is 53.33. Unaffiliated directors (UNDI) are those directors who have no discernable association with the bank other than the directorship.\(^{16}\) The average percentage of unaffiliated board members is 66.52, the minimum is 0.00, and the maximum is 93.33. While inside and associated board members are expected to be more easily influenced by the CEO than outside board members, the average board is clearly dominated by outsiders. If, as previous research has shown, outside directors on the board enhance monitoring, they would also be associated with lower use of discretionary loan loss provisions to inflate earnings.

Board size (BDSIZ) is the number of directors on the board. For the sample banks, the mean board size is 16.34, the minimum is 3, and the maximum is 31. We include the natural log of the board size in our regressions. All else equal, larger boards are expected to be more easily dominated by CEO’s and smaller boards are expected to have a constraining effect on executive behavior. The annual number of meetings of the board of directors (MEET) can also play a role in executive officer oversight. That is, the more meetings per year by the board, the more the directors are aware of executive decisions and the more executive actions are monitored. The average number of meetings per year for the sample is 8.4, the minimum is 1, and the maximum is 18.

Characteristics specific to the CEO surely play a role in the potential for agency conflict. For example, longer tenured CEO’s have the potential to become more powerful within the organization. Similarly, the age of the CEO may indicate experience that is rewarded with increased power. Accordingly, CEOAGE is the age (in years) of the chief executive officer and CEOTEN is the number of years the CEO has held the position of chief executive officer. As shown in Table 2, for the sample banks, the average
CEOAGE is 56.48 years (ranging from 32 to 76) and the average CEOTEN is 6.51 years (ranging from 0 to 27). We include the natural log of the CEOAGE and CEOTEN in our regressions.

Finally, we measure CEO/chair duality (DUAL) as a dummy variable equal to one if the CEO is also the board chair and zero otherwise. Of the 595 firm years for which this information is available, 492 CEO’s were also the board chair, while 103 CEO’s were not. By almost a five to one margin, CEO’s are given dual titles at the largest banks in the U.S. during the 1994 through 2002 period. The dual office structure permits the CEO to effectively control information available to other board members and thus impede effective monitoring. Consequently, if CEO/Chair duality impedes effective monitoring, it would also be associated with greater use of discretionary loan loss provisions.

3.1.3. Bank Holding Company Data

Finally, we look at bank specific variables that may explain variations in earnings management. Panel C of Table 2 presents summary statistics on these variables. Managers of growth firms are often rewarded with stock or stock options as part of their compensation package. That is, stakeholders generally desire to share the risk of growth with the top executives to properly align the two parties’ interests. The market to book ratio of equity (MKBK) is a common proxy of growth prospects used in the corporate finance literature and is used as such in this paper. MKBK is defined as the total year-end market value of the bank (from ExecuComp) divided by the total year-end book value of equity (from Call Reports). The average MKBK ratio for sample banks (reported in Panel C of Table 2) is 2.47 times (on average the sample banks trade for approximately two-and-a-half times their book value of equity).

The capital position of the bank also plays an important role in earnings and earnings management. That is, a poorly capitalized bank is subject to increased oversight by federal regulators, suggesting discretionary loan loss provisions would be minimized. In contrast, a better capitalized bank experiences less scrutiny by regulators and could more easily use discretionary loan loss provisions to manage earnings. The Tier 1 capital ratio (CAP) is used to proxy for the capital position of the sample banks. The average CAP of the sample banks is 7.57 percent, well over the 5 percent required by regulators to be well-capitalized.
Indeed, the minimum CAP for the sample is at the five percent threshold. Thus, the banks in the sample are unanimously considered well capitalized.

Banks’ cumulative abnormal stock returns (CARs) over the course of the year may aid in identifying those banks where earnings management takes place. As stated above, loan loss provisions can have either a positive or a negative effect on net income, and subsequently, as net income affects the bank’s stock price, the CAR on the bank’s stock. Data from the Center for Research in Securities Prices (CRSP) is used to estimate CARs. The standard market model is used (with the CRSP equally-weighted index used as the market) to estimate the alpha and beta coefficients for each bank for each year using the three years prior monthly stock returns. Abnormal monthly stock returns are then calculated using the estimates of alpha and beta. Finally, the cumulative yearly abnormal stock returns (CAR) are calculated from the abnormal monthly returns. The average CAR for sample banks is 0.21 percent.

The asset size of the bank may play a role in the level of discretionary behavior of management. Larger banks are the most likely to be monitored by industry analysts. Similarly, while regulators are charged with maintaining the safety and soundness of the entire banking industry, they have at least some tendency to more closely scrutinize the largest institutions, i.e., those banks that have the potential to severely impact the industry and the overall economy should problems arise. With analysts and regulators evaluating their performance, large banks would be less likely to artificially inflate income using discretionary loan loss provisions. The average year-end book value of total assets for the sample banks is $58.23 billion (ranging from $3.55 to $655.48 billion). We use the natural log of the year-end book value of total assets (SIZ) in our analysis.

3.2. Methodology

We estimate two broad sets of regressions. The first treats financial performance as the dependent variable. The explanatory variables are the corporate governance and bank specific variables described above. The second set of regressions examines how discretionary loan loss provisions relate to the same set of variables. In different specifications, we examine both signed and absolute discretionary accruals. The observations across firms are pooled in one regression. There are 595 observations, one for each firm-year.¹⁷
The regressions that treat firm performance as the dependent variable are subject to a potential simultaneity bias. If the board and executive officer invest in firms with superior performance then a positive association between CEO and board ownership and performance may be observed even if that ownership is not directly beneficial to performance. Moreover, if operating performance and CEO and board ownership are both persistent over time, lagging ownership relative to performance will not eliminate this bias. As discussed in Bhagat and Jefferis (2002), researchers should account for the endogenous relationship between corporate governance, ownership, and performance. Taken separately, it is clear that earnings management, corporate governance, and performance can be explained (at least in part) by other variables. Taken together, it is clear that causality can flow both ways with respect to many of the variables and complex interrelationships exist.

The use of a single industry eliminates a potential source of simultaneity bias. For example, suppose that institutional investors prefer more stable but lower average return industries. This preference would result in a link between average ROA and institutional holdings. However, by limiting the sample to the banking industry, and specifically only the very largest banks in the industry, we eliminate any relation between relative performance and industry characteristics. Further, we estimate all regressions allowing for firm fixed effects. This methodology effectively allows each firm to have its own intercept in the regression, and would thus capture omitted variables that might affect the firm’s decision on how aggressive to be on discretionary loan loss provisions. This methodology should give us a cleaner and more precise estimate of the impact of the explanatory variables.

We estimate multivariate regressions in which the bank’s OPCF or discretionary loan loss reserves in each year are a function of the corporate governance and bank specific variables. Variations of the following equations are estimated:

\[
\text{OPCF}_{it} = b_1 \text{NDLLP}_{it} + b_2 \ln(\text{CEO\ W}_{it}) + b_3 \text{PPS}_{it} + b_4 \ln(\text{DOWN}_{it}) + b_5 \text{UNDI}_{it} + b_6 \text{DUAL}_{it} + b_7 \ln(\text{BRDSZE}_{it}) + b_8 \text{MEET}_{it} + b_9 \ln(\text{CEO\ AGE}_{it}) + b_{10} \ln(\text{CEOTEN}_{it}) + b_{11} \text{MKBK} + b_{12} \text{CAP}_{it} + b_{13} \text{CAR}_{it} + b_{14} \ln(\text{SIZ}_{it}) + \sum_{i=1}^{N} b_{\text{CUSIP}(i)}\text{CUSIP}_{it} + e_{it}
\]  

(4) and
\[ \text{DLLP}_t = b_1 \text{NDLLP}_t + b_2 \ln(\text{CEOW}_t) + b_3 \text{PPS}_t + b_4 \ln(\text{DOWN}_t) + b_5 \text{UNDI}_t + b_6 \text{DUAL}_t + b_7 \ln(\text{BRDSZE}_t) + b_8 \text{MEET}_t + b_9 \ln(\text{CEOAGE}_t) + b_{10} \ln(\text{CEOTEN}_t) + b_{11} \text{MKBK} + b_{12} \text{CAP}_t + b_{13} \text{CAR}_t + b_{14} \ln(\text{SIZ}_t) + \sum_{i=1}^{N} b_{\text{CUSIP}(i)} \text{CUSIP}_t + e_t \]  

where CUSIP is the CRSP CUSIP number for each bank. As stated above, fixed effects methodology allows each firm to have its own intercept in the regression. Other variable definitions are described above.

4. Results

4.1. Operating Pretax Cash Flow Return on Assets

Table 3 presents regression results of bank financial performance as a function of the corporate governance and bank specific variables discussed above. These regressions examine how financial performance relates to the same set of variables as the discretionary loan loss provisions. We measure firm performance as operating pretax cash flow return on assets (OPCF). The cash flow ROA values in these regressions are based on reported earnings, i.e., without adjustment for discretionary (or non-discretionary) loan loss provisions. Regression 1 includes non-discretionary loan loss provisions as an independent variable, while regression 2 omits this variable. The results using either regression are highly similar.

The coefficient on the level of non-discretionary loan loss provisions is negative (-0.6503) and significant at the one percent level. Not surprisingly, the regression coefficient implies that an increase in the level of loans past due 90 days and the level of loans not accruing interest decreases the OPCF of the bank.

Consistent with previous literature on corporate governance and firm performance, we find that higher levels of CEO stock ownership, CEO pay-for-performance sensitivity, stock ownership of the board of directors, and independent outsiders on the board are all associated with higher OPCFs. The coefficients on these variables are all positive and highly significant. For example, in regression 1 the coefficient on the fraction of shares owned by the CEO is 0.0283 and is significant at the five percent level. The coefficient on the fraction of the CEO’s pay-for-performance sensitivity is 0.0099, significant at the five percent level. The coefficient on the fraction of the shares owned by the board of directors is 0.0209, significant at the five percent level. Finally, the coefficient on the fraction of the board composed of independent outside directors
is 0.0820 and is significant at the one percent level. These results suggest that stronger CEO ties to stock ownership and greater monitoring by boards of directors result in improved operating performance. Other characteristics of the board of directors have no significant impact on bank performance. The coefficients on the CEO/Chair duality dummy, board size, and CEO age and tenure are all insignificant.

Notice also the coefficients on the bank specific control variables. The coefficient on the market-to-book ratio and capital ratio are positive (0.0055 and 0.3110, respectively, in regression 1) and significant at the one percent level. Not surprisingly, banks with high market-to-book and capital ratios perform better. Also, not surprising is that the firm fixed-effects (CUSIP) are significant the one percent level in all regressions, with F-statistics above 10.

Broadly speaking, the regressions in Table 3 are consistent with previous research on firm performance and corporate governance. That is, performance improves with monitoring by independent board members, CEO and board member stock ownership, and CEO pay-for-performance compensation.

4.2. Discretionary Loan Loss Provisions

Table 4 presents results on the use of discretionary loan loss provisions to manage earnings. Discretionary loan loss provisions in this table are estimated from equation (3) above. In regressions 1 and 2, the dependent variable is discretionary loan loss provisions as a percent of assets, while in regressions 3 and 4 the dependent variable is the absolute value of discretionary loan loss provisions. Results using either measure of earnings management are highly similar. Regressions 1 and 3 include non-discretionary loan loss provisions as an independent variable, while regressions 2 and 4 omit this variable.

Notice first that the greater the level of non-discretionary loan loss provisions (NDLLP) a bank records, the fewer discretionary loan loss provisions it records (coefficients are −0.4356 and −0.4505 in regressions 1 and 3, respectively, both are significant at better than a one percent level). Thus, as the level of truly “bad” loans increases, bank managers are less likely to record discretionary loan losses—further decreasing the bank’s income. Notice also that the impact on signed and absolute discretionary loan loss provisions is effectively the same, suggesting that in this period, earnings management was largely one-
sided. This similarity in results for signed and absolute discretionary loan loss provisions is true for all variables and all regressions.

Table 4 also shows that CEO stock ownership and pay-for-performance sensitivity are negatively related to the use of discretionary loan loss provisions to inflate earnings. The coefficients on CEOW (ranging from -0.0370 to -0.0435) and PPS (ranging from -0.0075 to -0.0091) are all negative and significant at better than the five percent level. Thus, when CEOW and PPS are high, managers will lower the levels of DLLP to inflate earnings and vice versa. CEO stock ownership and pay-for-performance compensation contracts, which greatly accelerated in the period of study, seems to have accelerated the use of discretionary loan loss provisions to inflate earnings.

Further, stock ownership by the full board is significantly related to the use of discretionary loan loss provisions to inflate earnings. The coefficients on DOWN are all negative and significant at better than the ten percent level (ranging from -0.0132 to -0.0159). Thus, when stock ownership of the full board is high, managers will lower the levels of DLLP to inflate earnings and vice versa.

Board composition also significantly affects earnings management. The fraction of the board composed of independent outside directors has a positive and significant impact on earnings management. Again, the point estimates in the two specifications are highly consistent. The coefficients on the fraction of the board composed of independent directors range from 0.0644 to 0.0709 and are all significant at better than the one percent level. Thus, increasing the percentage of independent directors on the board is associated with a reduced usage of discretionary loan loss provisions to increase net income.

CEOs/chairs duality is significantly related to the use of discretionary loan loss provisions. The coefficients on DUAL are all negative and significant at better than the five percent level (ranging from -0.0188 to -0.0209). Thus, when the CEO is also the board chair, the bank is more likely to record fewer discretionary loan loss provisions—and as a result inflate net income. Other governance variables have little impact on discretionary loan loss provisions: coefficients on board size, number of board meetings per year, CEO age, and CEO tenure are all insignificantly related to the level of discretionary loan loss provisions.
With respect to bank specific variables, Table 4 shows that the higher the market-to-book ratio of the bank, the greater the use of discretionary loan loss provisions to inflate earnings. The coefficients on MKBK are all negative and significant at better than the one percent level (ranging from -0.0097 to -0.0119). As the market to book ratio is a proxy for growth, faster growing banks are more likely to record fewer discretionary loan loss provisions—thus, inflating net income. In contrast, the coefficients on capital ratio and bank asset size are positive and significantly related to the level of discretionary loan loss provisions. Better capitalized banks are less likely to artificially inflate income using discretionary loan loss provisions. Further, with analysts and regulators evaluating their performance, we find that large banks are less likely to artificially inflate income using discretionary loan loss provisions. Again, the firm fixed-effects (CUSIP) are significant the 1 percent level in all regressions, with F-statistics above 9.

Summarizing the results of Table 4, we find that banks record fewer discretionary loan loss provisions (thus, inflating net income) when they have high non-discretionary loan loss provisions and high market-to-book ratios. In contrast, they record more discretionary loan loss provisions (thus, reducing net income) when they have larger capital ratios and are bigger in asset size. Further, the use of discretionary loan loss provisions to inflate earnings is significantly related to the fraction of shares owned by the bank’s CEO, the fraction of shares owned by all directors, the existence of CEO/chair duality, and the CEO’s pay-for-performance sensitivity. However, this practice is found to be significantly reduced when the board is composed of more independent outside directors. Thus, while bank managers appear to use discretionary loan loss provisions to manage earnings and increase their earnings and personal wealth, corporate governance mechanisms can be incorporated to effectively constrain discretion in earnings management.

Table 4 shows that while earnings management diminishes with independent board member monitoring, it increases with CEO and board stock ownership and CEO pay-for-performance compensation schemes. This implies that the use of discretionary loan loss provisions to manage earnings will be more responsive to “unmanaged performance,” i.e., operating performance calculated from earnings adjusted for discretionary loan loss provisions.

4.3. Unmanaged Operating Pretax Cash Flow Return on Assets
Table 5 repeats the analysis of Table 4, but replaces non-discretionary loan loss provisions (NDLLP) with unmanaged operating pretax cash flow return on assets (UROA). UROA is calculated as OPCF based on reported earnings plus discretionary loan loss provisions. The coefficient on UROA is 0.0846, which is significant at the one percent level. Thus, banks increase their recording of discretionary loan loss provisions when unmanaged ROA is high and vice versa. It appears, therefore, that banks use discretionary loan loss provisions to directly manage earnings. Similar to Table 4, the use of discretionary loan loss provisions to inflate earnings is highest when CEO and board stock ownership is high, when CEO pay-for-performance is high and when the fraction of independent outsiders on the board of directors is low. However, in all but one case (fraction of shares owned by the board) the coefficients are larger and significance levels are higher than when core loan loss provisions (NDLLP) are used in the analysis.

5. Conclusion

This paper examines earnings management at the largest publicly traded bank holding companies in the United States. The results suggest corporate governance plays at least some role in earnings and earnings management at these large banks. Specifically, we find that the use of discretionary loan loss provisions is positively related to a bank’s unmanaged cash flow returns, capital ratios, and asset size. In contrast, the use of discretionary loan loss provisions is negatively related to a bank’s non-discretionary loan loss provisions and market-to-book ratios. Further, the use of discretionary loan loss provisions to manage earnings is significantly related to the fraction of shares owned by the bank’s CEO, the fraction of shares owned by all directors, the existence of CEO/chair duality, and the CEO’s pay-for-performance sensitivity. However, this practice is found to be significantly reduced when the board is composed of more independent outside directors. For the sample of large banks examined in this paper, the much of the earnings management results in an increase in net income. Thus, while bank managers appear to use discretionary loan loss provisions to increase earnings and, subsequently, their own personal wealth, corporate governance mechanisms can be incorporated to effectively constrain discretion in earnings management.
Footnotes

1 At the extreme, earnings management has resulted in some widely-reported accounting scandals involving Enron, Merck, WorldCom, and other major U.S. corporations. Congress responded to the spate of corporate scandals that emerged after 2001 with the Sarbanes-Oxley Act, passed in June 2002. Sarbanes-Oxley requires public companies to make sure their boards’ audit committees have experience with applying generally accepted accounting principles (GAAP) for estimates, accruals, and reserves.

2 Guidry et al. (1999) use data from businesses’ unit level rather than firm level and find evidence consistent with Healey’s bonus manipulation effects. Gaver et al. (1995), who study discretionary accruals rather than total accruals, also conclude that earnings are managed, but to smooth income rather than manipulate bonuses. Goel and Thakor (2003) outline theoretical circumstances upon which earnings management (in the form of earnings smoothing) creates value for shareholders. In their model, the higher the volatility of the underlying stock, the greater incentive informed investors have to gather information and profit at the expense of liquidity traders. Thus, earnings smoothing by managers reduce volatility in an effort to protect uninformed investors. This line of reasoning suggests that managers smooth earnings more when their compensation is tied to long-term (i.e., sustained) firm performance. Even then, however, the resulting impact is unclear as option value increases with volatility. Thus, managers may want to “roughen” earnings as their options near maturity (rather then unwaveringly smoothing earnings). Finally, Holthausen et al. (1995) also conclude that managers may use accruals to shift earnings over time with the goal of maximizing long-term bonus income.

3 For example, Teoh, Welch, and Wong (1998a, 1998b) find that firms with more aggressive accrual policies prior to IPOs and SEOs tend to have poorer post-issue stock price performance than firms with less aggressive accounting policies. Their results suggest that earnings management inflates stock prices prior to the IPO or SEO. Similarly, DuCharme et al. (2004) find that managers artificially prop up earnings prior to stock offerings in an effort to maximize the net benefit of a stock offering to existing shareholders at the expense of new shareholders. They find that, subsequent to stock offerings, returns are negatively related to the abnormal accruals of the firms. Finally, Beneish and Vargus (2002) find that periods of abnormally high accruals (which inflate earnings) are associated with increases in insider sales of shares and that after the “event period,” stock returns tend to be poor.

4 Given that CEO equity ownership is not completely under the direct control of the compensation committee, we include it separately.

5 BHC values are the values generated by accumulating those values associated with unit banks at their highest BHC identifier.

6 Of the 54 sample BHC’s that were acquired, 47 were acquired by BHC’s in the sample, five were acquired by foreign firms, and two were acquired by U.S. BHC’s not in the sample. All banks were free from financial distress at the time of merger. Further, there were no failures among any of the sample banks.

7 OPCF offers several advantages over Tobin’s \(q\), an alternative measure of firm performance. Whereas Tobin’s \(q\) reflects growth opportunities (and, more generally, expectations of the firm’s prospects in future years) through the impact of these factors on market value, cash flow return on assets is a more focused measure of current performance. For example, the Tobin’s \(q\) of a poorly performing firm might be inflated by expectations of a premium bid in a corporate takeover. Regressions of Tobin’s \(q\) on institutional ownership are more susceptible to endogeneity problems if institutions are attracted to growth stocks or chase recent stock-market winners. These sorts of considerations do not affect OPCF as a measure of financial performance since operating performance is not tied to stock prices.
Managerial judgment must be based on a “reviewable record” as noted in the Chicago Federal Reserve’s Call Report dictionary in its description of Item 4230: Provision for Loan and Lease Losses. The objective of the item is said to “…bring the balance in ‘Allowance for Loan and Lease Losses (3123)’ to an adequate level…”

Since we are looking at only banks and specifically only the largest banks, we do not industry adjust.

We use loans 90 days past due and still accruing interest because this is the only such variable available for all years in the study. For example, loans 30–89 days past due and still accruing interest are available only after 2000.

Kothari et al. (2005) analyze the properties of the traditional Jones model. They show that to use this model, outliers need to be truncated or winsorized during the initial estimation stage. Accordingly, we truncate each variable at the first and ninety-ninth percentile.

For brevity we include only the average coefficient, t-statistic, and adjusted R-squared values. Actual R-squared values range from 69.0% to 88.9%, the coefficients associated with NONACRU are significant at better than the ninety-ninth percentile for each yearly estimate, and the coefficients associated with 90DAY are significant at better than the ninety-ninth percentile six out of nine years, at better than the ninety-fifth percentile once, and are insignificant twice. The specific results are available from the authors on request.

Over long periods of time, discretionary accruals will reverse. Strategic time-shifting of income will result in abnormally high accruals in some periods and low accruals in others. In other contexts, however, there is a clear presumption concerning the desired direction of earnings management: for example, when there are incentives to increase the stock price in anticipation of options exercises. Moreover, using a time period common to our study, Bergstresser and Philippon (2004) document a strong secular increase in accruals, suggesting a one-sided incentive to raise reported earnings, consistent with a systematic and increasing bias toward inflation of earnings rather than simple transfers of earnings across time. We provide results on both signed and absolute discretionary accruals.

The negative mean value for PPS seems to imply that greater pay-performance sensitivity results in reduced firm values, which is counter-intuitive. This value, however, is the result of outliers. Regression analysis is conducted with these outliers trimmed from the sample.

Examples of relationships include lawyers who perform legal services for the bank, property owners who lease property to the bank, directors with family relationships to insiders, and instances where the bank CEO sits on the board of directors of a company run by a bank director.

Independent outside directors are directors listed in proxy statements as managers in an unaffiliated non-financial firm, managers of an unaffiliated bank or insurance company, retired managers of another company, lawyers unaffiliated with the firm, and academics unaffiliated with the firm.

In the regression analysis below, we trim extreme data points, eliminating the top and bottom one percent of observations for each right-hand side variable. Therefore, the number of data points in our regressions is somewhat less than 595.
Table 1
Call Report Availability for the Largest 100 Bank Holding Companies
Between 1994 and 2000

This table presents post-1993 year-end availability of call report data for a sample of large bank holding companies (BHC’s). The original sample is the 100 largest BHC’s based on 1993 year-end book value of total assets. BHC data is formed by accumulating bank level Report of Condition data at the high holding company level. Data are retrieved from the Chicago Federal Reserve’s Web-site.

<table>
<thead>
<tr>
<th>Year</th>
<th>BHC's</th>
</tr>
</thead>
<tbody>
<tr>
<td>1994</td>
<td>95</td>
</tr>
<tr>
<td>1995</td>
<td>88</td>
</tr>
<tr>
<td>1996</td>
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<td>2001</td>
<td>47</td>
</tr>
<tr>
<td>2002</td>
<td>46</td>
</tr>
</tbody>
</table>
Data were obtained from bank level Report of Income and Report of Condition data tapes available on the Chicago Federal Reserve’s Web-site, the Chicago Fed’s merger databases, CRSP files, ExecuComp, and proxy statements accessed via LEXIS/NEXIS. The sample begins with the 100 largest BHC’s measured by 1993 year-end total assets. Because of mergers, only 46 BHC’s remain in 2002. **OPCF** is the operating pretax cash flow return on assets. **LLP/TA** is the loan loss provisions to total assets. **90DAY/TA** is the amount of loans over 90 days past due and still accruing interest to total assets. **NONACRU/TA** is the level of non-accruing loans to total assets. **DLLP** is discretionary loan loss provisions estimated by subtracting **NDLLP** (non-discretionary loan loss provisions) from the actual loan loss provisions standardized by total year-end assets. **NDLLP** is derived by first using the 100 largest BHC’s not in the sample to estimate the following equation each year: 

$$\text{LLP/TA} = \gamma_1 \frac{1}{TA} + \gamma_2 \frac{90\text{DAY/TA}}{TA}$$

where LLP is loan loss provisions, TA is total assets, 90DAY is loans over 90 days old and still accruing interest, and $\gamma_1$ and $\gamma_2$ are the parameters estimated. **NDLLP** is estimated for the sample of BHC’s as: 

$$\text{NDLLP} = \gamma_1 \frac{1}{TA} + \gamma_2 \frac{90\text{DAY/TA}}{TA},$$

where $\gamma_1$ and $\gamma_2$ are the parameter estimates from above. **UROA** = OPCF + DLLP. **CEOW** is the percentage of total shares outstanding owned by the CEO, **PPS** is the pay performance sensitivity of the CEO as measured by the change in the CEO’s total annual compensation for every thousand dollar change in total shareholder wealth during the year. **DOWN** is the percentage of total shares outstanding owned by the full board of directors. **INDI** is the percentage of directors who are insiders, **AFDI** is the percentage of directors who are affiliated with the BHC, **UNDI** is the percentage of directors who are unaffiliated with the BHC, **BDSIZ** is the number of directors, **MEET** is the number of board meetings per year. **CEOAGE** is the age of the CEO and **CEOTEN** is the number of years since CEO assumed the position of CEO. **DUAL** is a dummy variable equal to one if the CEO is also the chairman of the board and zero otherwise. **MKBK** is the year-end market value of equity divided by the year-end book value of equity, **CAP** is the Tier 1 capital ratio, **CAR** is the yearly cumulative abnormal common stock returns with the CAR’s based on estimates from the market model using the three preceding years monthly data, **SIZ** is the year-end book value of assets.

### Table 2

**Summary Statistics for Large Bank Holding Companies Between 1994 and 2002**

<table>
<thead>
<tr>
<th>Panel A: Descriptive Statistics on Earnings and Earnings Management Variables</th>
<th>Average</th>
<th>Median</th>
<th>Std Dev</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPCF (%)</td>
<td>2.29</td>
<td>2.19</td>
<td>0.83</td>
<td>0.19</td>
<td>8.31</td>
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<tr>
<td>LLP/TA (%)</td>
<td>0.33</td>
<td>0.25</td>
<td>0.35</td>
<td>-1.17</td>
<td>2.57</td>
<td>594</td>
</tr>
<tr>
<td>90DAY/TA (%)</td>
<td>0.18</td>
<td>0.13</td>
<td>0.19</td>
<td>0.00</td>
<td>2.51</td>
<td>594</td>
</tr>
<tr>
<td>NONACRU/TA (%)</td>
<td>0.18</td>
<td>0.34</td>
<td>0.26</td>
<td>0.00</td>
<td>1.48</td>
<td>594</td>
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<td>NDLLP (%)</td>
<td>0.28</td>
<td>0.24</td>
<td>0.20</td>
<td>-0.01</td>
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<td>DLLP (%)</td>
<td>0.01</td>
<td>0.01</td>
<td>0.17</td>
<td>-0.67</td>
<td>0.85</td>
<td>550</td>
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<td>UROA (%)</td>
<td>2.23</td>
<td>2.17</td>
<td>0.68</td>
<td>-0.12</td>
<td>7.05</td>
<td>550</td>
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</table>

<table>
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<tr>
<th>Panel B: Descriptive Statistics on Corporate Governance Variables</th>
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<th>Median</th>
<th>Std Dev</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Total</th>
</tr>
</thead>
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<tr>
<td>CEOW (%)</td>
<td>2.70</td>
<td>0.51</td>
<td>7.94</td>
<td>0.00</td>
<td>59.17</td>
<td>595</td>
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<td>PPS</td>
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<td>45.49</td>
<td>-804.55</td>
<td>74.46</td>
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</tr>
<tr>
<td>DOWN (%)</td>
<td>4.20</td>
<td>1.72</td>
<td>8.09</td>
<td>0.02</td>
<td>62.50</td>
<td>595</td>
</tr>
<tr>
<td>INDI (%)</td>
<td>17.14</td>
<td>15.79</td>
<td>9.72</td>
<td>4.17</td>
<td>87.50</td>
<td>595</td>
</tr>
<tr>
<td>AFDI (%)</td>
<td>16.34</td>
<td>14.29</td>
<td>11.70</td>
<td>0.00</td>
<td>53.33</td>
<td>595</td>
</tr>
<tr>
<td>UNDI (%)</td>
<td>66.52</td>
<td>68.75</td>
<td>15.08</td>
<td>0.00</td>
<td>93.33</td>
<td>595</td>
</tr>
<tr>
<td>BDSIZ</td>
<td>16.34</td>
<td>16.00</td>
<td>4.62</td>
<td>3</td>
<td>31</td>
<td>595</td>
</tr>
<tr>
<td>MEET</td>
<td>8.40</td>
<td>8.00</td>
<td>3.03</td>
<td>1</td>
<td>18</td>
<td>594</td>
</tr>
<tr>
<td>CEOAGE (yrs)</td>
<td>56.48</td>
<td>56.00</td>
<td>6.36</td>
<td>32</td>
<td>76</td>
<td>595</td>
</tr>
<tr>
<td>CEOTEN (yrs)</td>
<td>6.51</td>
<td>5.00</td>
<td>5.47</td>
<td>0</td>
<td>27</td>
<td>510</td>
</tr>
<tr>
<td>DUAL (CEO=Chair)</td>
<td>103 no</td>
<td>492 yes</td>
<td></td>
<td></td>
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<table>
<thead>
<tr>
<th>Panel C: Descriptive Statistics for BHC Variables</th>
<th>Average</th>
<th>Median</th>
<th>Std Dev</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>MKBK (X)</td>
<td>2.47</td>
<td>2.14</td>
<td>1.20</td>
<td>0.70</td>
<td>7.73</td>
<td>470</td>
</tr>
<tr>
<td>CAP (%)</td>
<td>7.57</td>
<td>7.42</td>
<td>1.25</td>
<td>5.00</td>
<td>16.09</td>
<td>594</td>
</tr>
<tr>
<td>CAR (%)</td>
<td>0.21</td>
<td>1.22</td>
<td>28.77</td>
<td>-66.95</td>
<td>114.88</td>
<td>588</td>
</tr>
<tr>
<td>SIZ (billions $)</td>
<td>58.23</td>
<td>21.30</td>
<td>100.66</td>
<td>3.55</td>
<td>655.48</td>
<td>594</td>
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</table>
Table 3

Operating Pretax Cash Flow Return on Assets as a Function of Governance and Compensation Variables for a Sample of Large Bank Holding Companies Over the Period 1994 – 2002

Variations of the following regressions are estimated:

\[
\text{OPCF}_{it} = b_1 \text{NDLLP}_{it} + b_2 \ln(\text{CEOW}_{it}) + b_3 \text{PPS}_{it} + b_4 \ln(\text{DOWN}_{it}) + b_5 \text{UNDI}_{it} + b_6 \text{DUAL}_{it} + \\
\quad b_7 \ln(\text{BRDSZE}_{it}) + b_8 \text{MEET}_{it} + b_9 \ln(\text{CEOAGE}_{it}) + b_{10} \ln(\text{CEOTEN}_{it}) + b_{11} \text{MKBK} + b_{12} \text{CAP}_{it} + \\
\quad b_{13} \text{CAR}_{it} + b_{14} \ln(\text{SZE}_{it}) + \sum_{i=1}^{N} b_{\text{CUSIP}(i)} \text{CUSIP}_{it} + e_{it}
\]

where \(\text{OPCF}_{it} = \) Operating cash-flow return on assets for bank \(i\) in year \(t\). \(t\)-values are in parentheses.

<table>
<thead>
<tr>
<th>EXPLANATORY VARIABLE</th>
<th>REGRESSION 1</th>
<th>REGRESSION 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-discretionary loan loss provisions (NDLLP)</td>
<td>-0.6503</td>
<td>0.0306</td>
</tr>
<tr>
<td>Natural log of fraction of shares owned by CEO (CEOW)</td>
<td>0.0283</td>
<td>0.0306</td>
</tr>
<tr>
<td>The pay-for-performance sensitivity of the CEO (PPS)</td>
<td>0.0099</td>
<td>0.0117</td>
</tr>
<tr>
<td>Natural log of fraction of shares owned by all directors (DOWN)</td>
<td>0.0209</td>
<td>0.0229</td>
</tr>
<tr>
<td>Fraction of board composed of independent outside directors (UNDI)</td>
<td>0.0820</td>
<td>0.0868</td>
</tr>
<tr>
<td>CEO duality dummy (DUAL)</td>
<td>-0.0043</td>
<td>-0.0053</td>
</tr>
<tr>
<td>\ln(\text{Board size}) (BRDSZE)</td>
<td>-0.0026</td>
<td>-0.0029</td>
</tr>
<tr>
<td>Number of board meetings per year (MEET)</td>
<td>0.0009</td>
<td>0.0011</td>
</tr>
<tr>
<td>\ln(\text{CEO age}) (CEOAGE)</td>
<td>0.0085</td>
<td>0.0077</td>
</tr>
<tr>
<td>\ln(\text{CEO tenure}) (CEOTEN)</td>
<td>0.0091</td>
<td>0.0099</td>
</tr>
<tr>
<td>Market to book ratio (MKBK)</td>
<td>0.0055</td>
<td>0.0062</td>
</tr>
<tr>
<td>Capital ratio (CAP)</td>
<td>0.3110</td>
<td>0.3216</td>
</tr>
<tr>
<td>Cumulative abnormal stock return (CAR)</td>
<td>0.0057</td>
<td>0.0064</td>
</tr>
<tr>
<td>Natural log of size (SIZ)</td>
<td>-0.0022</td>
<td>-0.0019</td>
</tr>
<tr>
<td>R-squared (adjusted)</td>
<td>40.8</td>
<td>38.8</td>
</tr>
<tr>
<td>CUSIP F Value</td>
<td>10.19***</td>
<td>10.03***</td>
</tr>
</tbody>
</table>

* Significant at better than the 10% level.
** Significant at better than the 5% level.
*** Significant at better than the 1% level.
Table 4
Discretionary Loan Loss Provisions for a Sample of Large Bank Holding Companies
Over the Period 1994 – 2002

Variations of the following regressions are estimated:

\[
\text{DLLP}_t = b_1 \text{NDLLP}_t + b_2 \ln(\text{CEOW}_t) + b_3 \text{PPS}_t + b_4 \ln(\text{DOWN}_t) + b_5 \text{UNDI}_t + b_6 \text{DUAL}_t +
\]

\[
b_7 \ln(\text{BRDSZE}_t) + b_8 \text{MEET}_t + b_9 \ln(\text{CEOAGE}_t) + b_{10} \ln(\text{CEOTEN}_t) + b_{11} \text{MKBK} + b_{12} \text{CAP}_t + b_{13} \text{CAR}_t + b_{14} \ln(\text{SZE}_t) + \sum_{i=1}^{N} b_{\text{CUSIP}(i)} \text{CUSIP}_t + e_t
\]

where t-values are in parentheses. Regressions 1 and 2 are based on DLLP, and regression 3 and 4 are based on the absolute value of DLLP.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>REGRESSION 1</td>
<td>REGRESSION 2</td>
</tr>
<tr>
<td>Non-discretionary loan provisions (NDLLP)</td>
<td>-0.4356 (-7.94)***</td>
<td>-0.4505 (-8.15)***</td>
</tr>
<tr>
<td>Natural log of fraction of shares owned by CEO (CEOW)</td>
<td>-0.0370 (-2.53)***</td>
<td>-0.0398 (-2.60)***</td>
</tr>
<tr>
<td>The pay-for-performance sensitivity of the CEO (PPS)</td>
<td>-0.0088 (-2.22)**</td>
<td>-0.0091 (-2.27)**</td>
</tr>
<tr>
<td>Natural log of fraction of shares owned by all directors (DOWN)</td>
<td>-0.0138 (-1.97)*</td>
<td>-0.0132 (-1.89)*</td>
</tr>
<tr>
<td>Fraction of board composed of independent outside directors (UNDI)</td>
<td>0.0709 (3.83)***</td>
<td>0.0701 (3.79)***</td>
</tr>
<tr>
<td>CEO duality dummy (DUAL)</td>
<td>-0.0188 (-2.44)**</td>
<td>-0.0199 (-2.60)**</td>
</tr>
<tr>
<td>ln(Board size) (BRDSZE)</td>
<td>-0.0038 (-0.22)</td>
<td>-0.0045 (-0.27)</td>
</tr>
<tr>
<td>Number of board meetings per year (MMET)</td>
<td>0.0003 (0.17)</td>
<td>0.0005 (0.20)</td>
</tr>
<tr>
<td>ln(CEO age) (CEOAGE)</td>
<td>0.0044 (0.43)</td>
<td>0.0040 (0.42)</td>
</tr>
<tr>
<td>ln(CEO tenure) (CEOTEN)</td>
<td>-0.0197 (-0.86)</td>
<td>-0.0208 (-0.89)</td>
</tr>
<tr>
<td>Market to book ratio (MKBK)</td>
<td>-0.0097 (-2.75)***</td>
<td>-0.0101 (-2.81)***</td>
</tr>
<tr>
<td>Capital ratio (CAP)</td>
<td>0.1528 (2.48)***</td>
<td>0.1521 (2.45)**</td>
</tr>
<tr>
<td>Cumulative abnormal stock return (CAR)</td>
<td>0.0081 (0.84)</td>
<td>0.0085 (0.87)</td>
</tr>
<tr>
<td>Natural log of size (SIZ)</td>
<td>0.0066 (2.99)***</td>
<td>0.0071 (3.03)***</td>
</tr>
<tr>
<td>R-squared (adjusted)</td>
<td>43.5</td>
<td>42.3</td>
</tr>
<tr>
<td>CUSIP F Value</td>
<td>10.06***</td>
<td>9.28***</td>
</tr>
</tbody>
</table>

* Significant at better than the 10% level.
** Significant at better than the 5% level.
*** Significant at better than the 1% level.
The following regression is estimated:

$$DLLP_{it} = b_1UROA_{it} + b_2\ln(CEOW_{it}) + b_3PPS_{it} + b_4\ln(DOWN_{it}) + b_5UNDI_{it} + b_6DUAL_{it} +$$

$$b_7\ln(BRDSZE_{it}) + b_8MEET_{it} + b_9\ln(CEOAGE_{it}) + b_{10}\ln(CEOTEN_{it}) + b_{11}MKBK + b_{12}CAP_{it} +$$

$$b_{13}CAR_{it} + b_{14}\ln(SZE_{it}) + \sum_{i=1}^{N} b_{CUSIP(i)}CUSIP_{it} + e_{it}$$

where $UROA_{it} =$ unmanaged OPCF for bank $i$ in year $t$. t-values are in parentheses.

<table>
<thead>
<tr>
<th>EXPLANATORY VARIABLE</th>
<th>REGRESSION 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unmanaged Cash-flow Return on Assets (UROA)</td>
<td>0.0846</td>
</tr>
<tr>
<td></td>
<td>(8.43)***</td>
</tr>
<tr>
<td>Natural log of fraction of shares owned by CEO (CEOW)</td>
<td>-0.0426</td>
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<td>(-2.85)**</td>
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<tr>
<td>The pay-for-performance sensitivity of the CEO (PPS)</td>
<td>-0.0091</td>
</tr>
<tr>
<td></td>
<td>(-2.32)**</td>
</tr>
<tr>
<td>Natural log of fraction of shares owned by all directors (DOWN)</td>
<td>-0.0127</td>
</tr>
<tr>
<td></td>
<td>(-1.85)*</td>
</tr>
<tr>
<td>Fraction of board composed of independent outside directors (UNDI)</td>
<td>0.0784</td>
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<tr>
<td></td>
<td>(3.95)***</td>
</tr>
<tr>
<td>CEO duality dummy (DUAL)</td>
<td>-0.0198</td>
</tr>
<tr>
<td></td>
<td>(-2.51)**</td>
</tr>
<tr>
<td>ln(Board size) (BRDSZE)</td>
<td>-0.0043</td>
</tr>
<tr>
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<td>(-0.25)</td>
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<tr>
<td>Number of board meetings per year (MEET)</td>
<td>0.0011</td>
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<tr>
<td></td>
<td>(0.28)</td>
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<tr>
<td>ln(CEO age) (CEOAGE)</td>
<td>0.0034</td>
</tr>
<tr>
<td></td>
<td>(0.38)</td>
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<td>ln(CEO tenure) (CEOTEN)</td>
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<td>(-0.91)</td>
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<tr>
<td>Market to book ratio (MKBK)</td>
<td>-0.0089</td>
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<tr>
<td></td>
<td>(-2.69)***</td>
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<tr>
<td>Capital ratio (CAP)</td>
<td>0.1591</td>
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<td>(2.69)**</td>
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<tr>
<td>Cumulative abnormal stock return (CAR)</td>
<td>0.0089</td>
</tr>
<tr>
<td></td>
<td>(0.87)</td>
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<tr>
<td>Natural log of size (SIZ)</td>
<td>0.0072</td>
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<tr>
<td></td>
<td>(3.04)***</td>
</tr>
<tr>
<td>R-squared (adjusted)</td>
<td>46.8</td>
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<tr>
<td>CUSIP F Value</td>
<td>10.63***</td>
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* Significant at better than the 10% level.
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*** Significant at better than the 1% level.
REFERENCES


Dunn, D.J., 1987, Directors aren’t doing their jobs, Fortune (March), 117-119.


Jensen, M., and K. Murphy, 1990b, CEO incentives it’s not how much you pay, but how, *Journal of Applied Corporate Finance* 3, 36-49.


