Bankers on Boards, Financial Constraints, and Financial Distress*

Karlyn Mitchell
Department of Business Management
North Carolina State University
Campus Box 7229
Raleigh, NC 27695-7229

phone: 919.515.5593
e-mail: karlyn_mitchell@ncsu.edu

Mark D. Walker
Department of Business Management
North Carolina State University
Campus Box 7229
Raleigh, NC 27695-7229

phone: 919.513.0504
e-mail: mdwalker@ncsu.edu

March 2008

ABSTRACT

We investigate determinants of bankers' presence on boards of non-financial corporations, factors contributing to their appointments, and bankers' effect on leverage, investment, and Tobin's Q following board-appointments. We use a unique data set comprising financially-distressed, undistressed, constrained and unconstrained firms of all asset-sizes. We find banker-board-appointments are positively related to size and negatively related to Q and a measure of financial distress. We find banker-directors contribute to leverage increases if the banker has a previous lending relationship with the firm, especially for relatively more distressed firms. Bankers on boards reduce investment efficiency by reducing (enhancing) investment at firms in high-growth (low-growth) industries. Firms appointing banker-directors show changes in valuations inversely related to their degrees of financial constraint. Firms appointing banker-directors who are also creditors exhibit value declines following their appointments, more so for more distressed firms. In total, banker-directors do not appear to provide value-maximizing advice for the firm.

* We thank participants of the FDIC's Center for Financial Research Seminar Series for helpful comments. We also thank Patricia Grant, Deepak Nair, and Will Quick for their research assistance.

Financial researchers have recently begun to investigate why non-financial corporations appoint commercial bankers to their boards of directors and what affects this choice has on corporate performance and shareholder wealth.[1] Following the suggestion of Fama and Jensen (1983) that outside directors contribute expertise and monitoring services, some researchers have sought to ascertain which of two needs better accounts for bankers' presence on boards: corporations' need for financial experts or their need for monitors of credit relationships (Booth & Deli, 1999; Byrd and Mizruchi, 2005). Other researchers presume banker-directors are appointed chiefly to monitor and address whether they monitor in the best interests of shareholders or of bankers' own employers, who may be creditors of the corporations (Kroszner and Strahan, 2001; Byrd and Mizruchi, 2005; Güner et al, 2006). Researchers have also considered whether banker-appointments are related to appointing corporations' financial conditions, specifically measures of financial constraint (Güner et al, 2006) and financial distress (Kroszner and Strahan, 2001; Byrd and Mizruchi, 2005; Ciamarra 2006). Some recent articles have sought to explain board appointments by investigating the impact of banker-directors after their appointments dates, particularly the impact on leverage (Byrd and Mizruchi, 2005; Guner et al, 2006; and Ciamarra, 2006), investment (Güner et al., 2006), and corporate performance (Güner et al, 2006). Owing to the newness of this line of research, consensus has not yet been reached.

Additional expert financial advice and monitoring should positively impact a firm; however, some recent papers suggest that the presence of a banker on a board could have a dark side (Byrd and Mizruchi, 2005; Guner et al, 2006). If banker-directors do indeed provide advice and monitor, this begs the question of whose interests they truly

[1] See Yermack (2006) for a recent survey of the literature on corporate directors and valuation.

represent. If they represent the interests of debt-holders – as might occur when banker-directors' employers lend to the firms on whose boards bankers sit -- bankers could promote policies at odds with the interests of firms' shareholders, such as rejecting valuable but risky projects and accepting less valuable but lower-risk projects. Banker-directors whose employers do not have lending relations with banker-directors' firms might still prefer lower-risk strategies so as to enhance firms' attractiveness as future borrowers. Moreover, bankers' expertise is in optimizing for fixed-income security holders, not residual claimants. Thus, even where the employers of banker-directors have neither current financial ties nor prospects of garnering financial ties with firms, banker-directors' advice may still not align with maximizing shareholder value.

This paper seeks to contribute to the literature on banker-directors at non-financial corporations by examining the overall impact of banker-director appointments on firms' financing, investing, and valuation. Our aim is to build upon previous research that has addressed some of these questions individually and to do so using as broad a sample possible in order to provide results that are general. Our approach involves a careful combination of data-set construction -- to provide general results free of sample selection bias -- and econometric technique -- to avoid endogeneity that arises because firms choose to appoint bankers to their boards in addition to choosing the financing and investing policies that determine valuation.

Our work proceeds in two steps. In the step one we investigate factors motivating the appointment of banker-directors to boards. Past researchers have suggested that financial conditions, particularly financial constraints and the likelihood of financial distress, are important determinants of banker-director appointments and of banker-

directors' post-appointment behavior. But these researchers employ data only on very large corporations, casting doubt on the generality of their findings. To obtain more general results we assemble a data-sample that includes corporations that are financially constrained, financially unconstrained, financially distressed, and financially undistressed drawn from the universe of Compustat firms with assets exceeding $5 million in 2002. We choose 2002 since it predates the Sarbanes-Oxley encouragement of more financial experts on boards. We draw our sample randomly without direct reference to directors, thereby avoiding sample selection bias. For firms with banker-directors we identify these directors' appointment dates and ascertain whether their employers do have a lending relation with the firm (affiliated banker-director) or do not have a lending relation (unaffiliated banker-director). We end step one by estimating multinomial-logit models of the decision to appoint a banker to the board of directors.

In step two we investigate banker-directors' impacts on polices and performance by shifting from the banker-director appointment event to the two- and three-year windows following this event, using firms that did not appoint bankers as a control group. Using the predicted probability of appointing a banker-director as our instrument for the presence of a banker on the board, we estimate models of leverage, investment, and firm-value to discern a measurable effect attributable to banker-directors.

To preview our results, we find different factors motivate the appointment of affiliated and unaffiliated banker-directors, and different director types have different impacts on leverage, investment and firm-value following appointment. Large firms with low Qs and firms with a low likelihood of entering financial distress are more likely to appoint unaffiliated bankers as directors. Firms with high ROA are more likely to

appoint affiliated bankers as directors; Q and financial distress do not appear to influence affiliated banker appointments.

We find evidence that affiliated banker-directors may significantly impact corporations' leverage following their appointments but that unaffiliated banker-directors do not. In the two- to three-years after appointing an affiliated banker, firms that are more financially distressed or more financially constrained increase their leverage relative to their industry peers; the same is not true of firms that appoint unaffiliated banker-directors.

We also find that by the second year after appointing banker-directors, either affiliated or unaffiliated, firms decrease investment as compared to their industry peers; however the investment decline is not uniform. Specifically, firms with unaffiliated bankers shift the composition of investment, reducing it at firms in high-Q industries and increasing it at firms in low-Q industries. This behavior suggests that unaffiliated banker-directors influence policy towards a lower-risk strategy, not a value-maximizing strategy.

Finally, we find evidence consistent with banker-directors affecting firm-value. Unaffiliated banker-directors appear to enhance value at financially distressed firms but are counterproductive for firms that are financially constrained. Affiliated banker-directors appear to be counterproductive for firms that are financially constrained as well as for firms that are financially distressed. A view consistent with this evidence is that affiliated bankers influence policies to the benefit of bank-directors' employers rather than to firms' shareholders.

In summary, our evidence shows that banker-directors' influence on non-financial firms' policies depend on whether banker-directors' employers are firms' creditors. Affiliated banker-directors appear to influence more strongly firms' financing policies whereas unaffiliated banker-directors appear to affect more strongly firms' investing policies. The preponderance of our evidence suggests that putting either unaffiliated or affiliated bankers on boards is not shareholder wealth-maximizing.

The rest of the paper is organized as follows. Section I briefly reviews the relevant literature. Section II describes our methodology, details the construction of our data-sample, and presents descriptive statistics. Section III presents and discusses our empirical results. Section IV summarizes and concludes our study and suggests avenues for future research.

I. Literature Review

A handful of studies have examined the motivations for and consequences of commercial banker-directors beginning with Booth and Deli (1999), who address whether firms' demand for expertise or monitoring services better explains bankers' presence on boards using a sample from 1990. They conclude that demand for expertise better accounts for bankers on boards than the demand for monitoring services.

Kroszner and Strahan (2001) address whether firms and banker-directors trade off the benefits and costs of bank monitoring. Firms benefit from banker-directors because they certify integrity of monitoring on behalf of creditors; banker-directors benefit by gaining insight into the firm's industry. Costs are two-fold: conflicts of interest when a banker-director is affiliated and exposure of the affiliated bank to litigation from other

creditors in the event the firm becomes financially distressed. To index the proclivity for financial distress they include as explanatory variables the standard deviation of monthly stock-price returns for the four years preceding their sample year of 1992 and the square of this variable. Kroszner and Strahan find that as stock-price volatility rises the probability of a banker-director increases initially, then peaks and declines, consistent with their trade-off hypothesis.

Byrd and Mizruchi (2005) revisit and extend the expertise vs. monitoring debate, addressing whether affiliated banker-directors behave differently than unaffiliated banker-directors by pursuing their own interests over those of shareholders. Notably, Byrd and Mizruchi are the only previous article that we are aware of that has addressed the issue of selection bias by using firm-level characteristics as instruments. Using a sample from the late 1980s, they find that more financially distressed firms, as gauged by the Z-score of Altman (1968), have boards with lower proportions of banker-directors. Additionally, they find that unaffiliated banker-directors increase debt levels in the year following their appointments, especially at less distressed firms, a result they interpret as evidence that banker-directors provide financial expertise and monitoring. They also find that affiliated banker-directors reduce debt levels and firm value regardless of Z-score, a result they interpret to mean that affiliated banker-directors put employers' interests ahead of shareholders'.

Ciamarra (2006) focuses on how affiliated banker-directors affect firms' borrowing. Ciamarra estimates models of bankers' presence on boards and firm leverage using 2000-2002 data. She finds leverage to be positively related to bankers' presence on boards, but only affiliated banker-directors reduce the sensitivity of leverage to tangible

assets and lower borrowing costs, results she interprets as being consistent with banker-directors' monitoring.[2]

Güner et al. (2006) shift the research focus from whether banker-directors supply expertise and monitoring to whether they promote productive investment by reducing financial constraints. They estimate models of investment and loan-size and track Tobin's Q for 288 Forbes 500 firms from 1988 to 2001. They index a corporation's degree of financial constraint using the "KZ" measure developed by Kaplan and Zingales (1997). The preponderance of Güner et al.'s evidence suggests affiliated banker-directors facilitate investment and borrowing at financially unconstrained firms but fail to enhance performance as measured by Q. Like Byrd and Mizruchi (2006), Güner et al. conclude affiliated banker-directors appear not to promote shareholders' interests.

II. Data and Methodology

Investigating the effect of banker-directors poses methodological challenges due to shifting timeframe and data collection issues due to the need for hand-collected data. We need a sample of firms that exhibits diversity with respect to degree of financial distress and financial constraint, firm size and presence of bankers on boards. Data are readily available to draw a diverse sample with respect to distress, constraint and size but data must be hand-collected to draw a diverse sample with respect to the presence of banker-directors. We describe the construction of our data sample in section A and provide descriptive statistics and comparative regressions in section B. We discuss the methodology used to address our research questions in section C.

[2] Like Byrd and Mizruchi (2005) Ciamarra uses Altman's Z to index firms' proclivity for financial distress. She finds that the likelihood of a banker-director on a board is unrelated to Z-score.

A. Sample

Starting with the 2,746 Compustat firms having complete data for our explanatory variables and at least $5 million in assets in 2002 we draw a sample in two steps as illustrated in Figure 1. In step one we draw distressed and undistressed firms based on Ohlson's O-score (Ohlson, 1980), a direct measure of the probability of bankruptcy, with higher O-scores indicative of greater probabilities of bankruptcy.[3] Ohlson's O-score, Θ, is defined in equation (1).

$$\Theta = -1.32 - .409 * \ln(TA_t) + 6.03*(TL_t/TA_t) - 1.43*(WC_t/TA_t) + .076*(CL_t/CA_t) - 1.72*(X) - 2.37*(NI_t/TA_t) - 1.83*(FFO_t/TL_t) + .285*(Y) - .521*[(NI_t - NI_{t-1})/(|NI_t| - |NI_{t-1}|)] \quad (1)$$

where:

TA = Total Assets	CA = Current Assets;
TL = Total Liabilities	X = 1 iff TL>TA, 0 otherwise
WC = Working Capital	NI = Net Income;
CL = Current Liabilities	FFO = Funds from Operations

Y = 1 if a net loss for the last two years, 0 otherwise

We sort the Compustat firms by O-score, form O-score quintiles, and drop the inner quintiles, leaving the top quintile (high-O-score, financially-distressed firms) and bottom quintile (low-O-score, financially undistressed firms). We re-sort firms in the two quintiles by total assets and form asset size deciles. Finally, we draw at random 12 firms per size decile, yielding 120 distressed firms and 120 undistressed firms, sub-samples which resemble the populations of distressed and undistressed firms in the distribution of total assets.

In step two we return to our original 2,746-corporation universe and draw constrained and unconstrained firms. We measure constraint using KZ-score, a measure developed by Kaplan and Zingales (1997) and employed subsequently by Baker, Stein

[3] We use O-score in preference to Altman's Z-score (Altman, 1969) because Begley, Ming, and Watts (1996) find greater support for O-score as a predictor of bankruptcy during their study period, the 1980s.

and Wurgler (2003) and Lamont, Polk and Saa Requejo (2001). Higher KZ-scores indicate greater degrees of financial constraint. KZ-score is computed as shown in equation 2.

$$KZ = -1.001909*[(INCBE + DEP)/PPE] + .2826389*[(TA+ME-CE-DT)/TA] + 3.139193*[(LTD+DCL)/(LTD+DCL+SE)] - 39.3678*[(CDIV+PDIV)/PPE] - 1.314759 * (CASH/PPE) \quad (2)$$

where:

INCBE = Income Before Extraordinary Items
DEP = Depreciation and Amortization
PPE = Property, Plant and Equipment
ME = Market Value of Equity
CE = Common Equity
DT = Deferred Taxes
LTD = Long Term Debt
DCL = Debt in Current Liabilities
SE = Shareholder's Equity
CDIV = Common Dividends
PDIV = Preferred Dividends
CASH = Cash and Short Term Investments

As in step one we sort the Compustat firms by KZ-score, drop the inner quintiles and keep the top quintile (high-KZ-score, financially-constrained firms) and bottom quintile (low-KZ-score, financially-unconstrained firms). Firms that are financially distressed tend also to be financially constrained, but the reverse need not hold. In order to focus on constraint independently of distress we drop firms that rank in both the top KZ-score and top O-score quintiles; for symmetry we do the same for firms ranking in both the bottom KZ- and O-score quintiles. Finally, we sort corporations in the outside quintiles by total assets, form asset-size deciles, and randomly select 12 firms per decile, yielding 120 constrained and 120 unconstrained firms.

For each of our 480 sample firms we hand-collect data on their directors from proxy statements and 10-Ks filed for fiscal 2002. We define a banker-director as a director who is also currently an employee of a commercial bank. Combining these data with Compustat data completes our data set.

A separate methodological issue is the handling of across-industry differences in firms' financial characteristics. Most researchers deal with industry-effects by introducing industry dummies (e.g. Kroszner and Strahan, 2001; Güner et al, 2005; and Ciamarra, 2006). Instead, we industry-adjust individual explanatory variables by subtracting from observations on a variable in a given year the industry-median value of the variable in the same year, with the industries defined by 3-digit SIC codes. In our tests calendar time becomes an issue. Industry-adjusting our variables orthogonalizes our variables with respect to time.

B. Descriptive Statistics and Comparative Regressions

Table 1 shows mean book-assets and mean proportions of firms with banker-directors by asset-size decile and financial condition. All four condition types – distressed, undistressed, constrained and unconstrained – include firms ranging from very small to very large. In every decile the average distressed (constrained) firm is smaller (larger) than the average firm in the other three categories. Bankers are distributed almost uniformly among the deciles for distressed firms, and somewhat less uniformly for undistressed and constrained firms. At unconstrained firms banker-directors are found only on the boards of the largest corporations.

Table 2 presents sample statistics on financial condition and directors for the entire sample and for the four financial-condition-type sub-samples. Constrained firms exhibit higher mean and median KZ-scores than unconstrained firms, as expected from our sample design; analogous statements apply to O-score and distressed and undistressed firms. Univariate tests show distressed firms to be significantly more

constrained than undistressed firms but evidence that constrained firms are more distressed than unconstrained firms is weaker. Distressed and undistressed firms show no difference in the prevalence of banker-directors. Constrained firms have more banker-directors than unconstrained firms.

The last two columns in Table 2 show statistics for S&P 500 and non-S&P500 firms in our sample, a stratification that highlights the uniqueness of our sample compared with prior studies that sample only S&P 500-size firms. Our S&P 500 firms are more constrained than smaller firms but significantly less distressed. About 25% of our S&P 500 firms have boards with bankers, identical to the average reported by Güner et al. (2006) for S&P 500 firms in the last twenty years. Although fewer non-S&P 500 firms have bankers – about 10% – the proportion is non-trivial.

To further benchmark our sample data we use it to produce estimates of models first proposed by prior researchers: we estimate probit versions of models of bankers' presence on boards reported by Booth and Deli (1999; Table 3, p. 238) and Kroszner and Strahan (2001, Table 3, (iv), p. 427) and report the results in our own Table 3. Booth and Deli found banker board-presence at S&P 500 firms to be positively related to firm-size, leverage and an indicator variable for the utility industry but unrelated to Q. We find banker-board presence at our S&P 500 firms to be unrelated to size and leverage but negatively related to Q (equation 3.1). At non-S&P 500 firms we find banker board-presence to be positively related to size, leverage and the utility-industry indicator, like Booth and Deli, but none of the estimated coefficients is significant at conventional levels; also, Q continues to be negatively related to the presence of a banker (equation 3.2).

Kroszner and Strahan found the presence of a banker-director to be positively related to firm size, the ratio of tangible assets to total assets, and the standard deviation of monthly stock returns in the past four years (STD DEV); negatively related to the square of STD DEV and the ratio of short-term to total debt; and unrelated to leverage and access to the commercial paper market. We find banker-directors' presence on the boards of S&P 500 firms to be unrelated to these variables at conventional significance levels, primarily due to the small number of S&P 500 firms in our sample (equation 3.3).

Our S&P 500 firms do exhibit Kroszner and Strahan's key result: positively- and negatively-signed coefficient estimates for STD DEV and squared STD DEV, respectively. Our non-S&P 500 firms exhibit the opposite pattern of signs and the estimated coefficients are statistically significant (STD) or nearly so (squared STD DEV; equation 3.4). We conclude that our data sample produces some of the estimated relationships found by other researchers. For S&P 500 firms, differences between previously published results and ours may owe to differences in calendar time and the design of our sample. Differences in model estimates produced by the S&P 500 and non-S&P 500 subsamples call into question the generality of previously published research.

Table 4 presents univariate statistics for the variables appearing in our subsequent regressions, stratified by the absence or presence of a banker on the board. Univariate statistics are reported for the variables that define KZ- and O-score as well as the KZ- and O-score measures themselves. Since all regressions we report use industry-adjusted data computed by subtracting from firm-level observations the median value of the variable for the firm's 3-digit SIC industry, we report means and medians of industry-adjusted variables.

Compared with non-banker firms, firms with banker-directors are larger than their industry medians, hold lower current ratios, earn greater net income scaled by tangible assets, and generate greater funds flow from operations. The explanatory variables in our models of banker-director appointments (Table 5) and their impact on policies and performance (Tables 6 – 9) are defined using 2001 data for non-banker firms and data from the year before bankers' appointments for our banker firms. Firms that appointed banker-directors are larger and have greater funds flow from operations, relative to industry medians, in the year prior to appointment than the control firms that lack banker-directors.

C. Methodology and Models

We continue our analyses by using a multinomial logit model to estimate the determinants for appointing an unaffiliated banker to the board or appointing an affiliated banker to the board. We define the board member as an affiliated banker if the bank has a lending relationship with the firm at the time of the appointment.

$$\text{Probability (UN-BANKER = 1; AFF-BANKER=1)} = \alpha + \Sigma \gamma_i X_i + \varepsilon \qquad (3)$$

where UN-BANKER to equal one for the appointment of an unaffiliated banker to the board and AFF-BANKER to equal one for an appointment of an affiliated banker to the board. For firms with banker-directors in 2002, we identify the year in which the banker was first appointed using proxy statements and 10Ks; the appointment year is the "base year" for firms with banker-directors in 2002. These firms take the value of zero for the left-hand side variable.

We take Compustat data from the fiscal year prior to the base year, define our explanatory variables and industry-adjust them (the Xs). We compute industry-adjusted explanatory variables for these control firms using 2001 data. By defining our explanatory variables as deviations in firm-level observations from industry medians we mitigate econometric problems from using data drawn from different time periods.

In tables 6 – 9, we investigate what impact do banker-directors have on leverage, investment and firm value following their appointments, which leads us to estimate OLS models of changes in these variables. Specifically we estimate models having the form:

$$Y_t - Y_{-1} = \alpha + \beta_1 UB + \beta_2 AB + \Sigma \gamma_i X_i + \varepsilon , \quad t = 1,2 \qquad (4)$$

where $Y_t - Y_{-1}$ is the (industry-adjusted) change in leverage, investment or firm value measured from the start of the base year (equivalently, the end of the year preceding the base year, t = -1 in equation 4 and year(-1) in Tables 6 – 9) to the end of the year following the base year for the two-year change, or the end of the next year for the three-year change (t = 1,2 respectively in equation 4, and year(+1) and year(+2), respectively, in Tables 6 – 9). The base year is the appointment year for firms that appointed banker-directors, and 2002 for the (control) firms that did not. In equation (4), UB is a variable representing the appointment of an unaffiliated banker-director and AB represents the appointment of an affiliated banker-director, and the Xs represent other (industry-adjusted) explanatory variables.

Estimating equation (4) requires us to address the issue of endogeneity. If UB and AB are simply indicator variables of the appointment of a banker-director, estimates of (4) are potentially biased because UB and AB and the dependent variable are both endogenous. We mitigate this problem by using an instrumental variable approach.

Specifically, we use an estimate of (3) from our second research question to generate predicted values of the probability of appointing a banker-director for every sample firm; we use these predicted values as our observations on the UB and AB variables when estimating (4).

III. Empirical Results

A. What factors contribute to the appointment of bankers to corporations' boards of directors?

Table 5 reports our estimated multinomial logit models of the decision to appoint a banker to a board as described in equation (3). The explanatory variables in (5.1) appear in the equations that define KZ- and O-score (equations 1 and 2). We include these variables since previous research has suggested that financial constraints and/or financial distress is important in the decision to appoint a banker. The breadth of these variables broadly encapsulates firm characteristics.

The probability of appointing an unaffiliated banker is positively related to firm-size, negatively related to Q, and positively related to the ratio of funds from operations relative to liabilities (FFO/LIA). In contrast, the probability of appointing an affiliated banker is positively related to return on assets (NI/TA) and negatively related to operating cash flows relative to tangible assets (NIBD/PPE). Given that these two measures both proxy for cashflow, this result seems curious. It is plausible that the observed relations both capture different elements of a firm's ability to repay loans. The presence of more plant, property, and equipment are important to the banker in the case of default, which is consistent with a negative relation for a variable with PPE in the

denominator (given that ROA is also included in the model) and a positive relation in ROA captures the firm's ability to generate cashflows to repay loans.[4]

In equation (5.2) we replace the KZ- and O-score determinants with KZ and O themselves; we retain the firm-size variable, LN(TA), and add interaction terms. Financial constraints play no discernible role in the decision to appoint a banker-director. Greater financial distress reduces the probability of appointing an unaffiliated banker-director, but this effect is mitigated by greater firm size.

The estimated models reported in Table 5 corroborate some prior research but also include new insights given our broader more recent sample, and our differentiating unaffiliated and affiliated banker-appointments. Kroszner and Strahan conclude from their estimates on a sample of Forbes 500 firms that financial distress does not motivate the appointment of banker-directors. In contrast, Byrd and Mizruchi conclude for their sample of large manufacturing firms that decreasing financial distress increases the fraction of banker-directors appointed to boards, a finding similar to ours for unaffiliated bankers. They also find firm-size to be either unrelated or negatively related to the probability of appointing a banker-director, whereas we find a positive relation for unaffiliated bankers and no relation for affiliated bankers.

Appointing bankers to the board, and accepting the appointment has costs and benefits. Our results suggest that affiliated bankers are more likely to become board members at firms that have relatively higher cashflows and relatively higher tangible assets. The motivations for unaffiliated bankers are somewhat different. The motivations for an unaffiliated banker presumably are more associated with the need for expert

[4] We re-estimate the model excluding the NI/TA and including plant. Property, and equipment denominated by total assets (PPE/TA). In this specification the coefficient for NIBD/PPE remains negative but is no longer significant and the coefficient for PPE/TA is insignificantly positive.

advice. Firms that have lower valuations (Q), lower ROA (NI/TA), higher O-scores (but currently are able to pay their debts, as suggested by the positive coefficient for FFO/LIA) seem to describe firms that might seek out further financial advice.

B. What impact do banker-directors have on corporations following their appointments?

Once appointed to boards, banker-directors potentially influence all aspects of corporate policy. We investigate their influences on KZ- and O-scores, leverage, investment, and Tobin's Q by estimating OLS models of the changes in these variables following a banker's board-appointment as described in equation (4). Our banker variables, UN-BANKER(PRED) and AFF-BANKER(PRED), are the predicted probabilities of appointing an unaffiliated banker and an affiliated banker to the board from equation (5.1) in Table 5.

B.1. What impact do banker-directors have on KZ- and O-scores?

Table 6 reports estimated OLS models of changes in KZ- and O-scores. The appointment of banker-directors appears not to have an impact by year +1, but by year +2 the O-scores appear to decline for both unaffiliated and affiliated banker appointments (equations (6.1) and (6.2)). Deviations in O-scores from the industry medians further dissipate as a result of managerial actions unrelated to the appointment of banker-directors: 12 months (24 months) after the base year, 54% (56%) of the deviation from the industry median has disappeared.

Estimated KZ-change models indicate that appointing an unaffiliated banker-director increases the degree of financial constraint non-linearly and temporarily

(equations (6.3) and (6.4)). In equation (6.3) the estimated coefficients of UN-BANKER(PRED) and KZ-Score * UN-BANKER(PRED) are both positive and statistically significant. This effect is short-lived, however: the estimated coefficients for UN-BANKER(PRED) and KZ-Score * UN-BANKER(PRED) in the three-year change model, equation (7.4), are statistically insignificant. Affiliated banker appointments also have a positive coefficient for the interactive variable KZ-Score * AFF-BANKER(PRED).

These results contradict the assertion that bankers are appointed with the intention of reducing financial constraints, at least to the extent that constraints are observable using the KZ measure. One possibility is that we are observing reverse causality in that the firm might have anticipated a tightening of financial constraints, which in turn motivated the appointment. Another possible explanation for these results is that the presence of a banker allows for greater off-balance sheet liquidity that cannot be detected by observing KZ scores.

B.2. What impact do banker-directors have on debt-equity ratios?

Table 7 reports estimated OLS models of changes in (industry-adjusted) book-value debt-to-equity (D/E) ratios measured over 2- and 3-year event windows. To control for differences in growth opportunities, tangibility of assets and size among the sample firms we include industry-median Q (Industry Q), property, plant and equipment scaled by total assets (PPE/TA), and the log of total assets as explanatory variables, along with the leverage ratio, KZ- and O-Score, UN- and AFF-BANKER(PRED), and interaction terms.

Equations (7.1) and (7.2) suggest that appointing an unaffiliated banker has no discernable impact on the firm's capital structure. In contrast, appointing an affiliated banker appears the change in the firms debt-to-equity ratio has a positive relation with the degree of financial constraint and financial distress as compared to their industry peers. This is consistent with the view that banks that have more private information and a greater ability to monitor will be more willing to provide credit. This should be more apparent for firms that are in financial distress or for firms that are facing financial constraints.

Estimates of the remaining coefficients in equations (7.1) and (7.2) align with some previous theory on capital structure. The coefficient estimates of median industry Q are positive and statistically significant in both equations, a result consistent with firms in higher-Q industries increasing leverage in preparation for exploiting growth opportunities, such as is described in the pecking order explanation of capital structure. Coefficient estimates of the firm-size variable LN(TA) are also positive and significant in both models, as might be expected if greater size encourages borrowing by reducing the expected costs of financial distress. The estimated coefficients of the leverage ratio, D/E, are statistically significant, negative and equal to about 0.79 in both the equations, suggesting that managerial initiatives unrelated to banker-director appointments reduce (or increase) leverage ratios towards the industry medians over time.

The results reported in Table 7 share some similarities with findings of Byrd and Mizruchi (2005), the only other study we know of that analyzes how appointments of bankers to boards affects leverage in a subsequent year. Their two models which most closely resemble ours measure leverage as book-debt to book-debt-plus-market-equity

and book-debt to book-assets (Table 11, equations B1 and B2). They find appointments of unaffiliated banker-directors subsequently increase both leverage measures at large manufacturing firms, with greater increases at more financially distressed firms as measured by Altman's Z-score. Whether these leverage increases represent borrowing increases is unclear. The appointment of affiliated bankers has no discernible impact on either leverage ratio in their study as opposed to our findings. Byrd and Mizruchi obtain their results from a sample of large manufacturing firms. We find from our more diverse data sample that appointments of affiliated banker-director appointments raise leverage ratios for financially distressed firms and for financially constrained firms relative to their industry peers.

B.3. What impact do banker-directors have on investment?

Table 8 reports OLS estimates of six models of change in (industry-adjusted) investment to total assets, INV/TA. Both unaffiliated and affiliated bankers appear to affect the composition of investment after being appointed directors. The coefficients for UN-BANKER(PRED) and AFF-BANKER(PRED) are both negative and insignificant for the change from year -1 to year +1 (8.1) and in are negative and significant for the change through year +2. It appears that the inclusion of a banker on a board reduces investment relative to their industry peers.

We further investigate investment patterns in models 8.3 and 8.4 in order to understand which firms are reducing investment. Guner et al. (2007) suggest that the financially unconstrained firms are provided relatively more capital as compred to the more constrained firms. We find in for the change in industry-adjusted investment through year +1, that the more constrained and more distressed firms increase their

investment subsequent to the appointment of an unaffiliated banker. In the case of an affiliated banker, we find that firms that are more constrained appear to increase investment relative to their industry peers. This effect is not evident when the event window is extended to a third year (year +2): the estimated coefficients for all the interactive terms with BANKER(PRED) are insignificant in equation (8.4) although UN-BANKER(PRED) is significant and negative reflecting an overall decline in investment for firms with unaffiliated banker-directors as compared to their industry peers.

Equations (8.5) and (8.6) replace the KZ, O and banker interaction terms with an interaction between BANKER(PRED) and industry Q. In all six models we have included industry Q as a proxy for growth opportunities. Q theory suggests that investment should be diverted towards firms with relatively more valuable growth opportunities and away from firms with less valuable, or only value reducing projects. The optimal investment pattern is not fully observable, however, given the underinvestment problem as described by Myers (1977) and Myers and Majluf (1984) coupled with the overinvestment problem as described by Jenson (1986), we presume that an increase (decrease) in industry-adjusted investment for high (low) Q firms is consistent with an increase in investment efficiency and vice-versa.

We chose industry Q rather than firm Q since firm Q not only reflects the firm's growth opportunities but firm Q also reflects the market's assessment of the firm's ability to undertake those projects. Given that an often cited view of the reason to appoint a banker is to improve a firm's ability to undertake good projects (i.e., to loosen financial constraints) using a firm level measure could introduce a bias.[5]

[5] For robustness, we estimate the models using a firm level estimate of Q and the coefficients have similar magnitudes and signs, although the standard errors are larger reducing significance in some cases.

In all six models industry Q is positive and significant as predicted. Appointing a banker-director (raising the probability of an appointment from zero to one) reduces investment more sharply over the two-year window the better the growth opportunities in the firm's industry (the estimated coefficient of Industry Q * UN-BANKER(PRED) is negative and significant in equations (8.5 and 8.6)). For affiliated firms, this is true in the 3-year model (8.6).

In summary, the estimated models suggest that appointing bankers to boards decreases investment generally, increases investment at more financially constrained and more financially distressed firms through two years after bankers' appointments, but reduces investment at firms in high-growth-opportunity industries two and three years after bankers' appointments.

Güner et al. (2006) also investigate the effect of banker-directors on investment, but do not measure this effect in the years immediately following bankers' appointments, raising the possibility of endogeneity bias. Güner et al. conclude that (affiliated) banker-directors promote economically inefficient investment by reducing the cash-flow sensitivity of investment at financially unconstrained firms but not financially constrained firms. Our results both contravene and corroborate theirs. Unlike Güner et al, we find some evidence that bankers increase investment by financially constrained firms after being appointed as directors. Like Güner et al, we find evidence that bankers may promote inefficient investment by reducing investment by firms in high-growth industries and increasing investment by firms in low-growth industries. As is the case for all previous studies on bankers on boards, Güner et al. obtain their results from a sample of

very large non-financial firms. We obtain our results from a sample that is more diverse with respect to size and degrees of financial distress and financial constraint.

B.4. What impact do banker-directors have on Tobin's Q?

Table 9 reports estimated OLS models of changes in firms' (industry-adjusted) Qs. Equations 9.1 and 9.2 suggest that the aggregate impact on firms' relative valuations from appointing a banker to a board is not statistically significant. We continue our analyses by examining the cross section of the degree of financial distress and financial constraint as we presume that the impact of a banker will be most profound in firms that are constrained or are distressed.

The evidence suggests that bankers reduce a firm's Q over the next three years, especially if the firm is financially constrained. The estimated coefficients of UN-BANKER(PRED) * KZ-Score and AFF-BANKER(PRED) * KZ-Score are negative and significant in both equations 9.3 and in 9.4.

The affiliated or unaffiliated status of the banker is important as to the relation between the degree of financial distress, adding a banker, and change in Q. Unaffiliated bankers appear to be value increasing for distressed firms as compared to the value decreasing effect of affiliated bankers on financially distressed firms.

It appears that distressed firms benefit from monitoring and advice from unaffiliated bankers. We expect that financial distress to be a time, which has the greatest potential for conflict for equity holders relative to debt holders. The evidence indicates that having an affiliated banker on a board of a firm in financial distress is not

value increasing and is possibly value decreasing. In the case of a financially constrained firm, adding an affiliated banker appears to be value decreasing.

Our finding that the appointment of a banker-director reduces the market value of firms, especially financially-constrained firms, is without exact parallel in the literature, although Byrd and Mizruchi (2005) reach a similar conclusion. They estimate models of market-value equity relative to total assets – a variable not identical to Tobin's Q but highly correlated with it – in the year following the appointment of a banker-director (Table 11, B3). They find the larger the fraction of a board held by bankers, the lower the market-value equity-asset ratio the year after bankers' appointments, with reductions greater at more financially distressed firms (firms with lower Altman's Zs).[6] Unlike Byrd and Mizruchi, we find banker-director appointments to be more damaging to the value of financially constrained firms and the impact on financially distressed firms is dependent on the affiliated or unaffiliated status of the banker. Our more diverse sample with respect to firm size and industry allows us to conclude that value reductions caused by banker-director appointments extend beyond large manufacturing firms.

IV. Summary and Conclusion

Previously published papers have examined one or perhaps two aspects of the impact of bankers on boards. We have attempted to address the impact of bankers on boards by examining firm's financial, investment, and relative valuations using a

[6] Güner et al. (2006) conclude that affiliated banker-directors damage Tobin's Q at financially-unconstrained firms, but using a completely different methodology. They trace mean (industry-adjusted) Qs of sub-samples of firms with and without banker-directors over a 7-year event window centered around the receipt of a large loan. Unconstrained firms (firms with below-sample-median KZ-scores) with affiliated banker-directors have significantly lower Tobin Qs before and after a loan than those with unaffiliated banker-directors or firms without banker-directors.

stratified data sample that includes firms ranging from small to large that are very financially distressed and undistressed, and very financially constrained and unconstrained. In addition, previously published papers have varied in their success at dealing with the endogenous nature of board composition and corporate policy and performance measures; we have endeavored to address endogeneity by focusing on the banker-director appointment event and its aftermath using an appropriate statistical technique (instrumental variables). Our results are summarized in Table 10.

In understanding the affect of bankers-on-boards relative to firm policy, our findings are not entirely encouraging. In the years immediately following bankers' appointments to boards, we find they reduce firms' proclivity for financial distress as measured by O-Score but increase firms' degree of financial constraint as measured by KZ-Score. It is not obvious from looking at the components of the O-Score index how banker-directors reduce firms' measured proclivity for financial distress, but looking at the components of the KZ-Score index it appears banker-directors increase the degree of financial constraint at least in part by increasing the book-value leverage ratio in the case of affiliated appointments.

We also find that newly-appointed banker-directors change the composition of investment in the years immediately following their appointments, increasing investment by firms in industries with low median Qs (below 1.32) and decreasing it by firms in industries with high median Qs; put differently, banker-directors shift investment away from industries with greater growth opportunities towards industries with lesser growth opportunities. Banker-directors' impact on investment is consistent with our findings regarding their impact on Q: in the years immediately following their appointments,

banker-directors reduce Qs at firms generally and at financially-constrained firms in particular. Notably, unaffiliated bankers do appear to have a positive impact on firm valuations for distressed firms. But in the case of affiliated bankers that are most likely to have divergent interests when the firm is in distress, we find some evidence of a negative impact on value. These findings are largely novel to the existing literature.

References

Altman, Edward I., 1968, Financial ratios, discriminant analysis and the prediction of corporate bankruptcy, *The Journal of Finance,* 23, 589-609.

Baker, Malcolm, Jeremy C. Stein and Jeffrey Wurgler, 2003, When does the market matter? Stock prices and the investment of equity-dependent firms, *The Quarterly Journal of Economics*, 118, 969-1005

Begley, Joy, Jin Ming and Susan Watts, 1996, Bankruptcy classification errors in the 1980s: An empirical analysis of Altman's and Ohlson's models, *Review of Accounting Studies,* 1, 267 – 284.

Bharath, Sreedhar, Sandeep Dahiya, Anthony Saunders, and Anand Srinivasan, 2007, So what do I get? The bank's view of lending relationships, *Journal of Financial Economics*, 85, 368-419.

Booth, James R. and Daniel N. Deli, 1999, On executives of financial institutions as outside directors, *Journal of Corporate Finance*, 5, 227-250.

Byrd, Daniel T. and Mark S. Mizruchi, 2005, Bankers on the board and the debt ratio of firms, *Journal of Corporate Finance*, 11, 129-173.

Ciamarra, Elif Sisli, 2006, Monitoring by affiliated bankers on boards of directors: Evidence from corporate financing outcomes, mimeo.

Elyasiani, Elyas and Lawrence Goldberger, 2004, Relationship lending: A survey of the literature, *Journal of Economics and Business*, 56, 315-330.

Fama, Eugene F., and Michael C. Jensen, 1983, Separation of ownership and control, *Journal of Law and Economics*, 26, 301-325.

Fazzari, Steven M., R. Glenn Hubbard and Bruce C. Petersen, 1988, Financing constraints and corporate investment, *Brookings Papers on Economic Activity*, 1:1988, 141-195.

Fich, Eliezer M., 2005, Are some outside directors better than others? Evidence from director appointments by *Fortune* 1000 firms, *The Journal of Business*, 78, 1943-1971.

Gilson, Stuart C., 1990, Bankruptcy, boards, banks, and blockholders, *Journal of Financial Economics*, 27, 355-387.

Güner, A. Burak, Ulrike Malmendier and Geoffrey Tate, 2006, The impact of boards with financial expertise on corporate policies, NBER Working Paper No. 11914.

Jensen, Michael C., 1986, Agency costs of free cash flow, corporate finance and takeovers, *American Economic Review*, 76, 323-329.

Kaplan, Steven and B. Minton, 1994, Appointments of outsiders to Japanese boards: Determinants and implications for managers, *Journal of Financial Economics*, 36, 225-258.

Kaplan, Steven N. and Luigi Zingales, 1997, Do investment-cash flow sensitivities provide useful measures of financing constraints? *The Quarterly Journal of Economics*, 112, 169-215.

Korajczyk, Robert A. and Amnon Levy, 2003, Capital structure choice: macroeconomic conditions and financial constraints, *Journal of Financial Economics*, 68, 75-109.

Kroszner, Randall S. and Philip E. Strahan, 2001, Bankers on boards: Monitoring, conflicts of interest, and lender liability, *Journal of Financial Economics*, 62, 415-452.

Lamont, Owen, Christopher Polk and Jesús Saá-Requejo, 2001, Financial constraints and stock returns, *The Review of Financial Studies*, 14, 529-554.

Link, James S., Jeffry M. Netter and Tina Yang, 2007, The determinants of board structure, *Journal of Financial Economics*, forthcoming.

Myers, S.C., 1977, Determinants of corporate borrowing", *Journal of Financial Economics*, 5, 147-175.

Myers, S.C. and Majluf, N.S., 1984, Corporate financing and investment decisions when firms have information that investors do not have, *Journal of Financial Economics*, 13, 187-221.

Ohlson, James A. 1980, Financial ratios and the probabilistic prediction of bankruptcy, *Journal of Accounting Research,* 18, 109-131.

Rosenstein, Stuart and Jeffry G. Wyatt, 19990, Outside directors, board independence, and shareholder wealth, *Journal of Financial Economics*, 26, 175-191.

Yermack, David, 2006, Board members and company value, *Financial Markets and Portfolio Management*, 20, 33-47.

Table 1
Mean total assets and percent of banker-directors, by asset-size decile and financial condition

	Mean Assets ($ millions)				% of Firms with Bankers on Boards			
Decile	Distressed	Undistressed	Constrained	Unconstrained	Distressed	Undistressed	Constrained	Unconstrained
1	6.2	19.7	27.9	9.2	0.0%	0.0%	8.3%	0.0%
2	10.2	54.1	93.8	15.4	8.3%	0.0%	0.0%	0.0%
3	15.3	106.8	182.7	24.7	8.3%	0.0%	8.3%	0.0%
4	21.9	170.8	333.0	41.6	8.3%	8.3%	25.0%	8.3%
5	35.4	276.4	508.8	68.1	8.3%	8.3%	16.7%	0.0%
6	56.2	389.8	770.1	121.4	0.0%	25.0%	25.0%	8.3%
7	103.8	581.8	1,082.9	199.5	8.3%	25.0%	16.7%	0.0%
8	213.5	922.4	1,994.2	402.3	16.7%	8.3%	8.3%	8.3%
9	471.2	2,140.8	3,527.5	1,079.7	8.3%	16.7%	8.3%	33.3%
10	1,993.3	2,278.8	12,885.3	9,089.4	8.3%	16.7%	33.3%	8.3%

Note: Assets are total book-assets for sample firms in 2002. Deciles include 12 firms for every financial-condition type. Bankers are current employees of a commercial bank.

Table 2
Univariate statistics for financial condition and financial-director variables

	ALL	Distressed	(1)	Undistressed	Constrained	(2)	Unconstrained	S&P 500	(3)	Non-S&P 500
n	480	120		120	120		120	45		435
KZ-Score	-4.782	-0.863	b	-5.365	2.031	a	-14.932	0.955		0.722
	-0.064	2.484	a	-1.888	1.339	a	-8.570	-0.769	a	0.000
O-Score	0.748	4.587	a	-2.952	0.696		0.661	-1.166	a	0.936
	0.409	3.786	a	-2.797	0.678	a	0.050	-1.212	a	0.570
Banker,	0.104	0.083		0.108	0.150	c	0.075	0.200	b	0.094
	0.000	0.000		0.000	0.000	b	0.000	0.000		0.000

Note: KZ-Score is described in Kaplan and Zingales (1997) and defined in equation (2). O-score is described by Ohlson (1980) and defined in equation (1). KZ- and O-score are industry-adjusted by subtracting from a firm-level observation the median industry statistic, where industry is defined at the 3-digit SIC level. Banker is an indicator variable for a director who is currently employed by a bank. Means (medians) are reported in the first (second) row. a, b, and c denote significance at the 1%, 5%, and 10% levels for a two-sample t-test for means and two-sample Wilcoxon rank-sum test for medians comparing distressed firms relative to undistressed firms (column 1), constrained firms relative to unconstrained firms (column 2), and sample firms in the S&P 500 and non-S&P 500 firms (column 3).

Table 3
Probit models of the presence of bankers on boards based on prior research

	(3.1)	(3.2)	(3.3)	(3.4)
	S&P 500	Non-S&P 500	S&P 500	Non-S&P 500
n	45	435	45	392
CONSTANT	-0.993	-1.653	-5.537	-1.566
	0.644	0.000	0.096	0.001
LN(TA)	-0.022	0.098	0.013	0.096
	0.923	0.077	0.963	0.135
LIA/TA	0.813	0.282	1.929	0.059
	0.257	0.168	0.105	0.854
SIC (4)		0.297		
		0.296		
Q	-0.057	-0.240		
	0.687	0.024		
STD DEV			56.491	-3.867
			0.112	0.079
STD DEV ^ 2			-217.416	3.516
			0.105	0.319
PPE/TA			1.474	0.872
			0.273	0.030
PAPER			-0.203	
			0.713	
STD/LTD			-1.389	-0.001
			0.435	0.835
Pseudo R^2	0.037	0.078	0.193	0.089

Note: The dependent variable equals one if the firm has a banker on its board and zero otherwise. Bankers are current employees of a commercial bank. The dependent variable is observed in 2002 and the independent variables are measured at the end of 2001. All independent variables are industry-adjusted by subtracting from a firm-level observation the median industry statistic, where industry is defined at the 3-digit SIC level. LN(TA) is the natural log of total book-assets. LIA is total liabilities. TA is total book-assets. SIC (4) is an indicator variable for firms having a one-digit SIC equal to 4. STD DEV is the standard deviation of monthly stock returns. PPE is plant, property, and equipment. PAPER is an indicator variable for firms having commercial paper outstanding. STD is short-term debt and LTD is long-term debt. P-values are reported below the estimated coefficients.

Table 4
Univariate Statistics

	No Banker	Banker	(1)	UN-Banker	(2)	AFF-Banker	(3)
	Year = 2001	Year = -1		Year = -1		Year = -1	
n	343	53		37		16	
LN(TA)	-0.055	0.637	a	0.632	b	0.650	
	-0.108	0.521	a	0.399	b	0.706	c
LIA/TA	0.046	0.030		0.038		0.011	
	-0.014	0.000		0.000		-0.014	
WC/TA	0.015	-0.005		-0.011		0.010	
	0.004	0.008		0.008		0.019	
CA/CL	2.081	0.560		0.651		0.349	
	0.068	0.000		0.000		0.051	
CASH/PPE	19.693	3.356		1.749		7.072	
	0.090	0.000	c	0.000		-0.007	
D/E	0.119	0.109		0.149		0.017	
	-0.021	0.011		0.011		0.019	
Q	0.750	0.292		0.278		0.325	
	0.118	0.040		0.023		0.278	
NIBD/PPE	-2.549	-0.578	c	0.050	b	-2.034	
	-0.052	0.021	b	0.011	c	0.075	
NI/TA	-0.132	-0.063		-0.063		0.024	
	-0.007	0.010		0.001		0.024	c
CHANGE NI	0.008	-0.118		-0.164	c	-0.013	
	0.000	-0.014		-0.033		-0.033	
FFO/LIA	-0.386	0.318	a	0.426	a	0.084	
	-0.039	0.021	a	0.023	a	0.023	
DIV/PPE	0.082	0.078		0.093		0.044	
	0.000	0.000	a	0.003	a	0.003	
KZ-Score	-6.387	-4.010		-4.976		-1.774	
	0.000	-0.492		-0.712		-0.712	
O-Score	0.984	-0.464	b	-0.524	b	-0.340	
	0.400	-0.307	b	-0.307	c	-0.307	

Note: All variables are industry-adjusted by subtracting from a firm-level observation the median industry statistic, where industry is defined at the 3-digit SIC level. LN(TA) is the natural log of total book-assets. LIA is total liabilities. WC is working capital, current assets (CA) less current liabilities (CL). CASH is cash plus marketable securities. PPE is plant, property, and equipment. D/E is the book value of debt divided by the

book value of common equity. Q is (TA+ME-E-DT)/TA where ME is the market value of equity, E is the book value of common equity and DT is deferred taxes. NIBD is net income before depreciation. NI is net income. CHANGE NI is $(NI_0-NI_{-1})/(abs(NI_0)+abs(NI_{-1}))$. FFO is funds from operations. DIV is common dividends plus preferred dividends. KZ-Score is described in Kaplan and Zingales (1997) and is shown in equation (2). O-Score is described in Ohlson (1980) and is shown in equation (1). Means (medians) are reported in the first (second) row. a, b, and c denote significance at the 1%, 5%, and 10% levels for a two-sample t-test for means and two-sample Wilcoxon rank-sum test for medians, comparing banker-firms relative to non-banker firms (columns 1 and 2). Year = -1 refers to the fiscal year prior to the fiscal year the banker was appointed.

Table 5
Multi-nomial Logit models of the appointment of a banker to a board

	(5.1)		(5.2)	
n	399		399	
	UN	AFF	UN	AFF
Constant	-2.298	-2.779	-2.181	-2.846
	0.000	0.000	0.000	0.000
LN(TA)	0.305	0.182	0.178	0.180
	0.008	0.231	0.104	0.218
LIA/TA	0.336	0.374		
	0.817	0.861		
WC/TA	1.128	1.287		
	0.336	0.526		
CA/CL	-0.120	-0.288		
	0.187	0.219		
CASH/PPE	-0.000	-0.000		
	0.993	0.923		
D/E	-0.175	-0.804		
	0.846	0.619		
Q	-0.382	-0.229		
	0.026	0.307		
NIBD/PPE	0.162	-0.116		
	0.132	0.031		
NI/TA	-1.812	3.783		
	0.046	0.061		
Change NI	-0.426	-0.242		
	0.247	0.623		
FFO/LIA	0.690	0.432		
	0.004	0.199		
DIV/PPE	0.222	-0.073		
	0.764	0.957		
KZ-Score			0.043	0.057
			0.360	0.525
LN(TA) * KZ-Score			-0.008	-0.006
			0.378	0.723

Table 5 – *Continued*

	(5.1)	(5.2)	
O-Score		-0.378	-0.269
		0.023	0.222
LN(TA) * O-Score		0.061	0.037
		0.056	0.395
Pseudo R^2	0.119	0.046	

Note: The dependent variables are indicator variables for the inclusion of an unaffiliated banker to its board (UN), an affiliated banker (AFF), and zero otherwise. A banker is a director who is currently an employee of a commercial bank. For firms that did not appoint bankers the dependent variable is observed in 2002, their base year, and the independent variables are measured at the end of 2001. For firms that did appoint bankers the dependent variable is observed in the appointment year, their appointment year, and the independent variables are measured at the end of the previous year. All independent variables are industry-adjusted by subtracting from a firm-level observation the median industry statistic, where industry is defined at the 3-digit SIC level. LN(TA) is the natural log of total book-assets. LIA is total liabilities. WC is working capital, current assets (CA) less current liabilities (CL). CASH is cash plus marketable securities. PPE is plant, property, and equipment. D/E is the book value of debt divided by the book value of common equity. Q is (TA+ME-E-DT)/TA; where ME is the market value of equity, E is the book value of common equity and DT is deferred taxes. NIBD is net income before depreciation. NI is net income. CHANGE NI is $(NI_0-NI_{-1})/(abs(NI_0)+abs(NI_{-1}))$. FFO is funds from operations. DIV is common dividends plus preferred dividends. KZ-Score is described in Kaplan and Zingales (1997) and is shown in equation (2). O-Score is described in Ohlson (1980) and is shown in equation (1). SMALL equals one if the firm's total book-assets are below the median sample-firm's book-assets. CONSTRAIN equals one if the firm's KZ-Score is in the top 20% for all firms, zero otherwise. DISTRESS equals one if the firm's O-Score is in the top 20% for all firms, zero otherwise. P-values are reported below the estimated coefficients.

Table 6
OLS models of change in financial constraint and financial distress following appointment of a banker-director

	O-score		KZ – Score	
	(6.1)	(6.2)	(6.3)	(6.4)
change measured:	Yr1-Yr(-1)	Yr2-Yr(-1)	Yr1-Yr(-1)	Yr2-Yr(-1)
N	397	397	397	397
Constant	0.869	1.201	-9.390	-5.709
	0.327	0.002	0.000	0.048
KZ – Score	0.000	0.007	-0.857	-0.190
	0.979	0.572	0.000	0.216
O-Score	-0.542	-0.560	-0.151	-0.525
	0.002	0.000	0.656	0.384
UN-BANKER (PRED)	1.402	-2.315	27.871	10.006
	0.686	0.209	0.022	0.615
KZ-Score * UN-BANKER (PRED)			2.571	-0.299
			0.003	0.722
O-Score * UN-BANKER (PRED)	-0.303	-0.774		
	0.560	0.029		
AFF-BANKER (PRED)	-15.515	-15.451	48.381	13.519
	0.438	0.017	0.171	0.786
KZ-Score * AFF-BANKER (PRED)			2.647	6.043
			0.087	0.011
O-Score * AFF-BANKER (PRED)	8.393	-0.859		
	0.244	0.653		
O-Score * KZ-Score	0.005	0.003	0.015	0.042
	0.177	0.222	0.614	0.383
R^2	0.161	0.409	0.220	0.086

Note: The dependent variable is change in O-Score (equations 6.1 and 6.2) or change in KZ-Score (equations 6.3 and 6.4) from the year before the base year, year(-1), to one- or two-years after the base year, year (+1) and year(+2), respectively. The base year, year 0, is the appointment year for firms that appointed banker-directors, and 2002 for firms that did not. The independent variables are measured at the end of the year before the base year and are all industry-adjusted by subtracting from firm-level observations the industry median, where industry is defined at the 3-digit SIC level. KZ-Score is described in Kaplan and Zingales (1997) and is shown in equation (2). O-Score is described in Ohlson (1980) and is shown in equation (1). UN-BANKER (PRED) and AFF-BANKER (PRED) are the predicted probabilities of appointing an unaffiliated or affiliated banker computed from Table 5, equation (5.1). A banker is a director who is currently an employee of a commercial bank. P-values, reported below the estimated coefficients, are computed using robust standard errors.

Table 7
OLS models of change in debt-to-equity following appointment of a banker-director

change measured:	(7.1) Yr1-Yr(-1)	(7.2) Yr2-Yr(-1)
N	397	397
Constant	-0.070	-0.025
	0.354	0.727
D/E	-0.687	-0.655
	0.000	0.000
KZ – Score	-0.001	0.000
	0.716	0.788
O-Score	0.001	-0.011
	0.877	0.134
UN-BANKER (PRED)	0.427	-0.299
	0.491	0.398
AFF-BANKER (PRED)	0.306	1.171
	0.726	0.102
Industry Q	0.045	0.053
	0.098	0.090
OIBD/TA	-0.146	-0.368
	0.296	0.001
PPE/TA	0.109	-0.068
	0.459	0.675
LN(TA)	0.043	0.044
	0.001	0.000
KZ-Score * UN-BANKER (PRED)	0.010	-0.003
	0.310	0.623
O-Score * UN-BANKER (PRED)	0.034	0.015
	0.520	0.692
KZ-Score * AFF-BANKER (PRED)	0.025	0.038
	0.224	0.043
O-Score * AFF-BANKER (PRED)	0.235	0.347
	0.051	0.009
R^2	0.476	0.485

Note: The dependent variable is the change in the debt-equity ratio from the year before the base year, year(-1), to one- or two-years after the base year, year (+1) and year(+2), respectively. D/E is book-value debt divided by book- value common equity. The base year, year 0, is the appointment year for firms that appointed banker-directors, and 2002 for firms that did not. The independent variables are measured at the end of the year before the base year and are industry-adjusted by subtracting from firm-level observations the industry median, where industry is defined at the 3-digit SIC level. KZ-Score is described in Kaplan and Zingales (1997) and is shown in equation (2). O-Score is described in Ohlson (1980) and is shown in equation (1). UN-BANKER (PRED) and AFF-BANKER (PRED) are the predicted probabilities of appointing an unaffiliated or affiliated banker computed from Table 5, equation (5.1). A banker is a director who is currently an employee of a commercial bank. Industry Q is the median industry Q, defined at the 3-digit SIC level. Q is (TA+ME-E-DT)/TA where ME is the market value of equity, E is the book value of common equity, DT is deferred taxes, and TA is total book-assets. PPE is plant, property and equipment. LN(TA) is the natural log of total book-assets. P-values, reported below the estimated coefficients, are computed using robust standard errors.

Table 8
OLS models of change in investment following appointment of a banker-director

change measured:	(8.1) Yr1-Yr(-1)	(8.2) Yr2-Yr(-1)	(8.3) Yr1-Yr(-1)	(8.4) Yr2-Yr(-1)	(8.5) Yr1-Yr(-1)	(8.6) Yr2-Yr(-1)
N	398	398	398	398	398	398
Constant	-0.016	-0.014	-0.022	-0.011	-0.065	-0.095
	0.407	0.569	0.280	0.648	0.039	0.042
INV/TA	-0.859	-0.828	-0.855	-0.832	-0.866	-0.838
	0.000	0.000	0.000	0.000	0.000	0.000
OIBD/TA	-0.051	0.025	-0.068	0.017	-0.059	0.013
	0.172	0.681	0.081	0.795	0.123	0.833
KZ-Score	-0.001	-0.000	-0.001	-0.001	-0.000	-0.000
	0.131	0.526	0.026	0.483	0.363	0.925
O-Score	0.002	0.004	0.000	0.004	0.000	0.002
	0.428	0.229	0.917	0.340	0.859	0.535
UN-BANKER (PRED)	-0.103	-0.154	-0.057	-0.148	0.207	0.309
	0.109	0.022	0.360	0.053	0.177	0.088
AFF-BANKER (PRED)	-0.152	-0.350	-0.020	-0.323	0.372	0.621
	0.346	0.040	0.902	0.133	0.338	0.171
KZ-Score * UN-BANKER (PRED)			0.005	0.002		
			0.072	0.610		
O-Score * UN-BANKER (PRED)			0.015	0.005		
			0.085	0.650		
KZ-Score * AFF-BANKER (PRED)			0.010	0.005		
			0.035	0.534		

Table 8 – *Continued*	(8.1)	(8.2)	(8.3)	(8.4)	(8.5)	(8.6)
O-Score * AFF-BANKER (PRED)			-0.029	-0.053		
			0.419	0.195		
Industry Q	0.029	0.039	0.026	0.035	0.055	0.082
	0.012	0.025	0.045	0.069	0.005	0.007
Industry Q * UN-BANKER (PRED)					-0.178	-0.267
					0.050	0.018
Industry Q * AFF-BANKER (PRED)					-0.257	-0.475
					0.227	0.061
R^2	0.754	0.596	0.762	0.600	0.759	0.608

Note: The dependent variable is the change in investment from the year before the base year, year(-1), to one- or two-years after the base year, year (+1) and year(+2), respectively. INV/TA is investment divided by total book-assets. The base year, year 0, is the appointment year for firms that appointed banker-directors, and 2002 for firms that did not. The independent variables are measured at the end of the year before the base year and are all industry adjusted by subtracting from firm-level observations the industry median, where industry is defined at the 3-digit SIC level. KZ-Score is described in Kaplan and Zingales (1997) and is shown in equation (2). O-Score is described in Ohlson (1980) and is shown in equation (1). UN-BANKER (PRED) and AFF-BANKER (PRED) are the predicted probabilities of appointing an unaffiliated or affiliated banker computed from Table 5, equation (5.1). A banker is a director who is currently an employee of a commercial bank. Industry Q is the median industry Q, defined at the 3-digit SIC level. Q is (TA+ME-E-DT)/TA where ME is the market value of equity, E is the book value of common equity, DT is deferred taxes, and TA is total book-assets. P-values, reported below the estimated coefficients, are computed using robust standard errors.

Table 9
OLS models of change in Q following the appointment of a banker-director

change measured:	(9.1) Yr1-Yr(-1)	(9.2) Yr2-Yr(-1)	(9.3) Yr1-Yr(-1)	(9.4) Yr2-Yr(-1)
N	399	399	399	399
Constant	0.339	0.352	0.512	0.482
	0.047	0.024	0.013	0.006
Q	-0.587	-0.695	-0.589	-0.689
	0.000	0.000	0.000	0.000
OIBD/TA	-0.623	-0.158	-0.775	-0.318
	0.318	0.774	0.245	0.592
KZ-Score	0.008	0.008	0.017	0.016
	0.096	0.012	0.029	0.004
O-Score	0.045	-0.000	0.028	-0.023
	0.249	0.996	0.570	0.594
UN-BANKER (PRED)	-1.345	-0.676	-1.765	-0.916
	0.303	0.467	0.098	0.301
AFF-BANKER (PRED)	2.872	-0.889	-0.964	-3.854
	0.262	0.593	0.781	0.073
KZ-Score * UN-BANKER (PRED)			-0.068	-0.057
			0.027	0.011
O-Score * UN-BANKER (PRED)			0.346	0.331
			0.060	0.015
KZ-Score * AFF-BANKER (PRED)			-0.152	-0.122
			0.109	0.084
O-Score * AFF-BANKER (PRED)			-1.368	-0.998
			0.097	0.026
R^2	0.311	0.483	0.340	0.504

Note: The dependent variable is the change in Q from the year before the base year, year(-1), to one- or two-years after the base year, year (+1) and year(+2), respectively. Q is (TA+ME-E-DT)/TA where ME is the market value of equity, E is the book value of common equity, DT is deferred taxes, and TA is total book-assets. The base year, year 0, is the appointment year for firms that appointed banker-directors, and 2002 for firms that did not. The independent variables are measured at the end of the year before the base year and are industry adjusted by subtracting from firm-level observations the industry median, where industry is defined at the 3-digit SIC level. KZ-Score is described in Kaplan and Zingales (1997) and is shown in equation (2). O-Score is described in Ohlson (1980) and is shown in equation (1). UN-BANKER (PRED) and AFF-BANKER (PRED) are the predicted probabilities of appointing an unaffiliated or affiliated banker computed from Table 5, equation (5.1). A banker is a director who is currently an employee of a commercial bank. P-values, reported below the estimated coefficients, are computed using robust standard errors.

Table 10
Summary of Impacts of Banker-Directors on Financial Distress, Financial Constraint, Debt-to-Equity, Investment, and Q Over Two- and Three-Year Windows Following Appointment

Banker-Director Type	O-Score	KZ-Score	Debt-to-Equity	Investment	Q
Unaffiliated	Reduce O-score relative to industry median three years after appointment, with greater reduction the greater the initial O-Score.	Increase KZ-Score relative to industry median two-years after appointment for all firms, with greater increase the greater the initial KZ-Score.	No measurable effect.	Reduce investment relative to the industry median at all firms three years after appointment; the reduction is smaller the greater the initial O-Score and KZ-Score; the reduction is greater the greater the industry-median Q.	Reduce Q relative to the industry median at all firms two years after appointment; the reduction is greater the greater the initial KZ-Score but smaller the greater the initial O-Score.
Affiliated	Reduce O-score relative to industry median three years after appointment at all firms.	Increase KZ-Score relative to industry median two-and three-years after appointment, with greater increase the greater the initial KZ-Score.	Increase leverage relative to industry median, with larger increases the greater initial O-Score and KZ-Score.	Reduce investment relative to the industry median at all firms three years after appointment; the reduction is smaller the greater the initial KZ-Score; the reduction is greater the greater the industry-median Q.	Reduce Q relative to the industry median at all firms three years after appointment; the reduction is greater the greater the initial KZ-Score and the greater the initial O-Score.
Note: The cells summarize the estimated effects of an increase in the predicted probability of appointing affiliated and unaffiliated bankers as directors on the variables shown as column headings. The effects shown in the O-Score and KZ-Score columns summarize the results reported in Table 6; the effects shown in the Debt-to-Equity, Investment and Q columns summarize the results reported in Tables 7, 8 and 9, respectively.					

Figure 1. Sample Selection Procedure