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BANKERS ON BOARDS: MONITORING, CONFLICTS OF INTEREST, AND LENDER LIABILITY

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ABSTRACT

This paper investigates what factors determine whether a commercial banker is on the board of a non-financial firm. We consider the tradeoff between the benefits of direct bank monitoring to the firm and the costs of active bank involvement in firm management. Given the different payoff structures to debt and equity, lenders and shareholders may have conflicting interests in running the firm. In addition, the U.S. legal doctrines of "equitable subordination" and "lender liability" could generate high costs for banks which have a representative on the board of a client firm that experiences financial distress. Consistent with high potential costs of active bank involvement, we find that bankers tend to be represented on the boards of large stable firms with high proportions of tangible ("collateralizable") assets and low reliance on short-term financing. The protection of shareholder versus creditor rights under the U.S. bankruptcy doctrines may reduce the role that banks play in corporate governance and the management of financial distress, in contrast to Germany and Japan. We conclude with implications for the current bank regulatory reform debate, such as whether to permit banks to own equity in non-financial firms that, in turn, could allow them to mitigate the conflict.

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BANKERS ON BOARDS:
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I. Introduction

A country's legal and regulatory regimes have important consequences for its financial and corporate governance systems. La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998 and 1999), for example, argue that the degree of the protection of the rights of shareholders and creditors can explain differences in capital market development, ownership concentration, and firms' access to external finance. Shareholder and creditor rights, however, may conflict, and how this potential conflict of interest is addressed can have an important impact on the role that creditors, such as banks, play in the financial and corporate governance systems.

The potential for conflict becomes clear when a bank executive is on the board of a non-financial firm. The fiduciary duty of directors to promote shareholders' interests can lead to a conflict with the banker-director's role as lender or potential lender due to different payoff structures of debt and equity (e.g., Jensen and Meckling 1976). The divergence of interests is most severe when a firm faces a risky investment decision or nears financial distress. A regime with relatively strong shareholder rights, such as the U.S., protects shareholders (and less senior creditors) through bankruptcy doctrines of equitable subordination and lender liability. As will be described in more detail below, these doctrines can impose large costs on banks that are judged *ex post* to have taken actions that improve their position at the expense of other claimants on distressed firms. Such a shareholder protection regime, however, can discourage active bank

involvement in the management of a financially distressed firm prior to formal bankruptcy (e.g., Fischel 1989 and Roe 1994) and, more generally, may reduce the role that banks might otherwise have in monitoring and information gathering through the corporate governance system.

Given the discussion above, one might expect that bankers would not appear on U.S. boards, either because the banker is concerned about lender liability or because shareholders and managers want to avoid the conflict. In fact, one third of large U.S. firms do have a banker on the board, suggesting that benefits from better monitoring offset potential costs of conflicts of interest (see Table 1).[1] This percentage, however, is much lower than in Germany and Japan, where creditors rights are relatively strong. In these countries, bankruptcy codes do not permit the same scope for challenging the actions of senior creditors, and banks take a more active role in the management of financial distress.[2] Also in contrast to the U.S., banks in those countries can hold equity stakes in non-financial firms.[3] As Table 1 shows, bankers are on the majority of large firms' boards in those economies.

In this paper, we analyze the tradeoffs between the benefits from direct bank monitoring

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[1] Bankers also have a higher propensity to sit on boards than executives from nonfinancial companies. See appendix.

[2] See, for example, Edwards and Fischer (1994), Gorton and Schmidt (1996), Chirinko and Elston (1997) on Germany and Hoshi, Kashyap, and Scharfstein (1991 and 1993), Kaplan and Minton (1994), Ramseyer (1994), and Sheard (1994) on Japan. Perlitz and Seger (1994) argue that conflicts are significant in the German system and that active bank involvement harms firm performance.

[3] Anti-monopoly laws in both countries put limits on the percentage of equity that a bank can own in a non-financial firm. In the U.S., regulations such as the 1933 Glass-Steagall Act (12 U.S.C. 378) and 1956 Bank Holding Company Act (70 Stat. 133) restrict the range of financial services that banks may offer and prohibit banks from taking equity stakes in non-financial firms (e.g., Macey and Miller 1992, Kroszner 1996, Kroszner and Rajan 1994 and 1997). Banks in the U.S., however, may take equity as part of a debt restructuring or bankruptcy workout, but they are required to sell their holdings after a specified number of years (see Gilson 1990 and James 1995).

and the costs of active bank involvement in firm management to explain which non-financial firms in the U.S. have commercial banks represented on their boards. Our analysis shows that bankers tend to be on the boards of firms where shareholder-creditor conflicts are likely to be relatively unimportant — large and stable firms, firms with a large fraction of tangible assets, and firms with a low reliance on short-term financing in their capital structure. Firms with bankers on board are also larger, safer and have more tangible assets than other firms even before the bankers' appointments, so the addition of the banker to the board does not appear to change the firm's characteristics.

We also find a non-linear relationship between the presence of bankers and volatility: the likelihood that a firm has a banker on its board first increases then decreases with volatility. At low levels of risk, the benefits of monitoring appear to dominate, while at higher levels of risk, the conflict of interest costs and lender liability concerns do. These results thus suggest that there is an important tradeoff in the U.S. between the benefits to firms of active monitoring against the potential costs of conflicts of interest and lender liability.

We then explore the lending relationship between the firm and the bank. In contrast to Germany and Japan, banks represented on the boards in the U.S. are rarely the main bank lender to the firm, again suggesting that the potential costs of conflicts of interest and lender liability discourage active bank involvement in firm management. When the bank represented on the board is lending to the firm, the non-linear relationship between risk and the presence of a banker becomes more pronounced as the lending relationship becomes more important. Finally, we investigate whether bankers initially join the boards of firms that are performing poorly and find, unlike in Japan, that they do not.

Our results suggest that the balance between the legal protections of creditors and shareholders in distressed firms are important considerations for evaluating the consequences of bank regulatory reforms. Recent theoretical and policy controversies surrounding the relative merits of "bank based" versus "market based" financial systems emphasize limits on U.S. banks' ability to hold equity under the Glass-Steagall and Bank Holding Company Acts (e.g., Gilson and Kraakman 1991, Kroszner 1996 and 1998b, La Porta et al. 1998 and 1999).[4] Conflicts of interest could, in principle, be mitigated if banks were permitted to hold equity in commercial enterprises (e.g., Dewatripont and Tirole 1994 and Rajan 1992). Nonetheless, other aspects of the legal environment, notably equitable subordination and lender liability, might still deter banks from becoming actively involved in firm governance and management.

II. The Costs and Benefits of Having a Banker[5] on the Board

To understand the allocation of bankers to boards in the U.S., consider the benefits that a banker can provide but that other types of outside directors do not. First, a close bank relationship, formalized through board representation, can improve information flow between the bank and the firm and thereby help the firm to obtain financing from the banker's bank. Second, given the costs of lender liability, which we discuss in detail below, a banker joining the board of a firm may signal to the market that the bank believes that the firm is unlikely to experience financial

[4] Relaxing restrictions on bank activities and ownership of equity by banks is gaining support in Washington. A bills to expand banks powers have passed both the House and the Senate in 1999. On the legislative history and political economy of the debate on the expansion of bank powers, see Kroszner (1998a) and Kroszner and Stratmann (1998).

[5] We use the terms "banker" to refer to top executives of commercial banks and "bank" to refer to commercial banks.

distress. A banker may play a certification role on the board, thereby lowering the costs of external finance. The benefits of having a banker will be greatest for firms with the most intense information asymmetry problems, such as smaller, more volatile firms with relatively few collateralizable assets.

In addition, since banks are in the business of building relationships, gathering information, and monitoring (e.g., Diamond 1984), bank executives may be more willing to supply their services as directors than their counterparts in non-financial firms. Outside directorships provide information about firms that might be borrowers, about the industry in which the firms are operating, and about executives from other firms also sitting on the board. Obtaining outside board memberships thus may be a more important part of the expected duties of a bank officer-director than for other corporate executives. Consistent with this view, in the Appendix we show that top bank executives tend to have a higher propensity to have outside directorships than do top executives of large non-financial firms.

Both firm owners and banks, however, face potentially significant costs of active bank involvement in firm management. Unlike other outside directors, a banker on the board of a firm has a conflict of interest between the fiduciary duty to a firm's owners and to her bank employer, if that bank is lending to the firm. The different pay-off structures associated with debt and equity lead to divergent interests in how each would prefer the firm to be run (see, e.g., Jensen and Meckling 1976 and Dewatripont and Tirole 1994). Shareholders generally prefer higher risk projects than do lenders because shareholders can capture the upside but are limited on the downside. This conflict is most intense in firms with very risky investment opportunities and in firms falling into financial distress. Senior creditors, such as banks, prefer that the firm undertake

actions that maximize the probability of their repayment rather than maximize the expected return to shareholders.[6]

If a bank lender also could take an equity stake in the firm, it is in principle possible to mitigate or even eliminate the conflict (e.g., Dewatripont and Tirole 1994 and Rajan 1992). Leveraged buy-outs and venture capital transactions, both of which tend to entail relatively high risk, often are financed through tranches that combine debt and equity, precisely to mitigate conflicts in work-outs (e.g., Jensen 1989 and 1993). German and Japanese banks often do hold equity in firms where they have board representation, but regulation prevents banks in the U.S. from dealing with the debt-equity conflict through equity ownership. Instead, U.S. bankruptcy codes and procedures provide a disincentive for a bank to succumb to conflicts and create potentially large costs for a bank that has a representative on the board of a firm in distress.

Equitable subordination and lender liability are ways in which the U.S. legal system addresses the conflict between creditors and equity holders in financial distress (e.g., Smith and Warner 1979, Fischel 1989).[7] To protect against opportunism by senior creditors, other creditors and equity holders may seek redress if a bank has "overreached" its role as a creditor to exercise

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[6] In distress, unconstrained shareholders would take large risks and/or pay high dividends to themselves, leaving little value left for creditors (e.g, Kroszner and Strahan 1996). Covenants in lending agreements, however, are designed to protect the lenders from this type of opportunistic behavior (e.g., Smith and Warner 1979). Similarly, covenants describing "subordination priorities" can protect senior and prior creditors from debt dilution that could occur if the firm subsequently issued more debt (see Schwartz 1997).

[7] The first explicit statements of the doctrine of equitable subordination are Pepper v. Litton, 308 U.S. 295 (1939) and Taylor v. Standard Gas & Electric Co., 306 U.S. 307 (1939). The Bankruptcy Reform Act of 1978 [Pub. L. No. 95-598, 92 Stat. 2633] recognizes the doctrine and codifies the case law in this area. See Chaitman (1984) and DeNatale and Abram (1985). "[T]he troubled loan has continued to generate high stakes litigation returning multimillion dollar verdicts on tort causes of action, some with punitive damage awards, in favor of both borrowers and investors in troubled enterprises financed by the financial institution defendant," (Mannino 1995, p. 542).

some degree of managerial control which results in harm to them. In the typical "arm's length" relationship between a firm and its banker, the bank may cut off credit or stiffen lending terms to a firm in financial distress without running afoul of these doctrines. If a bank is found to have been active in firm management and acted "inequitably" prior to a borrower's bankruptcy, however, the bank may lose seniority in its claims against the bankrupt firm. In addition, a bank actively involved in firm management potentially faces liability for losses to other claimants that can be attributed to its actions. The courts can and sometimes do go further to assess punitive damages in lender liability cases.[8]

Since banks would not wish to jeopardize their senior creditor status nor expose themselves to lawsuits from other creditors of the distressed firm, banks will have an incentive to maintain an "arm's length" from the firm. The relevant legal code provides no explicit statutory guidance about what type of conduct would trigger subordination or lender liability, and the case law has not established bright line rules.[9] Board representation by the bank, however, subjects the bank to "heightened scrutiny" in these actions (Phelan and Collins 1996). In an important recent case, for example, a bank that was a major lender to a firm and had its own executives sitting on the board of the firm was seen as crossing the line to trigger lender liability.[10]

Two types of arguments are made that render a bank with an executive on the board of a

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[8] See Farmers & Merchants Bank of Centre v. L. W. Hancock, 506 So.2d 305 (1987).

[9] 11 U.S.C. Sec. 510(c). In their casebook on bank regulation, Macey and Miller (1994, p. 228) state that this statute confers the ability of "judges to subordinate claims but provides no standards to guide the exercise of that power." See also the vague "checklist" for a finding of equitable subordination provide in In re Mobile Steel Company, 563 F.2d 692 (1977).

[10] State National Bank of El Paso v. Farah Mfg. Co., Inc., 678 S. W.2d 661 (Tex. Ct. App. 1984).

distressed firm particularly vulnerable to attack (Weissman 1992 and 1994). Under the "alter ego" theory, the plaintiffs argue that the bank and the firm are essentially the same because the bank effectively controls the firm's decisions through its position on the board.[11] Under the "inside information" theory, board representation provides the bank with an unfair information advantage over other creditors, so the bank can take actions to insulate itself from trouble and, thereby, shift the burden to other creditors.[12]

Roe (1994) has argued that only complete passivity on a creditor's part prior to formal bankruptcy can protect the creditor against such actions. Another legal commentator admonishes that "whenever a creditor contemplates taking a hand in the management of a financially troubled debtor, it should think of its deeper pockets and keep its hands there" (Douglas-Hamilton 1975, p. 365).

Given the legal uncertainty, these doctrines could have a chilling effect on active bank involvement in the management of firms and the willingness of bankers to serve on corporate boards. While the threat of equitable subordination and lender liability can resolve the conflict between creditors and equity holders by providing a strong disincentive for the bank to interfere with the firm's activities before bankruptcy, the threat also might interfere with a potentially valuable monitoring, advising, and coordinating role for banks in the U.S. corporate governance system. These considerations would tend to make bankers most reluctant to supply their board-membership services to the types of firms described above that would tend have the highest

[11] See In re Mercer Trucking Co., v. Fruehauf Co., 16 B. R. 176 (1981).

[12] See In re American Lumber Co., 5 B. R. 470 (1980) and Allegheny International, Inc., 118 B. R. 282 (1990).

demand for them.[13]

III. Empirical Methods and Results

To investigate the distribution of commercial bankers across corporate boards, we identify firm characteristics related to the benefits and costs of active bank monitoring. Firms with more intense information asymmetry problems and high dependence on short-term financing are likely to derive high potential benefits from a close bank relationship. Such firms also tend to be the ones where potential conflict of interest and lender liability costs are likely to be the greatest, as we describe below. By including proxies for these characteristics, we can examine the net effect of these opposing forces. We thus investigate whether the benefits of enhanced bank monitoring through board representation or the potential costs of conflicts of interest and lender liability dominate in determining the allocation of bankers to boards.

We begin this section by describing the sample and the data. Next, we describe the empirical models relating firm characteristics to the presence of a banker on the board and the lending relationship between the banker's bank and the firm. We then check whether similar factors can explain the presence of investment bankers and the share of outside directors generally. Since they cannot, we conclude that we have identified factors unique to the allocation of bankers. We also investigate factors leading to the initial appointment of bankers to boards and find, in contrast to Japan, no evidence that bankers join boards during or leading up to financial distress.

[13] As noted above, firm owners also might be reluctant to invite bankers of the boards of firms that might face the greatest conflict of interest problem.

A. Data and Variables Definitions

Our sample comprises firms in the 1992 *Forbes* 500 supplied to us by Kevin Hallock (1997 and forthcoming). *Forbes* classifies the largest 500 firms by four criteria: sales, profits, assets, and market value in 1992. For each firm, Hallock collected the names and principal employers of each director. This allows us to identify which firms have bankers on their boards and the number of insiders (employee-directors) on each board. We dropped all of the financial institutions and those firms for which firm characteristics from Compustat and returns from CRSP were not available. The resulting sample includes a total of 430 firms, 136 of which have bankers on their boards.[14] We call the firms with bankers on board the "banker" firms.

This sample allows us to exploit the Loan Pricing Corporation's *Dealscan* database that provides detailed coverage of bank lending to large corporations. Using this data, we can thus identify which banks are lending to the sample firms in order to investigate the lending relationship between the bank represented on the board and the firm.[15]

It is important to note that bank executives do not face any direct legal restrictions on joining the board of non-financial firms. Federal Reserve Board's Regulation O requires only that the banks disclose to the regulators their executives' other board memberships. There is no further regulation of the relationship between the bank and that firm, beyond the standard prudential exposure limits that a bank has to any single borrower.[16]

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[14] The 136 bankers come from 102 banks.

[15] We know of no comprehensive data on bank lending relationships for smaller U.S. corporations.

[16] The only exception where bank lending is restricted occurs if the bank executive personally controls more than ten percent of any class of voting securities of the non-financial firm.

We gather data on five sets of variables related to the cost and benefit considerations discussed above. First, firm volatility should be related to the extent of the asymmetric information problem the firm may face in trying to obtain external finance, so more volatile firms will have a greater demand for a banking relationship. If the benefits of bank monitoring are enhanced through board representation, then the probability of a banker on the board increases with firm volatility. Conflicts of interest between shareholders and creditors, however, increase with the riskiness of a firm's investment opportunities. Lender liability also may be a more important consideration for volatile firms that face a higher risk of distress. If these cost factors outweigh the benefits of active bank involvement, bankers will be less likely to be on the boards of volatile firms. Our measure of volatility is the standard deviation of monthly equity returns, measured from January 1988 to December 1991.

Second, we include firm size. Since firms become less dependent on banks for credit as they grow, the benefits of having a banker on board are likely to be lower at large firms (Houston and James 1996).[17] In contrast, the potential conflict of interest and lender liability costs are likely to be higher at small firms, both because such firms are more likely to use bank loans for credit, and because such firms are more likely to experience financial distress. Larger firms tend to have larger boards and, thereby, have more opportunities to have an outsider director, such as a banker, so size also acts as a control variable. We measure size as the log of total assets.

Third, firms with relatively few tangible assets are likely to be more opaque to the markets, that is, have greater information asymmetry problems, than firms with more tangible

[17] Firm size and volatility may be proxying for similar factors that affect the allocation of bankers to boards. Larger firms tend to be less volatile than smaller firms. In the 1992 sample, the correlation between our volatility measure and firm size is -0.32.

(hence collateralizable) assets. Firms with a low proportion of tangible assets thus should find it more difficult to obtain external finance and be more bank-dependent, and thereby have a higher demand for a close bank relationship, than firms with more tangible assets (e.g., Himmelberg and Morgan 1996). Potential conflicts of interest and lender liability costs, however, are likely to be greater at firms with a low proportion of tangible assets. Costs of financial distress and the potential for "manipulation" are more likely at such firms, so an important role for these types of costs imply that bankers are more likely to be on the boards of firms with high proportions of tangible assets.[18] We measure tangibility of assets as the ratio of net property, plant and equipment to total assets.

Fourth, we include an indicator equal to one if a firm has a commercial paper rating and zero otherwise. This variable provides a measure of a firm's direct access to credit from securities markets. Since commercial paper issuers have available a close substitute for bank loans, they will tend to depend less on banks and may have less to gain by bringing a banker on the board.[19] The potential conflicts of interest problems and lender liability for these firms are also likely to be smaller than other firms since they are less likely to use bank loans as an important source of credit, and the high credit rating suggests that distress is particularly unlikely.

Fifth, the capital structure of the firm may provide information about the value of a close bank relationship. More heavily indebted firms may benefit from both the financial expertise and certification brought by a banker to the board. A capital structure proxy to capture this is the

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[18] With fewer intangibles, it may be less likely that a banker would have access to "insider" information that is not available to other creditors and, hence, be less subject to lender liability.

[19] The commercial paper indicator variable is correlated with size (corr = 0.34) and inversely correlated with volatility (corr = -0.31) so may be proxying for similar risk factors.

leverage ratio, defined as the book value of total debt (including long and short term debt) to the market value of equity plus the book value of total debt.[20] We also examine what fraction of total debt is short term debt, defined as debt with maturity under one year. Much of this debt will consist of bank credit or close substitutes for it and thus may proxy for the value of a bank relationship to the firm. Firms relying on a large amount of short term financing thus should have relatively high demand for a close banking relationship.[21] Bankers may be less likely to be on the boards of these firms, however, particularly bankers from important lenders, due to the potential for conflicts of interest and lender liability.

Finally, in all specifications, we include industry indicators to take into account any industry-specific factors that might affect the allocation of bankers, but we do not report the coefficient estimates on these indicators.[22]

B. Allocation of Commercial Bankers to Corporate Boards

Table 2 compares medians of characteristics of the banker and no banker samples for the 1992 cross-section. The figures are in bold italics if the difference across the samples is statistically significant at the ten percent level or less. The banker firms tend to be larger and more stable than the no banker firms. While the banker firms have higher overall debt to assets ratios, they tend to have relatively less short-term debt relative to total debt compared to the no

[20] The leverage is correlated with firm size (corr = 0.42).

[21] Booth and Deli (1998) also explore the relationship between capital structure and the likelihood of a banker on a firm's board.

[22] We include one-digit SIC indicators. We also tried a separate indicator variable for regulated industries which included SIC codes 40 (railroads), 48 (communications), and 49 (public utilities). Regulated firms, with less scope for managerial discretion, tend to be less likely to have bankers on their boards, but the coefficient estimate is not statistically significant. Also, the inclusion of this variable does not affect the other coefficient estimates.

banker sample. The higher fraction of tangible assets to total assets for banker firms may help to increase their capacity to issue public debt. Banker firms also are more likely to have a commercial paper rating. The banker firms have lower ratios of cash and liquid assets to total assets but pay out a higher fraction of their net income as dividends.[23] The banker firms, thus, do not appear to be more "cash constrained" or more "bank dependent" relative to the no banker firms.[24] The interest coverage ratio[25], sales growth, and market to book ratio (Q) are somewhat lower for the banker firms, but the ratio of earnings before interest and taxes ("cash flow") to assets is similar for the two groups.

Table 3, Panel A contains the results of the probit model where the dependent variable is one if the firm has a banker on board and zero if it does not. The table reports the marginal effects (not the probit coefficients themselves). The marginal effects measure the change in the probability of a firm having a banker on its board for a one unit change from the mean of the independent variable.

Consistent with an important role of potential conflicts of interest and lender liability, bankers are more likely to be on the boards of larger and more stable firms with higher ratios of

[23] Since firms tend to exhibit economies of scale in their demand to hold cash and liquid assets (see Mulligan 1997), the lower liquidity ratios for the large firms may be driven in part by the size difference.

[24] Note that the levels of cash and liquidity ratios have ambiguous implications about financial constraints. A constrained firm may have high ratios because it hoards cash and liquid assets since it has a high cost of obtaining external finance; alternatively, it may have low ratios because it can conserve cash and liquid assets holdings since it can easily obtain external funding. See Kaplan and Zingales (1997).

[25] The interest coverage ratio is defined as the sum of our cash flow measure plus interest expense plus taxes divided by interest expense.

tangible to total assets and with lower fractions of short term debt to total debt.[26] In addition, the relationship to volatility is non-linear. When we include both the volatility and volatility squared, we find that the linear term is positive and the squared term is negative. The two terms are statistically significant individually and jointly, so the inclusion of the squared term does add explanatory power.[27] The likelihood of a banker on the board increases then decreases with firm volatility.[28] The estimates imply that the turning point in this function is at approximately the sample median volatility of 0.08. When volatility is below the sample median, the benefits of active bank monitoring increase faster than the costs, but when volatility rises above the sample median, the potential costs from conflicts of interest and lender liability dominate the allocation of bankers to boards.[29]

In addition to the coefficients of these independent variables being statistically significant, the magnitudes of the effects appear reasonable. In the linear specification, a one standard

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[26] Since a the commercial paper rating and debt ratio are correlated with our other regressors, we re-ran the probits with each variable alone (plus the industry indicators). The commercial paper rating indicator is positive and statistically significant by itself. The effect of the debt ratio continues to be statistically insignificant when the other regressors are dropped.

[27] We also tested for non-linear relationships with the other regressors and found that none of the squared terms are statistically significant.

[28] We also used the volatility of accounting returns (ROE) instead of stock market returns and found results that are qualitatively similar but with lower levels of statistical significance.

[29] The non-linear effect of volatility parallel findings on the determinants of ownership by Demsetz and Lehn (1985) and Holderness, Kroszner and Sheehan (1999). If there were no costs of conflicts on interest and lender liability (or, in the ownership case, managerial risk aversion), then we would simply see a positive relationship between volatility and bankers on board. Monitoring by insiders (either through higher share ownership or through having a skilled financial monitor on the board) would be more valuable as monitoring by outsiders becomes more difficult. At some point, however, these benefits are offset by the costs of conflicts of interest and lender liability. We thus have a "constrained optimum" allocation of monitoring talent.

deviation increase in our volatility measure decreases the probability of having a banker on the board by roughly 5.4 percentage points. In the non-linear model, as noted above, the probability of having a banker on board increases until volatility reaches the median volatility and declines thereafter. A one standard deviation increase in our size measure raises the probability of having a banker on the board by 6.0 percentage points. A one standard deviation increase in the tangible asset ratio increases the likelihood of having a banker on the board by 5.7 percentage points. Finally, a one standard deviation increase in the fraction of short term debt lowers the probability of having a banker on the board by 4.5 percentage points.

The probit model does not directly take into account the size of the board, although we have indirectly controlled for it by including firm size. Holding all other factors constant, a banker is more likely to be found on a larger board than a smaller board. If the characteristics we have included in the probit model are simply providing information about the number of opportunities for a banker to be on a firm's board, then our results could be consistent with a purely random allocation of bankers. In addition, we are not fully exploiting the information we have about bankers on boards because some boards have more than one banker.

To adjust for board size and to include the incidence of multiple bankers on a board, we run a Tobit model in which the dependent variable is the number of bankers on the board divided by the total number of board members. We use a Tobit model because 294 of the 430 observations are censored at zero. The Tobit coefficient estimates are reported in Panel B of Table 3, which contains the same specifications of the independent variables as in the probit models in Panel A. In terms of signs, statistical significance, and relative magnitudes, the Tobit results are almost identical to the results obtained in the probit model. Our results thus are robust

to different definitions of the dependent variable and to estimation techniques.

C. Lending Relationships of the Banks Represented on the Boards

We now examine the lending relationship between the firm and the bank that has an executive on the board of that firm. In Germany and Japan, for example, the largest lender to a firm is the most likely banker to be sitting on the firm's board (see Table 1 and Edwards and Fischer 1994, Prowse 1990 and 1992, and Hoshi and Kashyap forthcoming).[30] Similarly, the appearance of the banker on the board in the U.S. could simply be an official recognition of the close relationship that has developed between a firm and its main lender. Potential conflicts of interest and lender liability costs, however, are more likely to be relevant when an executive from the main bank lender to a firm is on the board. If these costs are important, U.S. bank executives would have a disincentive to join the boards of firms that borrowed from their own bank, particularly when their bank is the largest lender to the firm.

To investigate how lending status affects the allocation of bank executives, we gather data on the bank lenders to the firms in our banker sample from Loan Pricing Corporation's (LPC) *DealScan* database. The data begin in 1987 and the coverage becomes extensive during the 1990s. LPC identifies any bank that is lending to the firm, either directly or through participation in a loan syndication, and typically reports the amount of the loan or loan participation by each bank. If the bank (or associated bank in a bank holding company) that employs the banker on a firm's board is mentioned in LPC, we classify that bank as having some lending relationship with the firm. If it is not mentioned, we classify the bank as having no lending relationship.

[30] While executives from other banks often do sit on non-financial firms' boards, the frequency is by far the greatest for the main bank lender to the firm.

We can then divide the bankers on board with a lending relationship into two categories: "main" lenders and "minor" lenders. For firms with a banker with a lending relationship, we sum the value of bank credit (loans, credit lines, standby-letters-of-credit, etc.) by each bank to each firm over the period covered by LPC and define the "main" bank as the largest bank lender to the firm. Banks with some lending relationship but that are not the largest lender are classified as "minor" lenders.[31]

Using these definitions, 62.3 percent of the bankers on boards are from banks that have some lending relationship with the firm.[32] Only 18.2 percent of the bankers on boards, however, are from the main bank lender to the firm. Since just 31.6 percent of firms in the sample have a banker on the board, this means that only 5.8 percent of the firms in the overall sample have an executive from their main lender on their board, a figure dramatically lower than in Japan and Germany (see Table 1).[33] This cross country difference is difficult to explain if banks were providing advising, monitoring, and credit facilitation services unconstrained by regulation or the legal environment in the U.S. The low incidence of main bankers on boards in the U.S., despite a high propensity of bankers to sit on boards, is consistent with a disincentive effect of conflicts of

[31] We are able to find 391 of the 430 firms in our sample on *Dealscan*. Of the 136 firms with a banker on board, we are able to find 124. Of the 124 firms with a banker on board, we have data on the size of the loans to that firm for 77 cases.

[32] In the cases when the bank represented on the board is lending to the firm, that bank's average share of total bank credit to the firm recorded in the LPC data is 11.6 percent, compared to 21.4 percent for the main bank lenders to the firms.

[33] Booth and Deli (1998) also find that banks in the U.S. tend not to have representatives on the boards of firms to which they lend.

interest and lender liability.[34]

To explore this more systematically, we develop a multinomial logit model to take in account whether a banker is on the board *and* the lending relationship when a banker is on the board. If conflicts of interest and lender liability are important considerations, the effects we identified above should be most pronounced when there is a lending relationship and particularly if the banker represents the main bank lender to the firm.[35]

In panel A of Table 4, the dependent variable is classified into three categories: no banker on the board (n=294), a banker on the board with no lending relationship (n=29), a banker on the board with some lending relationship (n=48). In panel B, the third category is split to distinguish between a banker on the board with a main bank lending relationship (n=14) and a banker on board with a minor lending relationship (n=34). In both panels the left out category is "no banker on board" group, so the estimates are relative to this group (just as the probits reported above represented the differences for all firms with a banker on board relative to the no banker group). We use the same set of independent variables as in column (iv) of Table 3. The specifications include one-digit SIC code industry indicators but their coefficients are not reported.

Table 4 shows that as the lending relationship becomes more important, the estimated coefficients for the linear and non-linear volatility measures increase in absolute value and remain statistically significant.[36] In terms of the absolute value of the point estimates, the coefficients for

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[34] Kracaw and Zenner (1998) find a negative stock price reaction to the announcement of a bank loans to firms that have that have a representative of the lending bank on the firm's board.

[35] Note that being on the board but not having a direct lending relationship does not completely insulate a bank from lender liability. See In re Allegheny International, Inc., 118 B. R. 282 (1990).

[36] Except for the joint test in the third column of Panel B, where we have only 14 observations.

the other variables are greater for the main banker group than for bankers with either minor or no banking relationship. Given the small numbers in these groupings, however, the precision of the estimates for the other variables is often low.

Figure 1 graphs how the predicted probabilities of a banker on board vary with firm volatility for each of the three banker-on-board groupings in Panel B of Table 4.[37] As Figure 1 illustrates, there is a pronounced non-linear relation for the two groups with some lending but not for the no lending group. The turning point of the probability for the main banker group is below and to the left of the peak for the banker group with minor lending relationships. In other words, the tradeoff between the benefits from monitoring versus the costs from conflicts of interest and lender liability will lead the peak probability for a main banker joining the board to be lower and to occur at a lower level of volatility than for a banker with a minor lending relationship. These results again are consistent with a concern for conflicts of interest and a role for lender liability.

D. Are Bankers Distributed Differently than Investment Bankers and Other Outside Directors?

An alternative interpretation of our results is that we have simply modeled the allocation of directors with financial expertise or outside directors generally. Such directors may prefer not to be associated with smaller, volatile firms with low fractions of tangible assets, perhaps because such firms are not as prestigious as others and such directorships would be less likely to enhance a director's or her employer's reputation.[38]

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[37] The other variables are evaluated at their means. If we drop the other independent variables, the results in Table 4 concerning volatility are very similar.

[38] Banks, however, also could build valuable reputations for relationship development and customer service by joining the boards of volatile and distressed firms and helping to facilitate their financing and recovery rather than avoiding or abandoning them. In Japan, for example, bankers tend to join the boards of firms that are slipping into financial distress to enhance their reputation for client

To determine whether our results are specific to bankers, we investigate whether the same factors that explain the distribution of bankers to boards also explain the distribution of investment bankers and other outside directors.[39] The costs of potential conflicts are interest and lender liability are much less relevant (if at all) for investment bankers and other outside directors because they are unlikely to become lenders. From the proxy statements, we collect data on the presence of an investment banker on the board and classify directors as "insiders" and "outsiders." We classify a director as an insider if the company is also the principal employer of the director, exactly as we define "officer-directors" above.[40] We then re-estimate the models in Table 3 with the two new dependent variables.

In the probit model reported in Panel A of Table 5, the dependent variable equals one if there is an *investment* banker on the board and zero otherwise. In contrast to the results for commercial bankers, the coefficients are not statistically significant, except for the commercial paper rating indicator which has the opposite sign of the statistically insignificant coefficient in Table 3. Unlike commercial bankers, investment bankers are more likely to be found on the boards of firms without access to the commercial paper market. In addition, all of the coefficients are smaller in absolute magnitude than in Table 3, except for the leverage ratio and commercial

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relationship building and support (e.g., Kaplan and Minton 1994 and Sheard 1994). Carey, Post and Sharpe (1998), however, find that banks in the U.S. generally lend to safer businesses than finance companies based on observable financial characteristics.

[39] There is a large and inconclusive empirical literature on board composition and the role of outside directors (e.g., Agrawal and Knoeber 1996, Baysinger and Butler 1985, Bhagat and Black 1997 and 1998, Booth and Deli 1998, Brickley, Lease, and Smith 1988, Gertner and Kaplan 1997, Hermalin and Weisbach 1988, Klein 1998, Kracaw and Zenner 1998, Payne, Millar, and Glezen 1996, Rosenstein and Wyatt 1990, Weisbach 1988, and Yermack 1996).

[40] Some directors may have ties to the firm but not be employees of the firm ("greys" in the Hermalin and Weisbach 1988 terminology), but we have not tried to draw such a distinction here.

paper rating indicator. The factors that affect the distribution of commercial bankers on boards thus have little ability to explain the distribution of investment bankers.

In Panel B of Table 5, we re-estimate the Tobit models of Table 3 but the dependent variable now is the share of non-bank outside directors on the board. We use non-bank outsiders, rather than all outsiders, in the numerator because we wish to allow for the bankers to differ from other outsiders. The dependent variable is defined as the total number of board members minus the number of inside officer-directors *minus* the number of bankers on the board, divided by the total number of board members.[41]

The estimates in Panel B of Table 5 imply that the factors that affect the distribution of bankers on boards do not affect the distribution of other outside directors.[42] None of the coefficients are statistically significant. The absolute values of all of the coefficients are lower than Panel B of Table 3, except for the leverage ratio and the commercial paper rating indicator. These results suggest that the explanatory variables in our model are not simply proxies for "reputation" and "prestige" factors that affect the willingness of an outsider to join a firm's board. Overall, the results in Table 5 suggest that we have not identified common factors affecting the incidence of financial experts or outside directors generally but have isolated factors specific to

[41] If we do not make any adjustment for the bankers and treat them as equivalent to other outsiders in calculating the dependent variable, our results are very similar. Also, we created an alternative measure of outsiders that subtracted the number of bankers from the denominator as well as the numerator and the results are again unchanged.

[42] Since equity ownership by executives might substitute for outside directors as a monitoring device (see, e.g., Holderness, Kroszner, and Sheehan 1999), we also included the percent of equity held by insiders (officers and directors) as a dependent variable. The coefficient is statistically significant and negative but it does not affect the other results. We also included the insider ownership percentage in the specifications in probit and tobit specifications in Table 3, and it was statistically insignificant and did not affect any other estimates.

commercial bankers.[43]

E. Initial Appointment of Bankers to Boards

As a further robustness check on our results, we examine the characteristics of the banker firms at the time of the initial appointment of the banker. By comparing these results with the results from the 1992 cross section, we can test whether firm characteristics change after the appointment of the banker. We also can explore whether bankers originally joined the boards when firms were experiencing financial distress and whether our 1992 cross-section results reflect the benefits of active bank monitoring in bringing the firms back to good financial health.

To investigate these alternatives, we compare a sample of banker and non-banker firms based on the initial year that the banker joined the board. The 1992 proxy statements of the banker firms allow us to identify when the banker first became a member of the board. Potential matches are first drawn from the 1992 no-banker firms in the sample described above. Second, to adjust for possible survivorship biases in our banker sample (since these firms have survived from the time that the banker joined the board until 1992), we require that each firm in the comparison group exist in the year that its corresponding banker firm did. Third, we require that none of these firm's directors be employees of a bank or bank holding company in the year that the banker joined the corresponding firm's board. To do this, we examine the proxy statement of the firms in the comparison group in the year that the banker joined corresponding banker firm's board.[44]

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[43] The *p*-value of the chi^2 for the statistical significance of the regressions in both Panels of Table 5 is being driven by the inclusion of the industry indicator variables.

[44] Prior to 1978, microfiche versions of the proxies were not available so we Standard and Poor's *Register of Corporations, Directors, and Executives* to identify the board members and determine whether any were also employed by a bank.

Finally, we require that the relevant balance sheet and financial data are available from Compustat and CRSP be available over this time period.

We refer to these data as the ex ante sample. Due to lack of availability of data for firms on which a banker joined many years ago, the ex ante sample includes 98 of the 136 firms that have a banker on the board in our 1992 cross section and 98 control firms.

Table 6 compares the medians for a variety of firm characteristics for the banker and no banker control sample for the year in which the banker initially joined the board. The differences between the two groups in the ex ante sample follow the same pattern as in the comparison of these groups in the 1992 sample in Table 2. Characteristics that are higher (lower) in 1992 are also higher (lower) at the first year in which the banker joined. The statistical significance of the differences is the same with these exceptions: in the ex ante sample, the lower ratio of debt maturing within one year to total debt and the lower sales growth for banker firms are not statistically significant, but the lower earnings before interest and taxes for the banker firms is statistically significant. The fraction of firms with a commercial paper rating is the same for both groups ex ante, whereas it is statistically significantly higher in Table 2. The close parallels of the 1992 and ex ante banker/no banker comparisons suggests that the banker joining the board did not affect the characteristics or performance of those firms relative to firms that did not have a banker on board and that the same factors are determining both the initial allocation of bankers and their continued participation on the board.

To examine the determinants of the initial appointment of bankers to boards in more detail, we run a probit model predicting which firms have a banker join the board in the ex ante sample. In countries such as Japan, Kaplan and Minton (1994) have found that various measures

of firm performance help to predict when a banker will join a firm's board. Firms experiencing losses and weak stock price performance, for example, are more likely to have bankers join their boards. This suggests that in Japan, bankers join the boards as the firm is experiencing financial distress and the banks take an active role in restructuring the firm's activities and management to avoid bankruptcy. If lender liability and conflicts are important considerations in the U.S., however, bankers should not join firms experiencing financial distress.

The appointment of bankers to boards in the U.S. does not follow the same pattern as in Japan. Table 7 estimates a probit model predicting the probability of the initial appointment of a banker to the board based on measures of firm performance. Following Kaplan and Minton (1994), we construct an indicator variable that is one if the firm experiences losses in the year in which the banker joins the board and in the previous two years.[45] As the first column of Table 7 shows, none of these indicators is statistically significant nor are they jointly statistically significant. Column (2) uses the stock return for the firm in each of the previous three years as an alternative performance measure and once again the coefficient estimates are neither individually nor jointly statistically significant. Finally, we also include the excess return of the firm (relative to a value-weighted market index) and find similar results. In contrast to Japan but consistent with an important role for lender liability and potential conflicts, bankers are not more likely to join the boards of firms that are performing poorly.

[45] We use contemporaneous earnings because much of the information about annual earnings is known in advance through the quarterly earnings reports.

IV. Conclusions

Our results suggest that concerns about potential conflicts of interest and lender liability are important factors explaining the distribution of bankers to boards. The balance between the legal protection of creditor versus shareholder rights thus can have an important impact on the role that banks play in the corporate governance system. We find that bankers tend to be on the boards of large and stable firms with high tangible capital ratios and low reliance of short-term debt financing. Also, the relationship between firm risk and the likelihood of a banker on the board is non-monotonic — the likelihood first increases, then decreases, with volatility.

The non-linear volatility relation suggest that "demand for monitoring" by firms dominates at relatively low levels of volatility but that concerns about conflicts of interest and lender liability dominate as volatility increases. Bankers thus are generally less likely to be on the boards of firms that might benefit most from active bank monitoring. Nonetheless, despite various legal and regulatory discouragements, bankers are more heavily involved in the corporate board network than are executives of others firms. They are gathering information and engaging broadly in monitoring but not, primarily, of their own loans, since few main bank lenders are represented on the boards. This contrasts with Germany and Japan, where bankers typically sit on the boards of their major borrowers.

The conflict of interest between shareholders and creditors can be mitigated if the bank is able to hold both equity and debt of a firm (see, e.g., Dewatripont and Tirole 1994 and Rajan 1992). Leveraged buy-outs and venture capital transactions often are financed though tranches that combine debt and equity (e.g., Jensen 1989 and 1993). Expanding bank powers to permit banks to own equity, in principle, can address the problem which lender liability and equitable

subordination are designed to correct. If the Glass-Steagall and Bank Holding Company Acts are reformed to allow banks to hold equity, as is currently being debated in the U.S. Congress, these bankruptcy doctrines might nonetheless continue to discourage banks from taking a more active role in the U.S. corporate governance system. The debate over financial regulatory reform thus should take into account the impact of bankruptcy procedures -- and more broadly the tension between the protection of shareholder and creditor rights -- in addition to bank regulation when analyzing the consequences of proposed reforms.

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Table 1: Frequency of Commercial Bankers on the Boards of Large Non-Financial Firms in Germany, Japan, and the United States

	Germany	Japan	United States
Percent of Large Firms with a Commercial Banker on the Board	75.0	52.9	31.6
Percent of Large Firms with an Executive of their Main Bank Lender on the Board	NA	42.8	5.8

Notes: Main bank is the largest lender to a firm.
Germany: Sample includes 100 largest publicly-traded firms for 1974. Source: Edwards and Fischer (1994) based on Monopolkomission (1976).
Japan: Sample includes the 761 firms listed in the first section of the Tokyo Stock Exchange in 1992. Source: Hoshi and Kashyap (forthcoming).
United States: Sample includes all firms listed in the Forbes 500 for 1992. Source: Authors' calculations based on Hallock (1997).

Table 2: Medians for Characteristics of Firms with and without a Banker on the Board in 1992

Each cell contains the median. The figures are in bold italics if the difference between the banker and no banker samples is statistically significant at least the 10 percent level. The data are from 1992 and include 136 firms with a banker on the board and 294 firms with no banker on the board. For some items, the median is computed from fewer than 136 or 294 firms due to missing data.

	Banker	No Banker
Total Assets (Millions 1992 $)	***3,959***	***2,726***
Standard deviation of Monthly Stock Returns (Jan 1988 - Dec 1991)	***0.073***	***0.080***
Tangible Assets / Assets	***0.482***	***0.362***
Notes Payable / Debt	0.060	0.066
Debt Maturing within One Year / Debt	***0.125***	***0.155***
Debt / Assets	***0.297***	***0.267***
Cash / Assets	***0.023***	***0.042***
Liquidity Assets / Assets	***0.277***	***0.411***
Percent with a Commercial Paper Rating	***0.610***	***0.486***
Dividends / Net Income[a]	***0.525***	***0.376***
Interest Coverage Ratio	***5.696***	***6.530***
Earnings Plus Interest Before Taxes / Total Assets	0.098	0.101
Sales Growth, average of prior 3 years	***0.043***	***0.062***
Q	***1.257***	***1.415***

[a]This variable is defined only for firms with positive net income.

Table 3: Probit and Tobit Estimates relating Firm and Industry Characteristics to the Presence of a Banker on the Board

Panel A: Marginal Effects from a Probit Model

The coefficients are the marginal effects, estimated from a probit model, of a one unit change from the mean of each independent variable on the probability of having a banker on the board. The dependent variable is one if the firm has a banker on its board in 1992 and zero otherwise. Mean of the dependent variable is 0.316. Firm size is measured as the log of assets. Volatility is measured as the standard deviation of monthly stock price returns from January 1988 to December 1991. Tangible Assets include property, plant, and equipment. Commercial Paper Rating is one if the firm has such a rating and zero otherwise. Short-term debt is debt with less than one year maturity. All specifications include one-digit SIC code industry indicators but their coefficients are not reported. N = 430, except for column (4) which contains 420. Standard errors are in parentheses.

	(i)	(ii)	(iii)	(iv)
Std Dev of Monthly Stock Returns	-1.808 (0.832)	9.784 (4.608)	11.229 (4.655)	10.766 (4.763)
Std Dev of Stock Returns Squared	-	-62.340 (24.745)	-67.085 (25.249)	-66.947 (25.773)
Log of Assets	0.057 (0.022)	0.057 (0.022)	0.050 (0.023)	0.054 (0.026)
Ratio of Tangible Assets to Total Assets	-	-	0.327 (0.133)	0.247 (0.141)
Commercial Paper Rating (1 if yes)	-	-	0.034 (0.050)	0.035 (0.052)
Ratio of Debt to Market Value of Equity plus Debt	-	-	-	-0.038 (0.133)
Ratio of Short Term Debt to Total Debt	-	-	-	-0.204 (0.126)
p-value of F-test for joint significance of linear and non-linear Std Dev terms	-	0.015	0.025	0.021
p-value of chi^2 for regression	<0.01	<0.01	<0.01	<0.01
Pseudo-R^2	0.038	0.050	0.063	0.064

Table 3 (continued)

Panel B: Tobit Estimate of the Share of Bankers on the Board

The coefficients are from a Tobit model. The dependent variable is the number of bankers on the board in 1992 divided by the size of the board in 1992. Mean of the dependent variable is 0.03. Of the total of 430 observations, 294 are left-censored. The constant is estimated but not reported. Volatility is measured as the standard deviation of monthly stock price returns from January 1988 to December 1991. Firm size is measured as the log of assets. Tangible Assets include property, plant, and equipment. Commercial Paper Rating is one if the firm has such a rating and zero otherwise. Short-term debt is debt with less than one year maturity. All specifications include one-digit SIC code industry indicators but their coefficients are not reported. N = 430, except for column (4) which contains 420. Standard errors are in parentheses.

	(i)	(ii)	(iii)	(iv)
Std Dev of Monthly Stock Returns	-0.691 (0.318)	3.236 (1.747)	3.712 (1.756)	3.533 (1.755)
Std Dev of Stock Returns Squared	-	-21.259 (9.659)	-22.567 (9.747)	-22.247 (9.711)
Log of Assets	0.018 (0.007)	0.018 (0.007)	0.015 (0.008)	0.017 (0.008)
Ratio of Tangible Assets to Total Assets	-	-	0.129 (0.043)	0.100 (0.045)
Commercial Paper Rating (1 if yes)	-	-	0.015 (0.017)	0.014 (0.017)
Ratio of Debt to Market Value of Equity plus Debt	-	-	-	-0.023 (0.046)
Ratio of Short Term Debt to Total Debt	-	-	-	-0.072 (0.042)
p-value of F-test for joint significance of linear and non-linear Std Dev terms	-	0.028	0.053	0.041
p-value of chi^2 for regression	<0.01	<0.01	<0.01	<0.01
Pseudo-R^2	0.150	0.191	0.255	0.271

Table 4: Multinomial Logit Model relating Firm and Industry Characteristics to the Presence of a Banker on the Board and the Bank's Lending Relationship to the Firm

Panel A: Three Categories

In panel A, the dependent variable is classified into three categories: no banker on the board (n=294), a banker on the board with no lending relationship (n=29), a banker on the board with some lending relationship (n=48). In panel B, the third category is split to distinguish between a banker on the board with a main bank lending relationship (n=14) and a banker on board with a minor lending relationship (n=34). The lending relationship is determined from DealScan's Loan Pricing Corporation (LPC) data. The bank with the largest share of loans outstanding to a firm is defined as the main bank. In the estimates reported below, the "no banker on board" category is the left out group. All specifications include one-digit SIC code industry indicators but their coefficients are not reported. Standard errors are in parentheses.

	Banker with No Lending	**Banker with Some Lending**
Std Dev of Monthly Stock Returns	61.81 (33.95)	162.13 (56.03)
Std Dev of Stock Returns Squared	-283.42 (172.34)	-925.25 (328.52)
Log of Assets	0.42 (0.23)	0.28 (0.19)
Ratio of Tangible Assets to Total Assets	2.22 (1.30)	0.89 (0.96)
Commercial Paper Rating (1 if yes)	0.24 (0.47)	0.28 (0.37)
Ratio of Debt to Market Value of Equity plus Debt	1.11 (1.08)	-0.16 (0.97)
Ratio of Short Term Debt to Total Debt	-1.50 (1.55)	-3.07 (1.30)
p-value of F-test for joint significance of linear and non-linear Std Dev terms	0.17	0.01
p-value of F-test for joint significance of linear and non-linear Std Dev terms in columns (i) and (ii) jointly	0.03	
p-value of chi^2 for regression	<0.01	
Pseudo-R^2	0.11	

Table 4 (continued)

Panel B: Four Categories

In panel A, the dependent variable is classified into three categories: no banker on the board (n=294), a banker on the board with no lending relationship (n=29), a banker on the board with some lending relationship (n=48). In panel B, the third category is split to distinguish between a banker on the board with a main bank lending relationship (n=14) and a banker on board with a minor lending relationship (n=34). The lending relationship is determined from DealScan's Loan Pricing Corporation (LPC) data. The bank with the largest share of loans outstanding to a firm is defined as the main bank. In the estimates reported below, the "no banker on board" category is the left out group. All specifications include one-digit SIC code industry indicators but their coefficients are not reported. Standard errors are in parentheses.

	Banker with No Lending	**Banker with Minor Lending**	**Banker from Main Bank**
Std Dev of Monthly Stock Returns	61.87 (33.94)	158.22 (61.64)	270.13 (149.29)
Std Dev of Stock Returns Squared	-283.67 (172.41)	-885.17 (352.33)	-1,671.81 (967.02)
Log of Assets	0.41 (0.24)	0.11 (0.23)	0.66 (0.34)
Ratio of Tangible Assets to Total Assets	2.21 (1.29)	0.51 (1.10)	2.32 (1.70)
Commercial Paper Rating (1 if yes)	0.24 (0.47)	0.20 (0.42)	0.63 (0.74)
Ratio of Debt to Market Value of Equity plus Debt	1.11 (1.08)	0.44 (1.07)	-1.56 (1.96)
Ratio of Short Term Debt to Total Debt	-1.49 (1.55)	-2.93 (1.47)	-3.95 (2.58)
p-value of F-test for joint significance of linear and non-linear Std Dev terms	0.17	0.04	0.18
p-value of F-test for joint significance of linear and non-linear Std Dev terms in columns (ii) and (iii) jointly		0.05	
p-value of chi^2 for regression		<0.01	
Pseudo-R^2		0.12	

Table 5: Benchmark Estimates for the Presence of an Investment Banker on the Board and the Proportion of Outside Directors

Panel A: Marginal Effects from a Probit Model Estimating the Likelihood of an Investment Banker on the Board

The coefficients are the marginal effects, estimated from a probit model, of a one unit change from the mean of each independent variable on the probability of having an *investment* banker on the board. The dependent variable is one if the firm has an investment banker on its board in 1992 and zero otherwise. Mean of the dependent variable is 0.11. Volatility is measured as the standard deviation of monthly stock price returns from January 1988 to December 1991. Firm size is measured as the log of assets. Tangible Assets include property, plant, and equipment. Commercial Paper Rating is one if the firm has such a rating and zero otherwise. Short-term debt is debt with less than one year maturity. All specifications include one-digit SIC code industry indicators but their coefficients are not reported. N = 430. Standard errors are in parentheses.

	(i)	(ii)	(iii)	(iv)
Std Dev of Monthly Stock Returns	-0.190 (0.478)	2.897 (2.459)	3.427 (2.342)	4.461 (2.376)
Std Dev of Stock Returns Squared	-	-15.428 (12.413)	-18.437 (12.100)	-22.293 (12.225)
Log of Assets	-0.012 (0.012)	-0.011 (0.012)	-0.006 (0.011)	0.003 (0.013)
Ratio of Tangible Assets to Total Assets	-	-	0.151 (0.081)	0.176 (0.088)
Commercial Paper Rating (1 if yes)	-	-	-0.049 (0.029)	-0.059 (0.030)
Ratio of Debt to Market Value of Equity plus Debt	-	-	-	-0.127 (0.079)
Ratio of Short Term Debt to Total Debt	-	-	-	0.033 (0.068)
p-value of F-test for joint significance of linear and non-linear Std Dev terms	-	0.452	0.320	0.156
p-value of chi^2 for regression	<0.01	<0.01	<0.01	<0.01
Pseudo-R^2	0.02	0.028	0.049	0.058

Table 5 (continued)

Panel B: Tobit Estimates of the Share of Non-Banker Outside Directors on the Board

The coefficients are from a Tobit model. The dependent variable is the number of non-banker outside directors on the board in 1992 divided by the size of the board in 1992. Mean of the dependent variable is 0.70. Since none of the observations are left-censored, the model is equivalent to OLS. The constant is estimated but not reported. Volatility is measured as the standard deviation of monthly stock price returns from January 1988 to December 1991. Firm size is measured as the log of assets. Tangible Assets include property, plant, and equipment. Commercial Paper Rating is one if the firm has such a rating and zero otherwise. Short-term debt is debt with less than one year maturity. All specifications include one-digit SIC code industry indicators but their coefficients are not reported. N = 430. Standard errors are in parentheses.

	(i)	(ii)	(iii)	(iv)
Std Dev of Monthly Stock Returns	0.111 (0.217)	0.138 (0.950)	0.074 (0.954)	-0.136 (0.963)
Std Dev of Stock Returns Squared	-	-0.134 (4.544)	0.569 (4.555)	1.082 (4.556)
Log of Assets	0.006 (0.006)	0.006 (0.006)	0.004 (0.006)	-0.002 (0.007)
Ratio of Tangible Assets to Total Assets	-	-	-0.014 (0.033)	-0.017 (0.035)
Commercial Paper Rating (1 if yes)	-	-	0.022 (0.013)	0.021 (0.013)
Ratio of Debt to Market Value of Equity plus Debt	-	-	-	0.050 (0.034)
Ratio of Short Term Debt to Total Debt	-	-	-	0.007 (0.030)
p-value of F-test for joint significance of linear and non-linear Std Dev terms	-	0.878	0.703	0.912
p-value of chi^2 for regression	<0.01	<0.01	<0.01	<0.01
Pseudo-R^2	0.061	0.061	0.066	0.062

Table 6: Medians for Characteristics of Firms with and without a Banker on the Board in the Ex Ante Sample

Each cell contains the median. Data are from the year before the banker joined the board for firms with a banker on board in 1992. For each of these firms, we found a firm without a banker on its board during the year that the banker joined to construct the control sample. The figures are in bold italics if the difference between the banker and control samples is statistically significant at at least the 10 percent level. Note that there at 98 firms with a banker on board, and 98 firms in the no banker control sample. Some of the cells, however, may have fewer than this number of observations due to lack of data availability.

	Banker	**No Banker**
Total Assets (Millions 1992 $)	***3,015***	***2,305***
Standard deviation of Monthly Stock Returns over 5-Year Period before Banker Joins	***0.082***	***0.087***
Tangible Assets / Assets	***0.475***	***0.380***
Notes Payable / Debt	0.045	0.063
Debt Maturing within One Year / Debt	0.109	0.148
Debt / Assets	***0.287***	***0.209***
Cash / Assets	***0.036***	***0.053***
Liquidity Assets / Assets	***0.346***	***0.475***
Percent with a Commercial Paper Rating	0.317	0.323
Dividends / Net Income[a]	***0.402***	***0.315***
Interest Coverage Ratio	***6.272***	***8.963***
Earnings Plus Interest before Taxes / Total Assets	***0.120***	***0.135***
Sales Growth, average of 3 years before Banker Joins	0.094	0.124
Q	***1.075***	***1.306***

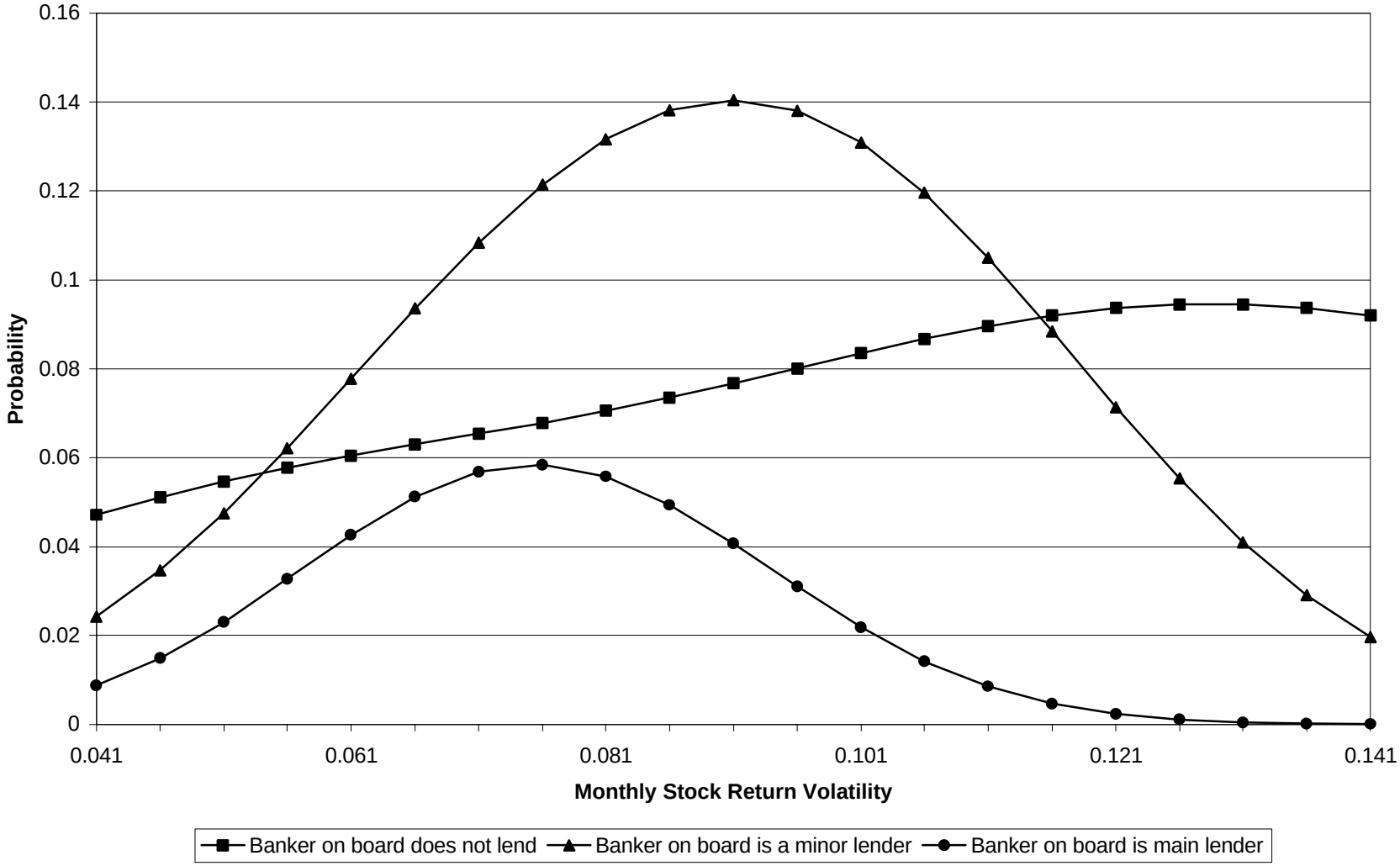
[a]This variable is defined only for firms with positive net income.

Table 7: Marginal Effects from a Probit Model Predicting the Whether a Banker Joins a Board based on Ex Ante Firm Performance

The coefficients are the marginal effects, estimated from a probit model, of a one unit change from the mean for each independent variable on the probability of having a banker on the board. The dependent variable is one if the firm has a banker on its board and zero otherwise. Data in the model are based on a sample of firms with a banker on board (N=98), and those without a banker on board (N=98). The specifications with returns and excess returns include only 191 observations. The excess return on a firm's stock is the annual return minus the return on the value-weighted return on all stock trading on the NYSE, AMEX and NASDAQ. All specifications include industry indicator based on one-digit SIC code. Standard errors are in parentheses.

	(i)	(ii)	(iii)
Negative Earnings in Year Banker Joins?	0.165 (0.139)	-	-
Negative Earnings in Year Before Banker Joins?	0.182 (0.194)	-	-
Negative Earnings 2 Years Before Banker Joins?	-0.049 (0.137)	-	-
Stock Return in Year Before Banker Joins	-	0.073 (0.121)	-
Stock Return 2 Years Before Banker Joins	-	0.098 (0.129)	-
Stock Return 3 Years Before Banker Joins	-	-0.417 (0.106)	-
Excess Return in Year Before Banker Joins	-	-	0.097 (0.139)
Excess Return 2 Years Before Banker Joins	-	-	0.115 (0.140)
Excess Return 3 Years Before Banker Joins	-	-	-0.065 (0.120)
p-value of chi^2 test for joint significance of the three performance measures	0.424	0.784	0.694
p-value of chi^2 for regression	0.379	0.515	0.477
Pseudo-R^2	0.04	0.03	0.03

Figure 1: Predicted Probabilities from Multinomial Logit Model



Appendix: Frequency of Outside Directorships for Bank Executives relative to Non-financial Firm Executives

To examine the propensity of bank and non-financial firm executives to join other firms' boards, we collect data on the number of board memberships for officer-directors of the largest 20 bank holding companies and non-financial firms in 1996.[46] The data on board memberships is reported in the annual proxy statement. We include directorships for private corporations only, thereby excluding charitable and cultural organizations (e.g., United Way and the Chicago Symphony Orchestra), trade associations (e.g., International Society of Electrical Engineers), and educational institutions. Also, we excluded subsidiaries or companies controlled by their principal employer (e.g., GM Canada for GM and Citibank N.A. for Citicorp). Similarly, if a person was on the board of another holding company and one of its subsidiaries, we counted this as only one directorship.

As the Appendix Table demonstrates, bank executives have a much higher propensity to join outside boards than do other corporate executives. Large bank CEOs are on an average of 2.6 boards, whereas large non-financial firm CEOs are on an average of 1.9 boards. The difference is even more pronounced for officer-directors who are not CEOs: bankers have nearly twice as many board memberships per non-CEO officer-director (1.9 vs 1.0). On average, the officer-directors of each of the 20 largest banks are represented on 6.6 corporate boards, whereas the comparable number for non-financial firms is 4.0. Both large banks and non-financial firms have an average of three insiders (that is, officer-directors) on their boards, but bank boards tend to be larger than the boards of the non-financial firms.

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[46] The largest bank holding companies are measured by total assets in 1996. The largest non-financial companies are those with the greatest combined ranks of sales, assets, and market capitalization.

Large banks have more outside relationships through the board than do large non-financial firms, both through bank officer-directors having more outside board memberships and through having a higher number of outsiders on their boards. Banks thus appear to have a more extensive role in the U.S. corporate governance system through the board than do other firms.

Appendix Table: Comparison of Mean Number of Outside Board Memberships of Officers of Large Banks and Large Non-Financial Companies

This table reports means for board membership of CEOs and other officers on the board of directors of the 20 largest bank holding companies and the 20 largest non-financial companies in the U.S. The 20 largest bank holding companies are based on total assets as of 1996. The 20 largest non-financial companies are those with the largest combined ranks of sales, assets and market capitalization. The data are from the 1996 proxy statements. Inside directors are members of the board of a firm whose principal employer is that firm.

	Top 20 Banks	Top 20 Non-Financial Companies	T-Statistic for Difference of Means
CEO Board Memberships	2.6	1.9	1.32
Non-CEO Board Memberships per Officer	1.9	1.0	2.56
Total Number of Board Memberships per Firm	6.6	4.0	2.10
Percent of Inside Directors	18.8%	24.2%	2.04
Mean Board Size	17.2	13.0	4.45