Identifying the Effect of Managerial Control on Firm

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Abstract

Using a unique sample, we attempt to identify the consequence of the separation between inside ownership and control for firm performance. We exploit the fact that banking institutions may hold their own shares in trust to construct a clean measure of the wedge between inside voting control and cash flow rights. These shares provide managers with no monetary incentives, since their dividends accrue to trust beneficiaries. However, managers may have the authority to vote these shares. Contrary to the belief that managerial control is purely detrimental, we find that it has positive effects on performance over at least some range.

Keywords: Managerial control, Voting rights, Performance measurement, Trust investments

JEL Classifications: G32, G30, G21

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1 Introduction

In 1932, Berle and Means pointed out the conflict of interest inherent in the separation between ownership and control. Since then, agency theory has explored the potential adverse effect the concentration of control in the hands of managers may have. With more control, managers may run the firm for their own gain (e.g. Jensen and Meckling, 1976). Managerial control, however, may not be purely detrimental since it may provide managers with an incentive to make firm-specific investments (e.g. Fama, 1980; Burkart, Gromb and Panunzi, 1997). Ultimately, the effect of managerial control on firm performance must be determined empirically. This is difficult, however, because few precise measures of managerial control exist. The purpose of this paper is to reevaluate the effect managerial voting control has on firm performance by addressing this measurement problem.

Most empirical studies relating managerial control to firm value in the United States focus on control through share ownership. Shares provide managers not only with voting rights, but also with cash flow rights, which may align their incentives with those of shareholders. This makes it difficult to disentangle the effects of voting control from the incentive effects of ownership. This is particularly true if voting control has some positive effects. A finding that firm performance is positively related to ownership could mean either that both incentives and voting control have positive effects or that the incentive effects of ownership dominate its adverse control effects.

In this paper, we solve the problem of measuring voting rights separately from cash flow rights by exploiting a relatively unexplored mechanism of control, one that by 1959 Berle (also Berle and Means, 1968) was deeply concerned with and called the intervention of the fiduciary institution. Berle argued (1959, p. 63-64) that the rapid rise of mutual funds, pension trusts and insurance companies was leading to the final divorce of ownership from control:

> *Now this stock certificate, carrying a right to receive certain distributions and to vote, begins to split. Once it is bought by a fiduciary institution,..., that institution becomes the "stockholder," holds legal title to the stock certificate and to its right to vote. But it has by contract dedicated the dividends or other benefits to distribution among beneficiaries under the pension contract, the fund arrangement, or the insurance policy. The one*

remaining power by which the recipient of corporate profits might have direct relation to corporate ownership has been divided from the benefit itself.

As this quote implies, shares which are held in a fiduciary capacity can be separated into two components: the voting rights, which may be held by the fiduciary manager and the cash flow rights which accrue to the beneficiaries of the fiduciary arrangement. This implies that a situation in which fiduciaries hold *their own* stock in a fiduciary capacity provides a unique setting to examine the effects of managerial control.[1] Since the fiduciary manager is not entitled to the cash flows from these shares, they provide him with no direct monetary incentives. The voting rights fiduciary managers obtain through this mechanism thus cleanly measure managers' excess control.

As a rule a fiduciary should not purchase shares of its own stock, because the duty of loyalty requires a trustee to avoid transactions in which a personal interest might affect his judgment concerning the interests of beneficiaries. However, fiduciaries may invest in their shares if they are properly authorized by the terms of the trust agreement, by court order, or by local law. Banks, in particular, may also become the trustees for trust accounts or pension plans of other corporations which have invested in its stock. As a result, it is quite common for banks to hold their own shares in trust.[2] A study by the Subcommittee on Domestic Finance in 1966 (U.S. House, 1966), whose purpose was to determine the extent to which bank managers could control their banks through shares held in their trust departments, found that 196 out of 210 of the largest commercial banks surveyed held shares in themselves in a fiduciary capacity. More importantly, 162 of them had some voting authority over these shares. This practice continues until today. For example, Whidbee (2002) documents that the subsidiary banks of all publicly traded bank holding companies (BHCs) in CDA Spectrum held 7.58 percent, on average, of their parent BHCs' shares during the 1983 to 1997 period.

[1] Several papers have examined the potential conflict of interest between the beneficiaries and the fiduciaries of a stock, but they have focused on the implications of this conflict for firms other than the fiduciary institution (e.g. Brickley, Lease and Smith 1988, Jarrow and Leach 1991, Payne, Millar and Glezen 1996).

[2] Banks may also be able to vote these shares. They have full voting power over shares acquired for their collective investment funds. The allocation of voting rights of all other trust shares is determined in conjunction with clients. See Krikorian (1995) and Bogert and Bogert (1973) for the statutory, regulatory, and judicial principles on the trust activities of financial institutions.

Adams and Santos (2004) find that each of the top 20 bank holding companies in 2000 controlled some of their voting rights through their trust departments.

These studies highlight that banking institutions, as a result of their trust activities, hold their own stock in a fiduciary capacity sufficiently often to provide a unique opportunity to study the effect of managerial control on firm value. Complete data on this mechanism of control is currently not readily available, because disclosure rules concerning institutional managers' voting authority pertain only to assets they have investment discretion over.[3] Unaffected by this reporting problem, the data from the Subcommittee on Domestic Finance's 1966 study represents, to our knowledge, the most comprehensive data set on the voting rights banks obtain through shares they hold in themselves in their trust departments (henceforth: own-bank shares). It includes market values for the sample firms, so it is a natural choice of data set for our purposes. Since the firms in this sample are all banks, the homogeneity of this sample may help us to identify the effect of managerial voting power on firm value. On the other hand, the unique nature of banks raises concerns about the generality of the findings, an issue which we investigate in some depth later.

We examine the relationship between voting control and firm performance using a proxy for Tobin's Q as a performance measure. Our proxy for managerial voting power is the proportion (relative to total shares outstanding) of own-bank shares managers can vote. This represents the "wedge" between total control by bank managers and managerial direct ownership and measures the extent to which control by managers is not affected by managerial incentives. Surprisingly, the mean wedge between inside control and ownership is larger in our sample than in samples of non-financial firms in the United States. For instance, La Porta, Lopez-de-Silanes, Shleifer and Vishny (2002)

[3] For example, data collected using 13F filings by institutional managers generally understates their true level of voting power. This problem is potentially significant because as of 1999, for example, the banks, savings associations and trust companies engaged in trust activities had aggregate trust assets worth $23 trillion, but had investment discretion over only $4.4 trillion of these assets (Federal Financial Institutions Examination Council, 1999).

report a wedge of 1% for the large shareholders of the 20 largest non-financials around 1996. In contrast, the mean wedge for our firms is 4.58%.[4]

While some contend that managerial voting control is necessarily detrimental, others disagree. Alchian and Demsetz (1972) argue that if information about managerial performance is difficult to communicate to outsiders, then managers' control may deter relatively uninformed outside stockholders from mistakenly replacing the incumbent management team with a less productive group. Similarly, vote ownership can shield management from the appropriation of the returns to organizational-specific investment by other management teams (Fama, 1980). Stulz (1988) argues that some voting control by insiders (management) may increase firm value because it ensures a higher bid premium in a hostile takeover contest; but too much voting control in the hands of insiders may prevent value-enhancing takeovers.[5]

We find that control has a negative effect on performance for large stakes. However, consistent with the theories we describe above, firm value is generally positively related to managerial voting control for small voting stakes. When we use variation in state law concerning the ability of trustees to vote shares they hold in a fiduciary capacity as instruments for managerial control, we find that these results do not appear to be driven by potential endogeneity problems. Our results also do not appear to be driven by omitted regulatory variables, chartering effects or our choice of performance measure.

The remainder of the paper is organized as follows: in section 2, we place our paper in the context of current literature; in section 3, we describe our data and proxies for managerial voting control; section 4 describes the empirical relationship between Tobin's Q and voting control; in section 5 we address the potential endogeneity of voting control. We present several robustness checks in section 6, where we also discuss the economic significance of our results. We examine

[4] Similarly, Adams and Santos (2004) find that the mean wedge through trust holdings in the top 20 bank holding companies in 2000 is 2.71%. If voting rights attached to pension plan and ESOP shares are also attributed to management, it is 5.90 %.

[5] This list of theories about the benefits of managerial voting power is not exhaustive. For example, Grossman and Hart (1988) argue that a controlling voting stake may be efficient when private benefits are a return to large sunk investments. See also Harris and Raviv (1988) and Burkart et al. (1997).

whether the unique nature of banks affects the generality of our results in section 7. Section 8 concludes.

2 Related Literature

Several papers have examined the effect of managerial voting control through ownership on firm value.[6] For example, Morck, Shleifer and Vishny (1988), McConnell and Servaes (1990) and Holderness, Kroszner and Sheehan (1999) document a non-linear relationship between Tobin's Q and managerial ownership and argue that the negative effects of voting rights attached to ownership dominate its incentive effects over certain ranges of ownership. These papers, however, are unable to distinguish between cash flow rights and voting rights attached to ownership.

Several papers have tried to disentangle the two effects. One set of papers (e.g. Chang and Mayers, 1992; Gordon and Pound, 1990; Dhillon and Ramirez, 1994; Chaplinsky and Niehaus, 1994) uses ESOPs to examine the effect of managerial voting power on firm value.[7] These papers are similar to ours since the trustee of an ESOP may be able to vote the unallocated shares in the ESOP without being entitled to all the corresponding cash flow claims. Analyzing the stock price reaction to ESOP announcements, all of these papers find evidence consistent with the idea that managers use ESOPs as an entrenchment mechanism. However, in cross sectional analyses of abnormal announcement returns, Chang and Mayers (1992), Dhillon and Ramirez (1994) and Chaplinsky and Niehaus (1994) find that there may be beneficial effects of ESOPs at low levels of managerial ownership. Although the conclusions of these papers are similar to ours, our paper differs in significant ways due to differences between ESOP shares and own-bank trust shares.

First, as Chaplinsky and Niehaus (1994) point out, ESOP trustees are usually required to vote unallocated shares in the same way that employees vote allocated shares. ESOP shares thus measure

[6] Managers' effective voting power may be affected by factors other than their direct control of votes, such as staggered voting rules for directors (see Stulz, 1988, and Mikkelson and Partch, 1989). We do not address these issues in this paper.

[7] Lease, McConnell and Mikkelson (1983, 1984), DeAngelo and DeAngelo (1985), Zingales (1995), Partch (1987), Jarrell and Poulson (1988) use dual-class shares to define excess control.

managerial voting power only to the extent that employees' incentives are aligned with those of management. In contrast, bank management more directly controls trust shares.[8]

Second, the control that fiduciaries accumulate through their trust departments is arguably more exogenous than the control managers accumulate through ESOP shares (or dual class shares). Bank managers are restricted in their ability to accumulate control through trust shares because the ability of the bank to invest in and vote its own shares is circumscribed by the trust agreement, state trust laws, provisions of federal law and the trust's investment objectives. Fiduciary principles, such as the duty of loyalty, require that the bank sell the shares when it is in the trust beneficiaries' best interests to do so. This means that potential endogeneity problems due to selection effects may be smaller in samples of trust department shares than in ESOP samples (as well as in dual class samples).

More importantly, ESOPs are often introduced to achieve a variety of non-control related objectives, including 1) to provide incentives for employees, 2) to obtain tax advantages or 3) to obtain cheap financing (e.g. Chang and Mayers, 1992). As a result, it may be difficult to interpret empirical results using ESOP shares purely in terms of managerial control. In contrast, own-bank trust shares have no incentive, tax or financing advantages that we know of, thus their voting rights are more likely to measure managerial control.[9]

Our paper is also related to two recent papers, which argue that the divergence between ownership and control is greater outside the United States; they exploit this fact to analyze the implications of this separation for shareholder value (La Porta et al., 2002; Claessens, Djankov, Fan and Lang, 2002). Because a large shareholder generally controls the firms in the samples in these papers, they focus on the conflict of interest between the large shareholder and the minority shareholder. In our paper, we focus on the effect of managerial control.

[8] The people responsible for managing the trust assets are often directly connected to the institution's management. For example, it was common for trust officers to sit on the boards of our sample banks.
[9] Trust shares may provide indirect incentives for bank managers, because the bank gets paid for managing the trust portfolio, and this pay may increase with the performance of the trust portfolio. Since the bank's stock is generally only one component of the portfolio, it is unlikely that trust shares forge a strong link between the manager's monetary incentives and his bank's performance.

Contrary to our paper, Claessens et al. (2002) find that control has a purely detrimental effect on firm value in a sample of East Asian firms. This is not necessarily surprising since the effect of managerial control on firm value may be different from the effect a controlling shareholder has on firm value. Since a large shareholder need not be directly involved in the day-to-day management of the firm, he may not need to invest in firm-specific human capital or worry about expropriation by outside shareholders. While the literature predicts a positive relation between large shareholder cash flow rights and firm value (e.g. Shleifer and Vishny, 1986), it does not generally predict a positive relation between control by large shareholders and firm value.

One major difference between our paper and the literature examining the relationship between control and firm performance is that the nature of our data allows us to examine the potential endogeneity of control in an instrumental variable framework. Federal law generally allows banks to vote the stock they hold in a fiduciary capacity, except that under 12 U.S.C., section 61, national banks can vote their own shares they hold as a sole fiduciary on all matters other than the election of bank directors. However, there is little uniformity in the law affecting state banks in this regard. Thus, we can exploit variation in state law regarding the ability of trustees to vote their shares to construct instruments.[10]

3 Data

3.1 Sample Collection

Our primary data source was collected for the study "Bank Stock Ownership and Control" for the Subcommittee on Domestic Finance of the Committee on Banking and Currency in 1966 (U.S. House, 1966). This data was collected via a survey of potential holders of bank stock identified from an earlier study by the Subcommittee (U.S. House, 1964), which detailed the 20 largest stockholders

[10] Such laws would not be useful instruments for ESOP control after 1974, since ERISA governs all private pension plans and supersedes all state laws regarding private pension plans. Such laws would also not be good instruments in a sample of more recent data on own-bank trust shares. Nowadays, most publicly traded banking firms are bank holding companies with subsidiaries in multiple states. Thus, the strength of such legal instruments would be diluted to the extent that the management of trust assets is spread across different subsidiaries.

of record in the member banks of the Federal Reserve System in 1962. The survey participants were asked to furnish three pieces of information: the name of the bank in which they held shares as of March 1, 1966, the number of shares they held, the names of each beneficial owner of each bank stock held, and the arrangements under which the bank stock was voted.[11] From this data, the Subcommittee constructed a detailed description of the number of shares 210 of the 300 largest banks held in themselves (own-bank shares).[12] According to the Subcommittee, in almost all cases, these shares were held by the banks in their trust departments or were held by the banks' nominees.[13]

For each of the 210 banks, the report lists the name of the bank, the city and state the bank is located in, how many shares it holds in itself and the number of those shares over which it has no voting power, partial voting power or sole voting power. A bank has sole voting power when its officers have the right to vote the shares without consultation with others not officially connected with the bank or the bank nominee. The bank has no voting rights when the beneficial owner or some other entity unconnected with the bank has the voting rights. The bank has partial voting rights in all the intermediate situations, for example, when 1) the bank or nominee may proceed to vote the stock if, after notifying someone else, it is not given instructions on how to vote, or 2) the bank or its nominee votes the stock in favor of management on all routine noncontroversial matters, after having received no instructions from the beneficial owner, and it has forwarded all materials to the beneficial owner with or without recommendations on how to vote on all controversial issues, or 3) a bank has stated that it is restricted from voting the stock held in its own bank in trust on particular issues (such as the election of directors in the case of national banks).

[11] According to rule 13d-3 of the Securities and Exchange Act of 1934, the beneficial owners of a security include any person who directly or indirectly, through any contract, arrangement, understanding, relationship, or otherwise has or shares: 1. Voting power that includes the power to vote, or to direct the voting of, such security; and/or 2. Investment power which includes the power to dispose, or to direct the disposition of, such security. To reduce the burden of paperwork, no information on beneficial owners or voting arrangements was requested for stockholders of record who together with their nominees owned less than 1% of the outstanding shares of a commercial bank.

[12] This group of banks controlled over 60 percent of all bank deposits in the country.

[13] A nominee is the registered owner of a security that is different from, and is appointed by, the beneficial owner. Since, in this case, the bank appoints the nominee, shares held under the name of the nominee for the bank are treated as being owned by the bank.

The ownership data from the 1966 study does not contain information on all components of inside ownership, such as shares owned by managers and directors.[14] To supplement our data we use the 1964 study on the ownership structure of commercial banks (U.S. House, 1964) to construct a proxy for the direct holdings of insiders in our sample banks in 1966.[15] For each of the top 20 shareholders in a given bank as of May 1962, the 1964 study identifies whether the stockholder is a nominee of the bank, a director, officer, director and officer or "Other." Our proxy for the direct holdings of insiders (DHI) is the total proportion of shares held by officers, directors and officer-directors (inside directors) in 1962, who are not also listed as nominees of the bank (since nominee shares are included in the 1966 totals).[16] We were unable to find this data in the 1962 study for 15 of our sample banks; so, whenever we use the direct holdings of insiders in our regressions the size of our sample is reduced.[17]

From the 1966 study (U.S. House, 1966), we obtained the market value of outstanding common stock as of February 28, 1966 for 185 of the 210 banks. We obtained balance sheet information for 207 of our sample banks from the *Reports of Condition and Income* (Call Reports) from the Federal Reserve Board.

Many states restricted the acquisition of banks in 1966. To characterize the regulatory environment at the time, we obtain information on state laws affecting bank branching and multibank holding company (MBHC) formation from Amel and Keane (1987).

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[14] We tried to obtain proxies from a variety of sources, including Harvard's Baker Library, in order to collect managerial ownership data for 1966. Because many of our banks were traded on regional exchanges, we could obtain only a handful of these proxies for 1967. Most proxy data services collect proxies from the 1970s onwards and concentrate on firms traded on the major national exchanges.

[15] Mikkelson and Partch (1989), La Porta, Lopez-De-Silanes and Shleifer (1999) and Zhou (2001) all find that managerial ownership is relatively stable over time. La Porta et al. (1999) use this fact to justify their use of ownership data from different years in their study.

[16] Although this definition of inside ownership is consistent with the SEC's definition, as a robustness check we reran our regressions using a measure of managerial holdings that excluded shares held by outside directors. Since the results were very similar, we do not report them here. They are available upon request.

[17] While we cannot measure shareholdings by insiders who are not listed among the top 20 shareholders of record, we do not believe that the missing information is significant since the smallest shareholding listed for our sample banks is less than 1%, 97.95% of the time and less than 1.28%, 100% of the time.

3.2 Construction of Financial and State Level Variables

As in previous studies of corporate control, our main performance measure is a proxy for Tobin's Q. We define Tobin's Q to be the ratio of the firm's market value to its book value. We define the firm's market value to be the book value of assets minus the book value of equity plus the market value of equity. Our secondary performance measure, ROA, is the ratio of net income to the book value of assets.

Since most of our sample banks were listed on regional exchanges in the 1960s, we have stock price data for February 28, 1966 only. Thus, we follow Demsetz and Lehn (1985) and use the standard deviation of ROA from 1962-1966 to control for firm-specific risk.

To control for local economic conditions and banking regulation, we construct two state level variables. The first, STATE HHI, is the sum of squared state asset shares over all banks in a given state, constructed from additional Call Report data. The second is an index of regulatory slack concerning bank acquisitions in 1966.

At the time, there were two primary ways of obtaining control over a commercial bank: through the acquisition of a controlling interest in the bank or a merger. The Bank Holding Company act of 1956 limited the acquisition of control in commercial banks to bank holding companies. This Act applied nationwide, but the regulations on the number of banks each BHC could control varied across states. Differences in state laws on branching also affected the likelihood that a bank became the target of a merger. A bank located in a state with statewide or restricted branching was arguably more likely to be acquired than a bank located in a unit banking state because it could be operated as a branch afterwards. We therefore construct our index measuring the ease with which banks could be acquired as the sum of two sub indices which rank the leniency of state laws in 1966 with respect to MBHC expansion and branching. To construct the sub indices, each method of expansion was classified at the state level using Amel and Keane's (1987) description of state laws as prohibited (a value of zero), restricted (a value of 1) or allowed (a value of 2). We provide the classification of state laws and our index in the appendix. Table 1 presents summary statistics for select financial characteristics of the banks in our sample, as well as our state level variables.

3.3 **Construction of Proxies for Managerial Voting Power**

Own-bank shares are one component of insider holdings according to the definition of insider holdings of the SEC (see footnote 11). We argue that these shares provide no cash flow rights to bank managers and therefore represent pure voting control to the extent that bank managers can vote these shares. Total inside ownership would also include the shares managers hold for their individual accounts.[18] However, since these shares generally have both cash flow and voting rights, it is difficult to know the best way to treat them. Because of these problems, we use the proportion (relative to total shares outstanding) of own-bank shares managers can vote as our proxy for managerial voting power. This represents the difference between total control by bank managers and managerial direct ownership and therefore measures the extent to which control by managers is not affected by monetary incentives. La Porta et al. (2002) and Claessens et al. (2002) call this measure the "wedge" and use it to measure the extent to which there are deviations from one-share one-vote (or the magnitude of the separation of ownership from control).

Managerial control over own-bank trust shares varies because many types of voting arrangements are possible. The survey recipients in U.S. House (1966) were asked to describe the voting arrangements of their bank shares using 13 definitions, plus an "Other" category. This data was then aggregated into categories of sole, partial and no voting control, although the boundaries between sole and partial control are not well-defined. For example, even though national banks cannot vote on the election of their directors, their stakes were only classified as having partial voting rights if the banks explicitly declared that they were restricted in voting them in the "Other" category. As a result, 74 of 139 national banks in our sample are listed as having stakes with sole voting control. While it seems that these stakes should not be considered to have sole voting power, according to Banking (1967), the voting restriction on national banks means that stock held in trust

[18] See also the definition of insider holdings in banking firms in Gorton and Rosen (1995, p. 1416). They define total insider holdings as stock held by officers and directors, as well as stock held by 1) director nominees, 2) the banking firm's pension plan or ESOP, 3) a trust for a director, 4) families of officers or directors and 5) the banking firm's trust department.

accounts is effectively removed from voting at director elections, thereby reducing the number of shares required to obtain a majority. As a result, national banks may still have effective control over own-bank trust shares with sole voting power. The definition of partial voting power we described in section 3.1 also suggests that bank managers often have effective control over shares classified as having partial voting rights. As a result, we define voting control using both the proportion of own-bank shares over which managers have some voting power (SOMECTRL), which is the sum of own-bank shares with sole voting power plus own-bank shares with partial voting power, as well as the proportion of own-bank shares over which managers have sole voting power (SOLECTRL).

In Table 2, we provide descriptive statistics for own-bank shares, managerial holdings in 1962, and our measures of managerial voting power. We also summarize a measure of total beneficial holdings of insiders, which is the sum of own-bank shares and the direct holdings of insiders. On average, total beneficial inside holdings in 1966 are similar to the numbers in Gorton and Rosen (1995), who report mean inside holdings of 15.25% in a sample of 458 of the top 1274 bank holding companies in 1987 and 1988. What is striking from Table 2 is that own-bank shares comprise a large portion of beneficial inside holdings. On average, our sample banks hold 8.25% of their own shares in their trust departments, while direct holdings of insiders are on average only 5.91%. In addition, the average amount of (at least partial) voting control managers obtain through own-bank shares, 4.58%, appears approximately similar to the amount they obtain through direct holdings (assuming direct holdings are one-share one-vote).

4 The Relationship between Tobin's Q and Managerial Voting Control

In this section, we examine the relationship between firm value, as proxied by Tobin's Q, and managerial voting power. In section 4.1, we describe our hypotheses and specifications. In section 4.2, we describe the results from our OLS regressions using SOMECTRL as our measure of managerial voting power. In section 4.3, we use SOLECTRL as our measure of voting power.

4.1 **Specification**

Our goal is to determine the relationship between managerial voting power and firm performance. Most papers on managerial control argue that managers with too much voting control may expropriate minority shareholders, but some argue that managerial control can be beneficial. Ultimately, the relationship between managerial voting control and firm value may be non-linear. For this reason, we consider specifications in which voting control appears linearly, as well as quadratic specifications as in McConnell and Servaes (1990) and Himmelberg, Hubbard and Palia (1999) in order to investigate whether the relationship between managerial voting power and firm value is concave.

In our basic specification, we regress Tobin's Q on proxies for managerial voting control (and their squares), the natural logarithm of the book value of assets (a proxy for firm size), capital divided by assets (a proxy for leverage), one-period lagged return on assets (a proxy for prior performance) and the standard deviation of year-end return on assets from 1962-1966 (a proxy for uncertainty). Gorton and Rosen (1995) argue that measures of managerial control may be correlated with managerial risk-taking in banks and hence banks' loan portfolios. Since risk-taking behavior may also affect performance, we attempt to control for omitted variable bias by including the proportion of real estate and C&I loans in the bank's loan portfolio in an expanded specification. In this specification, we also include the proportion of operating revenues the bank obtains from its trust business (a proxy for the size of the trust department) and our two state-level variables, STATE HHI and our index of regulatory slack.

We include the latter two variables because the theoretical literature predicts that one way in which managerial control will affect performance is through its effect on the outcome of a takeover contest. Stulz (1988) argues, for example, that shareholders may benefit from a higher takeover premium when managers have the ability to resist some takeovers. But, shareholders are worse off when managers have the ability to deter all takeovers. Consistent with the latter idea, James (1984), Brickley and James (1987) and Shranz (1993) provide evidence suggesting that the threat of dismissal through the market for corporate control increases managerial incentive alignment and, as a result,

performance in the banking industry. Like these authors, we proxy for regulatory restrictions on bank acquisitions using an index of state law as a control variable. In our formulation, higher values of the regulatory slack index indicate fewer restrictions on bank acquisitions and a more active market for corporate control. Even when acquisitions were unrestricted, it is plausible that regulators were less likely to approve bank mergers and acquisitions in states in which the banking industry was highly concentrated. To control for this possibility, we include STATE HHI as a proxy for competition. Of course, competition should also have direct effects on performance.

We also use the direct holdings of insiders (DHI) as a control variable in some specifications. To deal with the problem of disentangling the control from the cash flow rights of managerial ownership, we either leave it out of the regressions altogether, or use it as a control variable.

In all specifications, we adjust the standard errors for potential heteroskedasticity. We also adjust the standard errors for group correlation within states when we add the state level variables STATE HHI and Regulatory Slack Index. Beneath all specifications in which we include the square of managerial control, we provide the estimated argmax of firm performance and the proportion of sample firms in which control is greater than the argmax. We also provide the intercept and the difference between the intercept and the maximum of the estimated quadratic function of control. The intercept is calculated as the predicted level of performance when voting control is zero and all control variables are at their means. The maximum is calculated as the predicted maximum level of performance when voting control is equal to the argmax and all control variables are at their means. An estimate of the magnitude of the total potential increase in performance due to voting control is the difference between the maximum level of performance and the intercept.

4.2 **Results**

In Table 3, we present OLS regressions of Tobin's Q on SOMECTRL. In columns I-III, SOMECTRL enters linearly; in columns IV-VI, we also include its square. Across all columns, the coefficient on SOMECTRL is positive and significant at greater than the 10% level. Consistent with a concave relation between performance and managerial control, the sign on the square of SOMECTRL

is negative across all quadratic specifications and significant at greater than the 10% level. The signs of the coefficients on the control variables are generally consistent with those found in other studies. In particular, the coefficient on DHI is positive (although significant in only one specification, at the 5% level), in accordance with the idea that ownership incentives have a positive effect on firm value.

These results suggest that too much voting control may entrench management to the detriment of minority shareholders, which is consistent with the results Claessens et al. (2002) found for large shareholders. Contrary to their results for large shareholders, however, we find that the coefficient on our proxy for managerial control is positive and significant in both the linear and non-linear specifications. This suggests that there may be some benefit to concentrating some voting control in the hands of managers.

4.3 **Sole Voting Power**

Since it is not always clear that bank managers get to exercise the voting rights attached to shares with partial voting power, we reexamine our previous results using SOLECTRL as our measure of managerial voting power. In columns I-III of Table 4, we replicate a subset of the OLS regressions in Table 3 using SOLECTRL as our measure of voting power. Again we find a positive and significant (at greater than the 10% level) relation between Tobin's Q and our voting power proxy in the linear specifications. In general, SOLECTRL appears to have a stronger effect on Tobin's Q than SOMECTRL does. All the coefficients on SOLECTRL are larger than their counterparts on SOMECTRL in the linear specifications in Table 3. However, we find no concave relation between Tobin's Q and SOLECTRL. It is plausible that the range of stakes with sole voting power may be too small (0-27.79%) to capture a detrimental effect of too much voting control in column III.

It is difficult to say which of SOMECTRL and SOLECTRL is the best proxy for managerial voting power. If the best proxy is SOMECTRL, then the SOLECTRL regressions suffer from omitted variable bias, which is difficult to sign in the quadratic specifications. On the other hand, if SOLECTRL is the best proxy, then the regressions using SOMECTRL suffer from the fact that we

have added an irrelevant variable (the proportion of own-bank shares with partial voting control) to SOLECTRL. Despite these potential problems, the results in the linear specifications display a similar pattern for both proxies. We conclude from Tables 3 and 4 that managerial control is positively related to performance, at least for small stakes.

5 Potential Endogeneity of Voting Control

While the previous section suggests that for small voting stakes there is a positive relationship between managerial voting control and Tobin's Q, we cannot necessarily infer that excess managerial voting power *causes* good (or bad) performance. Because of regulatory and legal restrictions, the control banks accumulate through their trust departments is arguably more exogenous than the control their managers accumulate through other means, however, it is still possible that managerial voting power and firm value depend on an omitted variable or that managerial voting power changes in response to changes in performance, i.e. there is feedback in the system. We try to address the latter problem in section 5.1 and the former problem in section 5.2.

5.1 Endogeneity due to Reverse Causality

Since our measure of voting control is generated because banks hold shares of themselves in their trust departments, the most likely source of feedback is the trust department's investment behavior.[19] Possible arguments for a causal link from performance to own-bank shares are provided by Del Guercio (1996), who argues that banks tend to tilt their portfolios towards high-quality, prudent stocks, because, as fiduciaries, they are subject to the strictest interpretations of the prudent man laws. Bank trusts may invest in their bank's stock when the bank is performing well and obtain the associated voting rights as a consequence.[20]

[19] It is important to note, however, that the investment behavior of the trust department can only affect the amount of voting rights attached to the shares over which the trust department has investment discretion. As we pointed out in the introduction, the amount of assets over which fiduciaries have investment discretion may not be a large fraction of their total assets in trust.

[20] How much voting power a bank manager has through shares he holds in trust for the benefit of others may be sensitive to current as well as potential trust clients' perception of his ability. Since banks and trust clients are hesitant to disclose information about their trust agreements it is generally difficult to know

In order to examine to what extent reverse causality is driving our results, we need instruments which are correlated with own-bank voting stakes but uncorrelated with firm performance except through variables included in the equation explaining firm performance. To construct our instruments, we exploit variation in state law concerning the ability of trustees to vote their shares. A survey of state laws in the 1960s commissioned by the Subcommittee on Domestic Finance (U.S. House, 1966) reveals that states could be grouped into four different categories (see Table 5). At one end of the spectrum, there were 7 states with specific statutory provisions prohibiting corporations to vote their own shares held in a fiduciary capacity. The remaining 43 states allowed corporations to vote their stock held in a fiduciary capacity. Of these, 24 states had no statutory provisions concerning the power of the trustee to vote the shares held by him. Based on the general common law rule, this implied that the trustee had the power to vote those shares. Another 13 states had statutory provisions, which codified this general common law rule and gave general power to the trustee to vote the shares held by him in a fiduciary capacity. The remaining 6 states had provisions that provided specific authority to corporate trustees to vote their own shares held in trust.

Using the Call Reports, we can identify the charters of our sample banks. Since this enables us to determine which legal regime the banks are subject to, we choose as our set of instruments a set of dummy variables characterizing the legal and regulatory statutes pertaining to the ability of a trustee to vote his own shares he holds in trust. One dummy indicates whether a bank is a national bank. For the state banks the dummies indicate whether the state the bank is located in has 1) no statutes restricting trustee voting, 2) general statutes allowing trustees to vote shares held in a fiduciary capacity, 3) statutes specifically allowing trustees to vote their own shares held in trust or 4) statutes forbidding the voting of own shares held in a fiduciary capacity.[21] Since these legal dummies

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exactly how the right to vote is allocated in trust agreements or whether trust clients have the tendency to switch trust managers following poor performance. However, it is plausible that this may be another source of feedback in the relationship between own-bank control and firm performance.

[21] Of the 210 banks for which we have ownership data, 139 are national banks, which may not vote shares they hold in themselves in trust for the election of directors. 36 are state banks which are generally allowed to vote shares they hold in a fiduciary capacity; 15 are state banks with specific statutory authority to vote the shares they hold in themselves; 11 are state banks in states with no statutes pertaining to the voting of shares held in trust; and 4 are state banks in states which prohibit trustees from voting the shares they hold

are specifically related to the ability of the trustee to vote shares held in a fiduciary capacity, we have no reason to believe that these variables should be correlated with firm performance other than through the effect that own-bank votes have on firm value.

It is not sufficient for our instruments to be uncorrelated with performance; they must also be correlated with own-bank voting control. Since the laws underlying our instruments restrict the trustees' ability to vote own-bank shares to varying degrees, we believe that they must be correlated with own-bank voting power. Following Bound, Jaeger and Baker (1995), we examine how relevant our instruments are more rigorously by inspecting their joint significance in the first stage regressions of SOMECTRL and SOLECTRL on the instruments and the exogenous variables in the Tobin's Q regressions from the previous section.[22] Since our instruments partition the sample, we omit the national bank dummy from all specifications. Overall, our legal dummies are much better instruments for SOLECTRL than they are for SOMECTRL. While only the dummy for specific voting provisions is significant across all first-stage specifications corresponding to the regressions in Table 3, at least two out of the four legal dummies are significant in all first-stage specifications for SOLECTRL corresponding to the regressions in Table 4.[23] In addition, the F-statistics and the degrees of significance in tests of the joint significance of the instrumental variables are consistently higher in the first-stage regressions using SOLECTRL as the dependent variable.[24]

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in themselves in a fiduciary capacity. We have no information on the legal regimes in the District of Columbia or in Puerto Rico.

[22] Tables are available upon request.

[23] The magnitudes of the coefficients on the legal instruments are also consistent with intuition: trustees generally have more voting power in states where the law appears more permissive. For example, mean SOLECTRL in national banks is 1.50%, whereas mean SOLECTRL in the states where there are no statutes (specific voting provisions/general voting provisions) restricting trustees' ability to vote is significantly higher by 3.52% (1.98%/1.89%).

[24] In the first-stage regressions using SOLECTRL, F-statistics for the joint significance of the instruments vary from 4.42 to 6.94, with the associated degree of significance varying from 0.21% to 0.01%. The R-squareds vary from 0.24 to 0.18. In contrast, in the first-stage SOMECTRL regressions the instrumental variables are jointly significant at greater than the 10% level in only one specification (F-statistic of 3.04, with corresponding significance level 1.87%, R-squared of 0.09). Bound et al. (1995) show that a small F-statistic in tests of the joint significance of the instrumental variables should be cause for concern about the strength of the instruments. Thus, we conclude that our instruments are more appropriate for SOLECTRL than for SOMECTRL.

Since our instruments appear to be reasonably strong for SOLECTRL, we use them to examine whether exogoneity of SOLECTRL can be rejected, and whether 2SLS is warranted for our Tobin's Q regressions, by performing Durbin-Wu-Hausman tests. Across specifications, the P-values for the Durbin-Wu-Hausman test range from 0.17 to 0.60. We cannot reject the null hypothesis that SOLECTRL is uncorrelated with the error in the Tobin's Q regressions.[25] Under the assumption that our instruments are valid, we conclude, therefore, that our finding that managerial control appears to have a positive impact on performance in Table 3 is not driven by endogeneity problems.

5.2 **Endogeneity due to Omitted Variables**

We tested one of the conditions for valid instruments, that they are correlated with our potentially endogenous variable, managerial control, in section 5.1. However, we cannot test the other condition for valid instruments, that they are uncorrelated with the error term in our performance regression, because the error is unobserved. Since the validity of our analysis in section 5.1 depends crucially on the latter condition, we examine whether our results are robust to potential violations of this condition. In particular, since our banks fall into two main categories, national versus state banks, we examine whether our results hold even if the national bank dummy is correlated with the error term in our performance regression. As we describe in footnote 23, a bank's chartering status is significantly correlated with managerial control. If a bank's charter status is also correlated with performance, then it is possible that our results may not be attributable to the effect of managerial control, but to an omitted chartering effect.

Unfortunately, there is very little literature investigating banks' choice of charter status. Thus, the extent to which charter status is correlated with performance is unclear. The fact that banks may

[25] For the interested reader, we provide the estimated coefficients (t-statistics) on SOLECTRL from the 2SLS regressions corresponding to the specifications in Table 4. They are 0.001 (0.33), 0.001 (0.21) and 0.024 (0.89) in the specifications corresponding to columns I, II and III, respectively. The coefficient (t-statistic) on squared SOLECTRL in the specification corresponding to column III is -0.003 (-1.07). Thus, the pattern of signs on the 2SLS results is consistent with our previous results, although the coefficients are not significant. The coefficients on SOLECTRL are also generally smaller in the 2SLS specifications than in the OLS specifications. However, we hesitate to draw too many conclusions from these finding since we cannot reject that SOLECTRL is exogeneous in our Tobin's Q regressions.

switch charters, but that the distribution of charters remains relatively stable over time suggests that national banks do not systematically underperform state banks and vice versa.[26] However, three recent papers suggest that a bank's charter status may be correlated with its performance through its connection to regulatory scrutiny. In choosing its charter and whether or not to be a member of the Federal Reserve, a bank effectively chooses its regulatory authority. National banks are regulated by the OCC, while state banks are regulated either by the Federal Reserve or by the FDIC. If regulators differ in their regulatory intensity, for example, because of a race to the bottom to attract banks with lax restrictions, then bank performance may vary systematically with charter and Federal Reserve membership status. Other reasons why a bank's regulator might matter is that regulators may differ in the amount of powers they grant banks and in their direct costs of regulation.[27] Rosen (2003 and 2005) and Whalen (2002) examine which of these motives appears to drive banks' decision to change regulators. The evidence in these papers suggests that banks primarily change regulators when they change their business strategies, consistent with the idea that regulators are specialized. While there is little direct evidence that charter status *per se* affects performance, at the very least a bank's charter status may affect performance through its connection to business strategy. Thus, it is important to ensure that our results are not driven by a chartering effect.

We examine whether our results are driven by a chartering effect in two ways. First, we include a national bank dummy in our regressions in Tables 3 and 4. Second, we run our regressions in the sample of national banks and state banks separately. This helps ensure that our results are not driven by variation in how voting power is classified across national and state banks. For the sake of brevity, we report only a subset of our results in Table 6.[28] In columns II and III of Table 6, we replicate the regression in column II of Table 3 in the national bank and state bank subsamples,

[26] An examination of FDIC annual reports reveals that the proportion of national banks in 1938 was 38.1% and in 1978 was 32.3%. In addition, Rosen (2003) documents that among the banks which switched charters during the period 1983-1999, the number of national banks switching to a state charter (498) was roughly the same as the number of state banks switching to a national charter (469).

[27] For example, unlike all other banks, state-chartered Fed member banks do not have to bear the costs of bank examinations.

[28] The other results are consistent with these and are available upon request.

respectively. In column I, we add the national dummy to the same regression in the full sample. In columns IV-VI, we replicate these results using SOLECTRL as our measure of control.

As is clear from the table, our results do not appear to be driven by an omitted chartering effect. In both columns I and IV, the coefficient on control is larger and more significant than in the corresponding regressions without the national bank dummy. Furthermore, the coefficients on control in the subsamples of national and state banks are similar to those in the full sample. The coefficients on control in the state bank subsample are not significant; however, this is not too surprising since the state bank regressions use only 51 observations. While the coefficient on the national bank dummy is positive in all specifications, it is not always significant. Thus, it does not appear as if national banks have consistently higher values of Tobin's Q than state banks. To examine whether our results are robust to accounting for differences across all three regulatory bodies (Fed, FDIC and OCC), we also included a dummy for state Fed member banks in addition to the national bank dummy in the regressions in Table 6.[29] None of our results were significantly affected, so they do not appear to be driven by the identity of a bank's regulator.

Daines (2001) argues, amongst others, that corporate law affects firm value. So a final concern is that our instruments measuring variation in state law concerning trustees' ability to vote their own shares could be correlated with the error term of our performance regression. To address this concern, we rerun our regressions in Tables 3 and 4 after including the four state law dummy variables as additional control variables. We find that our results are not driven by omitted state trust law effects. Our conclusions are that our results are robust to potential violations of the assumption that our instruments are uncorrelated with the error term in our Tobin's Q regressions in section 5.1.

6 Further Analysis

To see if the results we presented in the previous sections are robust, we examine how sensitive they are to using an alternate performance measure in section 6.1. In section 6.2, we discuss the economic significance of our results.

[29] Only 12 state banks in our sample are not members of the Federal Reserve.

6.1 The Relationship between ROA and Managerial Voting Control

Studies on the relationship between firm performance and managerial *ownership* have found different results depending on whether they have used Tobin's Q or accounting measures of performance. In this section, we examine the relationship between ROA and managerial voting power to see if it is consistent with the relationship between Tobin's Q and managerial voting power. We use the same basic specification as we did for the relationship between Tobin's Q and voting power except that we do not control for lagged ROA.[30] We omit the results for SOMECTRL since there is no significant relationship between ROA and SOMECTRL in the OLS specifications. When we turn to the relationship between ROA and SOLECTRL, we first check whether 2SLS is warranted following the procedure in section 5.1. In contrast to our findings for the Tobin's Q regressions, the Durbin-Wu-Hausman tests with ROA as the dependent variable generally suggest that OLS estimates are inconsistent in these regressions. The ROA OLS regressions appear to be more subject to endogeneity bias than the Tobin's Q OLS regressions, a fact that may be driven by the trust department's demand for certain stock characteristics. For comparison purposes, we report both OLS and 2SLS estimates with the corresponding P-values of the Durbin-Wu-Hausman tests in Table 7.

As the table shows, the relationship between ROA and SOLECTRL is stronger in the 2SLS regressions. In the linear specification in column IV, the coefficient on SOLECTRL increases to 0.000469 from 0.000004 in column I and is significant at greater than the 10% level. We observe a significant concave relationship between ROA and SOLECTRL in column V. The Tobin's Q OLS regressions and the ROA 2SLS regressions suggest similar conclusions, namely that too much voting control may be detrimental, but that small managerial voting stakes may have positive effects on performance.

It is noteworthy that we are able to identify an effect of voting control on ROA, but that the direct holdings of insiders (DHI) appear to have no effect on ROA. This is consistent with previous

[30] Since we have more balance sheet data than stock price data, the size of our sample using ROA is larger than when we use Tobin's Q as a performance measure.

literature that finds no relationship between managerial ownership and accounting measures of performance (e.g. Demsetz and Lehn, 1985; Gorton and Rosen, 1995).

6.2 **Discussion of the Results**

Both the Tobin's Q and ROA results suggest that there is a positive relation between managerial voting power and firm performance.[31] When SOLECTRL increases by one standard deviation, 4.07%, the associated increase in Tobin's Q is 1.06%-1.25% at the mean in the linear specifications in Table 4. The effect of control on ROA is generally much larger. In the linear 2SLS regression in Table 7, a one standard deviation change in SOLECTRL leads to an increase in ROA that is 20.35% at the mean in ROA. Although the effect of control on ROA seems more economically significant than it is for Tobin's Q, we hesitate to draw strong conclusions. For several reasons, which we discuss in the next section, our results may be biased downward. It is possible that such biases affect our performance measures differentially.

Since we find a concave relationship between firm performance and voting control using both performance measures, our evidence suggests that too much control may be detrimental.[32] The fact that the estimated argmax lies in the sample whenever this relationship is significant suggests we have identified a true non-linear relationship. It may not be significant in all specifications because our sample is relatively small and variation in our voting control measures, in particular in SOLECTRL, is limited.

The ranges over which performance is increasing in control are fairly large, yet smaller than the ranges found in studies of the relationship between performance and total inside ownership.

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[31] We also examined whether our results are driven by outliers in voting control. Since the range of control becomes too small to capture the potentially detrimental effects of control when we exclude outliers, we focus on the linear specifications. In these specifications, we obtain similar results as before when we allow SOMECTRL and SOLECTRL to vary only between 0 and 25%. These results are available upon request.

[32] We also examined whether our results are robust to adding the square of DHI to our regressions, as previous literature suggests (e.g. Morck et al., 1988; McConnell and Servaes, 1990; Holderness et al., 1999). Our results are consistent with this literature. For example, both DHI and its square are significant at the 10% level in the specifications corresponding to Table 4, and the sign on the square is negative. Since the relation between performance and control is robust to including the square of DHI, we omit the results. They are available upon request.

McConnell and Servaes (1990), for example, document argmax in the range of 37%-69%. In contrast, the argmax in the Tobin's Q regressions in Table 3 range from 15.32%-17.47% and the argmax in the 2SLS ROA regressions in Table 7 are approximately 6%. Our results are thus consistent with the idea that the downturn in the performance-inside ownership relation occurs because the positive effects of cash flow rights counteract the negative effects that large blocks of voting control have on performance only over a certain range.

7 Sources of the Value of Control

Our results from the previous section are consistent with the theoretical literature which predicts that managerial control *should* have an effect on performance. In this section, we discuss possible mechanisms driving these results in light of the fact that our sample consists of banks in a period in which banking regulation was quite restrictive. We focus in section 7.1 on the ability of control to prevent value-decreasing management dismissals and in section 7.2 on the effect control has on the outcome of a corporate control contest. In section 7.3, we briefly discuss the role of regulators.

7.1 Control and Value-Decreasing Management Dismissals

As we describe in the introduction, the theoretical literature argues that control may affect performance through several different mechanisms. Control may deter uninformed stockholders from mistakenly replacing the management team (Alchian and Demsetz, 1972) as well as shield management from the appropriation of the returns to organizational-specific investment by other management teams (Fama, 1980). It is possible that such concerns are either stronger or weaker in banking than in other industries. It is often argued that banks are opaque and difficult for outsiders to monitor. This may exacerbate bank managers' fears of being mistakenly replaced and make managerial control more valuable. On the other hand, Hubbard and Palia (1995) argue that interstate bank regulation reduced competition in the managerial labor market for banks. Without

a sufficient supply of talented managers, stockholders incentives' to replace bank managers may be low, which may reduce the beneficial effects of control.

Unfortunately, it is difficult to disentangle which of these effects dominates empirically. Houston and James (1995) find that the rate of CEO turnover in banks is virtually identical to that in non-banks. Thus, it is plausible that control has a positive effect on performance over some range, as we find, because it shields bank managers from expropriation of their firm-specific human capital investments.[33]

7.2 Corporate Control Contests

Another way in which the literature argues that control should affect performance is through its effect on the outcome of a corporate control contest. However, mergers and acquisitions in banking were highly regulated in 1966. Although we have tried to control for regulatory restrictions on corporate control activity in our previous results, one may still have doubts about whether this mechanism can help explain them. We attempt to shed further light on this issue here.

We first investigate the relation between managerial control and merger activity. To do this, we obtain information on mergers of our sample banks from the Federal Reserve Bank of Chicago's Merger File. This file contains data on bank mergers from 1976 on. We supplement and crosscheck this data with historical data on bank organizational changes from The Federal Reserve's National Information Center (NIC). If our banks were acquired or the target of a merger we determine the date of the transaction. Of our sample banks, 143 were acquired between 1966 and 2001. On average, these banks were acquired within 24.63 years, with the earliest transaction occurring in 1966 and the latest in 2001.

To examine whether managerial voting power affects the probability a bank experiences a change in control, we estimate a Poisson regression of the number of years until the bank was merged

[33] Houston and James (1995) do not provide evidence that control is related to CEO turnover, because they do not include managerial ownership or other measures of control in their regressions.

or acquired (NUM YEARS TO M/A) as a function of SOLECTRL and the direct holdings of insiders, DHI, because these may also come with voting rights. As controls, we include Ln(Assets) (a proxy for firm size), Capital/Assets (a proxy for leverage), and ROA 1965 (a proxy for performance). We also include STATE HHI to proxy for the idea that the level of competition in a state may affect regulators' willingness to approve mergers and acquisitions. We include our Regulatory Slack Index to proxy for the effect that state law has on corporate control activity. Finally, we include the national bank dummy to account for the fact that a bank's charter status may affect its likelihood of being acquired through its effect on performance.[34] We adjust all standard errors for potential heteroskedasticity and group correlation within states. We report the marginal effects and the associated z-statistics in parentheses below:[35]

NUM YEARS TO M/A = 0.339 SOLECTRL + 0.063 DHI + 0.163 Ln(Assets)
(2.06) (1.03) (0.23)
+ 90.424 Capital/Assets – 22.470 ROA 1965
(1.88) (-0.13)
+ 8.623 STATE HHI – 0.134 Regulatory Slack Index
(1.53) (-0.20)
+ 3.369 National Bank Dummy + Error
(1.49)

Among the coefficients on the control variables only the coefficient on Capital/Assets is significant (at the 5% level), however, their signs are generally consistent with expectations. For example, the positive coefficient on our proxy for firm size is consistent with Mikkelson and Partch's (1989) and Song and Walkling's (1993) finding that larger firms are less likely to be the target of

[34] On average national banks were merged or acquired 2.42 years later than state banks. This difference is significant at the 5% level.

[35] We estimated several different specifications and also used probits to estimate the probability that a bank would be acquired or merged within 20 years. We replicated our regressions using SOMECTRL instead of SOLECTRL. We also took account of all three regulatory agencies by including a dummy indicating whether a state bank is a Fed member. The results are consistent with those we report in the text. For example, the coefficient on control is always negative in the probits for the acquisition likelihood, although the level of significance varies depending on the specification. We omit these results for the sake of brevity, but they are available upon request.

acquisitions. The coefficient on the Regulatory Slack Index is also negative, as we would expect. Since national banks cannot vote in the election of directors, one would imagine that they are easier to acquire. Thus, it is interesting to note that the coefficient on the National Bank Dummy is positive. This seems consistent with the suggestion in Banking (1967) that national banks' effective voting power is not necessarily restricted by the prohibition against voting in director elections. Most importantly, the coefficients on SOLECTRL and DHI are both positive and the coefficient on SOLECTRL is significant (at the 5% level). Apparently, banks whose managers controlled more voting rights were less likely to experience a change in control in the near future.

Although further work is needed to determine the relationship between managerial voting rights and corporate control activity, these results are at least suggestive that the effect managerial voting power has on corporate control outcomes may be one mechanism driving our performance results. Since we cannot observe acquisition attempts that were unsuccessful, unlike Mikkelson and Partch (1989) and Song and Walkling (1993), it is possible that our results underestimate the effects of managerial control.

If corporate control is a mechanism driving our results, we would also expect that restrictions on corporate control activity in the 1960s would bias us against finding an effect of control on performance. To investigate this possibility, we re-estimated our specifications in Tables 3 and 4, but this time, instead of using the Regulatory Slack Index as a control variable, we exclude banks in states in which our Regulatory Slack Index is zero. Table 8 shows a subset of these results. In columns I-III, we measure control with SOMECTRL, in columns IV and V we measure it with SOLECTRL. For comparison purposes, we report the coefficient on our measure of control in the linear specifications from the corresponding regression using the full sample at the bottom of the table.

As is evident from the table, the coefficient on control in the linear specifications is always larger in magnitude than the corresponding coefficient in the full sample. Furthermore, the argmax in the quadratic specification in column III is larger in the restricted sample than in the full sample, 16.82% as opposed to 15.41%. Control appears to have a more positive effect on performance in the

restricted than in the full sample, although the differences between the coefficients in the restricted sample and the full sample are not significant.[36] Restrictions on corporate control activity may have biased us against finding an effect of control on performance. The results also suggest that it may be in shareholders' interests that managers can use voting control to influence the outcomes of corporate control contests, in contrast to the idea that managerial control is always detrimental.

7.3 **The Role of Regulators**

A final question is how regulatory intervention may affect our results. For example, regulators may affect the extent to which managerial voting power plays a role in corporate control contests because they approve all mergers and acquisitions. It is thus plausible that it is more difficult for managers to use their voting power to retain control and entrench themselves in the banking industry than in other industries.

The stance legislators took towards the ability of bank managers to accumulate control in their trust departments in the 1960s is perhaps the strongest evidence suggesting that regulatory intervention does not completely counteract the effect of managerial voting power. In their 1968 study on commercial banks and their trust activities, the Subcommittee recommended (U.S. House, 1968, p. 9):

> *Prohibition against all insured banks holding or voting their own stock held in their trust departments. This would discourage the widespread use of such stockholdings to perpetuate the officers of these banking institutions in office and would apply the general rule of corporation law that corporations are prohibited from voting stock held in the corporation's treasury.*

The Comptroller of the Currency, William B. Camp, argued in hearings before Congress (Banking, 1967) that the Comptroller's Office had the tools to correct potential instances of managerial misuse of own-bank voting rights. The Subcommittee's recommendation indicates that the effectiveness of regulatory intervention may have been circumscribed.

[36] This is not too surprising, since the restricted sample has only 21 fewer observations than the full sample.

We believe the fact that regulators play a role in merger outcomes should generally bias us against finding an effect of control on performance. Since regulators approve merger proposals, managerial control should have less influence on the bid premium in a corporate control transaction. We should then be less able to detect a positive effect of control on performance. Although we find that control is related to the probability of being acquired in the near future in section 7.2, control may still be a less effective entrenchment device when regulators approve merger proposals. This should bias us against finding a negative effect of control on performance.

Overall, we believe that the nature of our sample does not limit the applicability of our findings. While the magnitude of the effect control has on performance may be different in other industries, our findings suggest that even in those industries managerial control may have not only negative, but also positive effects on performance for the reasons we outlined above.

8 Conclusions

The main contribution of this paper is to use a previously little studied mechanism of control, banks' holdings of their own shares through their trust departments, to *identify* the effect of managerial control on firm performance. We find some evidence that firm performance may decrease when managers obtain too much control. However, contrary to the idea that voting control serves only to entrench managers, we find robust evidence that some voting control in the hands of managers may be beneficial for shareholders.

A second contribution of this paper is to point out that the wedge between ownership incentives and total control created through the fiduciary relationship can be large. Control arrangements in financial institutions in the United States may not necessarily belong to the category of one-share one-vote as in other firms in the United States. Instead, it appears that fiduciary relationships may lead to similar control outcomes in the United States as pyramiding and cross-shareholdings do in other countries. Why this is the case and what implications this has for the governance of financial institutions, as well as their roles as large shareholders, are interesting topics for future research.

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Appendix: Index of Regulatory Slack Concerning Bank Acquisitions

Our index consists of the sum of two sub indices that rank the leniency of state laws in 1966 with respect to multibank holding company formation and branching, respectively. To construct the sub indices, each method of acquisition was classified at the state level using Amel and Keane's (1987) description of state laws as prohibited (a value of zero), restricted (a value of 1) or allowed (a value of 2). The table shows the sub indices and our index for states represented in our sample.

State Abbreviation	Branching Index	MBHC Expansion Index	Regulatory Slack Index
Alabama	1	2	3
Arizona	2	2	4
California	2	2	4
Colorado	0	2	2
Connecticut	2	2	4
Delaware	2	2	4
District of Columbia	2	2	4
Florida	0	2	2
Georgia	1	1	2
Hawaii	1	2	3
Idaho	2	2	4
Illinois	0	1	1
Indiana	1	0	1
Iowa	0	1	1
Kansas	0	0	0
Kentucky	1	1	2
Louisiana	1	1	2
Maryland	2	2	4
Massachusetts	1	2	3
Michigan	0	0	0
Minnesota	0	2	2
Mississippi	1	0	1
Missouri	0	2	2
Nebraska	0	0	0
Nevada	2	2	4
New Jersey	1	0	1
New Mexico	1	2	3
New York	1	1	2
North Carolina	2	2	4
Ohio	1	2	3
Oklahoma	0	1	1
Oregon	1	2	3
Pennsylvania	1	0	1
Puerto Rico	.	.	.
Rhode Island	2	1	3
South Carolina	2	2	4
Tennessee	1	2	3
Texas	0	0	0
Utah	1	0	1
Virginia	1	2	3
Washington	1	0	1
Wisconsin	0	2	2

Table 1: Summary Statistics for Financial and State Level Data

Table 1 shows summary statistics for firm- and state-level financial data for banks with ownership data in U.S. House (1966). Stock market data is from U.S. House (1966) and is measured as of February 28, 1966. Balance Sheet data is from the *Reports of Condition and Income* (Call Reports) from the Federal Reserve Board. Our proxy for Tobin's Q=(book value of assets-book value of equity+market value of equity)/book value of assets, where balance sheet information is measured at the end of the first half of 1966. ROA=net income before related taxes/book value of assets. Assets are measured in thousands. Capital/Assets=book value of equity/book value of assets, measured at the end of the first half of 1966. Std. Dev. ROA=standard deviation of year-end ROA from 1962-1966. % Real Estate Loans=100*(total real estate loans/total loans and leases) and % C&I Loans=100*(total C&I loans/total loans and leases). Both these variables are measured at the end of the first half of 1966. % Operating Inc.-Trust=100*(total current operating revenue from trust department/total current operating revenue). STATE HHI is the sum of squared state asset shares over all banks in a given state. The Regulatory Slack Index is defined in the Appendix. The summary statistics for STATE HHI and Regulatory Slack Index in Table 1 are across states, not across firms. Since income statement data is only available annually in 1966, ROA is always measured at year-end. % Operating Inc.-Trust and STATE HHI are measured at the end of 1965.

	# Obs.	Mean	Std. Dev.	Min	Max
Tobin's Q	185	1.040	0.041	0.984	1.257
ROA in 1966	207	0.010	0.004	0.002	0.027
Ln(Assets)	208	13.139	0.972	11.937	16.606
Capital/Assets	208	0.074	0.016	0.032	0.176
ROA in 1965	208	0.010	0.004	-0.002	0.028
Std. Dev. ROA	208	0.002	0.001	0.001	0.007
% Real Estate Loans	208	21.807	12.961	0.332	65.409
% C&I Loans	208	36.316	12.027	9.015	65.492
% Operating Inc.-Trust	208	6.311	6.154	0.000	61.718
STATE HHI	42	0.108	0.108	0.008	0.416
Regulatory Slack Index	41	2.293	1.327	0.000	4.000

Table 2: Summary Statistics on Own-Bank Trust Shares with Different Degrees of Voting Rights, Direct Holdings of Insiders and Derived Measures of Control and Ownership

Table 2 shows the mean, median, range and distribution for own-bank shares in 1966 and 1962, voting control proxies and beneficial ownership proxies in our sample. For comparison purposes it also shows summary statistics for beneficial ownership data from a sample of bank holding companies (BHCs) in 1987 and 1988 from Gorton and Rosen (1995). The source of our 1966 data is U.S. House (1966). The source of our 1962 data is U.S. House (1964). All data in 1966 is as of March 1, 1966. All data in 1962 is as of May 1962 and is constructed from data on the top 20 stockholders in our sample banks. All ownership data is measured in percent and the denominator is always the total number of common shares outstanding. We call own-bank shares the shares a bank holds in itself through its trust department. These shares include shares held by the banks' nominees. SOLECTRL=% own-bank shares with sole voting power. % own-bank shares-part. vot.=% own-bank shares with partial voting power. SOMECTRL=SOLECTRL + % own-bank shares-part. vot. DHI=% shares held by officers and directors. Beneficial inside ownership=% own-bank shares + DHI. Beneficial inside ownership in Gorton and Rosen (1995)=% shares held by 1) officers and directors, 2) director nominees, 3) the BHC's pension plan or ESOP, 4) a trust for a director, 5) families of officers or directors and 6) the banking firm's trust department.

Sample	Our Sample								Gorton and Rosen (1995)
Data year	Data from 1966				Data from 1962		Combined 1966 and 1962 data		1987 and 1988
Variable	% own-bank shares 1966	SOLECTRL	% own-bank shares-part. vot.	SOMECTRL	% own-bank shares 1962	DHI	Beneficial inside ownership 1966	Beneficial inside ownership 1962	Beneficial inside ownership
Panel A: Summary Statistics on Trust Ownership and Voting Control Measures									
# Obs.	209	209	209	209	195	195	195	195	458
Mean (%)	8.25	2.27	2.30	4.58	6.87	5.91	14.23	12.78	15.25
Median (%)	5.97	0.43	0.50	2.39	3.99	3.16	10.43	8.75	8.33
Range (%)	0 - 46.39	0 - 27.79	0 - 28.70	0 - 35.32	0 - 44.18	0 - 45.48	0 - 68.07	0 - 63.07	0 – 99
Panel B: Number of Banks in Sample, by Share of Trust Ownership or Voting Control Measure									
Less than 5%	89	179	179	145	113	127	34	58	166
5-10%	58	18	17	31	32	34	59	49	84
10-25%	52	11	11	28	41	24	75	58	107
25-50%	10	1	2	5	9	10	21	28	71
Greater than 50%	0	0	0	0	0	0	6	2	30

Table 3: OLS regression of Tobin's Q on SOMECTRL and Controls

Table 3 shows results of OLS regressions of Tobin's Q on our first proxy for managerial voting control: SOMECTRL. The sample and control variables are described in more detail in Tables 1 and 2. Our proxy for Tobin's Q=(book value of assets-book value of equity+market value of equity)/book value of assets. SOMECTRL=% own-bank shares with sole or partial voting control. The Argmax of the estimated relationship is the value of SOMECTRL at which Tobin's Q achieves its maximum in the estimated relationship. The Intercept is calculated as the predicted level of performance when voting control is zero and all control variables are at their means. Difference to the Maximum is the difference between the Maximum and the Intercept of the estimated relationship. To calculate the Maximum we evaluate all control variables at their means. Argmax, Difference and Intercept are only shown if the estimated quadratic relationship is concave. If an adjustment factor is indicated for a variable, the true coefficients for that variable=coefficient in table/adjustment factor. Robust t-statistics are shown in parentheses. The standard errors in columns II, III, V and VI are adjusted for potential group correlation within states. ***, ** and * indicate significance at the 1%, 5% and 10% level, respectively.

	Dependent Variable: Tobin's Q					
Variables	I	II	III	IV	V	VI
SOMECTRL	0.011*	0.011**	0.011*	0.027**	0.027**	0.034**
Adjustment factor: 10	(1.95)	(1.97)	(1.87)	(2.28)	(2.06)	(2.48)
Squared SOMECTRL				-0.008*	-0.008*	-0.011**
Adjustment factor: 100	.	.	.	(-1.95)	(-1.73)	(-2.47)
DHI			0.001			0.001**
	.	.	(1.42)	.	.	(2.30)
Ln(Assets)	-0.004**	-0.005	-0.004	-0.003**	-0.005	-0.003
	(-2.18)	(-1.64)	(-1.00)	(-2.04)	(-1.61)	(-0.80)
Capital/Assets	-0.150	-0.181	-0.147	-0.172	-0.202	-0.194
	(-0.61)	(-0.69)	(-0.56)	(-0.70)	(-0.76)	(-0.74)
ROA 1965	4.790***	4.328***	4.112***	4.774***	4.326***	4.322***
	(4.41)	(4.09)	(3.81)	(4.41)	(4.08)	(4.10)
Std. Dev. ROA	0.596	0.638	-0.458	0.699	0.733	-0.595
	(0.25)	(0.26)	(-0.20)	(0.30)	(0.29)	(-0.26)
% Real Estate Loans		-0.037	-0.050*		-0.036	-0.046*
Adjustment factor: 100	.	(-1.38)	(-1.95)	.	(-1.36)	(-1.92)
% C&I Loans		-0.023	-0.029		-0.017	-0.020
Adjustment factor: 100	.	(-0.60)	(-0.71)	.	(-0.43)	(-0.49)
% Operating Inc.-Trust	.	0.025	0.053	.	0.021	0.052
Adjustment factor: 100		(0.41)	(0.83)		(0.35)	(0.82)
STATE HHI	.	0.045	0.058	.	0.047	0.055
		(0.72)	(0.87)		(0.77)	(0.83)
Regulatory Slack Index	.	0.002	0.001	.	0.002	0.001
		(0.56)	(0.35)		(0.58)	(0.44)
Constant	1.044***	1.071***	1.059***	1.039***	1.067***	1.039***
	(38.61)	(30.93)	(25.94)	(37.65)	(29.38)	(25.69)
R^2	0.223	0.243	0.249	0.235	0.253	0.270
Observations	185	185	173	185	185	173
F-statistic	6.69	5.10	4.29	5.93	4.57	4.24
Adj. for grp. Corr. (states)	No	Yes	Yes	No	Yes	Yes
Argmax	.	.	.	16.972	17.472	15.323
% Banks with Voting Proxy >Argmax	.	.	.	3.8	3.8	5.3
Difference to the Maximum	.	.		0.023	0.024	0.026
Intercept	.	.	.	1.030	1.032	1.030

Table 4: OLS Regressions of Tobin's Q on SOLECTRL and Controls

Table 4 shows OLS regressions of Tobin's Q on SOLECTRL as a proxy for managerial voting power. The sample and control variables are described in more detail in Tables 1, 2 and 3. SOLECTRL=% own-bank shares with sole voting control. Unlike in Table 3, Argmax, Difference to Maximum and Intercept are missing since no non-linear relationship is significant. If an adjustment factor is indicated for a variable, the true coefficients for that variable=coefficient in table/adjustment factor. Robust t-statistics are shown in parentheses. The standard errors in columns II and III are adjusted for potential group correlation within states. ***, ** and * indicate significance at the 1%, 5% and 10% level, respectively.

	Dependent Variable: Tobin's Q		
Variables	I	II	III
SOLECTRL	0.027**	0.032*	0.027
Adjustment factor: 10	(2.09)	(1.92)	(0.95)
Squared SOLECTRL			0.005
Adjustment factor: 100	.	.	(0.18)
DHI		0.001**	0.001**
	.	(2.32)	(2.32)
Ln(Assets)	-0.003	-0.002	-0.002
	(-1.65)	(-0.51)	(-0.56)
Capital/Assets	-0.203	-0.226	-0.231
	(-0.95)	(-0.95)	(-0.99)
ROA 1965	4.786***	4.460***	4.463***
	(4.39)	(4.47)	(4.49)
Std. Dev. ROA	0.581	-0.580	-0.517
	(0.24)	(-0.24)	(-0.23)
% Real Estate Loans		-0.051**	-0.052**
Adjustment factor: 100	.	(-2.02)	(-2.18)
% C&I Loans		-0.029	-0.029
Adjustment factor: 100	.	(-0.77)	(-0.78)
% Operating Inc.-Trust		0.035	0.032
Adjustment factor: 100	.	(0.58)	(0.49)
STATE HHI		0.049	0.049
	.	(0.72)	(0.73)
Regulatory Slack Index		0.001	0.001
	.	(0.27)	(0.26)
Constant	1.036***	1.034***	1.036***
	(36.43)	(24.69)	(26.62)
R^2	0.245	0.282	0.282
Observations	185	173	173
F-statistic	6.48	4.45	4.86
Adj. for grp. corr. (states)	No	Yes	Yes

Table 5: Breakdown of State Laws on Voting Powers of Corporate Trustees in 1966

Table 5 duplicates Table V. in U.S. House (1966, p. 810). This table classifies states into 4 different legal regimes depending on the extent to which corporations in those states were permitted by state law to vote stock they held in a fiduciary capacity in their own corporations. If a state had no statute limiting the voting power of trustees, then according to the common law, trustees could vote their own shares in these states unless it was otherwise provided by the terms of the trust. In states giving general power to the trustee to vote shares he held in trust, the common law was codified through statutory provisions. We have no information on the legal regimes in the District of Columbia or Puerto Rico.

Legal Regime	Number of states	States
I. No statute limiting voting power of trustee.	24	Arizona, Alaska, Delaware, Florida, Georgia, Hawaii, Idaho, Kentucky, Maine, Maryland, Massachusetts, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Hampshire, South Carolina, South Dakota, Tennessee, Vermont, Wisconsin, Wyoming
II. Statute giving general power to trustee to vote shares held in a fiduciary capacity.	13	California, Colorado, Indiana, Kansas, Louisiana, Michigan, New Mexico, New York, Ohio, Oklahoma, Rhode Island, Utah, Washington
III. Statute giving specific authority to corporate trustee to vote own shares held in trust.	6	Connecticut, Illinois, Iowa, New Jersey, Pennsylvania, West Virginia
IV. Statute specifically prohibiting voting of own shares held in fiduciary capacity.	7	Alabama, Arkansas, North Carolina, North Dakota, Oregon, Texas, Virginia
Total	50	

Table 6: OLS Regressions of Tobin's Q taking Sample Banks' Charter Status into Account

Table 6 shows OLS regressions of Tobin's Q on our proxies for managerial voting control, which take our sample banks' charter status into account. Columns I and III include a dummy variable, National Bank Dummy, which is equal to one if a bank is a national bank. In columns II and V, we restrict our sample to national banks. In columns III and VI, we restrict our sample to state banks. The sample and control variables are described in more detail in Tables 1, 2 and 3. The main explanatory variable in columns I-III is SOMECTRL. The main explanatory variable in columns IV-VI is SOLECTRL. If an adjustment factor is indicated for a variable, the true coefficients for that variable=coefficient in table/adjustment factor. Robust t-statistics are shown in parentheses. All standard errors are adjusted for potential group correlation within states. ***, ** and * indicate significance at the 1%, 5% and 10% level, respectively.

	Dependent Variable: Tobin's Q					
Variables	I	II	III	IV	V	VI
SOMECTRL	0.012**	0.013*	0.012	.	.	.
Adjustment factor: 10	(2.20)	(1.98)	(1.26)	.	.	.
SOLECTRL	.	.	.	0.036**	0.035*	0.034
Adjustment factor: 10	.	.	.	(2.24)	(1.78)	(1.73)
DHI	0.045	0.035	0.043	0.075*	0.060*	0.176
Adjustment factor: 100	(1.14)	(1.01)	(0.12)	(1.93)	(1.88)	(0.55)
Ln(Assets)	-0.003	0.000	-0.016	-0.001	0.001	-0.01
	(-0.91)	(0.03)	(-1.70)	(-0.31)	(0.31)	(-1.22)
Capital/Assets	-0.156	-0.403**	0.511	-0.249	-0.329	0.221
	(-0.61)	(-2.44)	(1.16)	(-1.11)	(-1.63)	(0.55)
ROA 1965	4.111***	4.572***	0.938	4.501***	4.649***	2.197
	(3.80)	(5.14)	(0.48)	(4.48)	(5.18)	(1.26)
Std. Dev. ROA	-0.477	-1.819	0.102	-0.627	-1.903	0.031
	(-0.21)	(-0.98)	(0.01)	(-0.26)	(-1.02)	(0.00)
% Real Estate Loans	-0.047*	-0.050*	0.027	-0.047*	-0.043	0.019
Adjustment factor: 100	(-1.87)	(-1.98)	(0.45)	(-1.91)	(-1.60)	(0.34)
% C&I Loans	-0.030	-0.008	0.001	-0.031	-0.009	0.036
Adjustment factor: 100	(-0.74)	(-0.23)	(0.53)	(-0.83)	(-0.25)	(0.44)
% Operating Inc.-Trust	0.001	-0.002***	0.001	0.001	-0.002***	0.001
	(1.12)	(-3.41)	(1.39)	(0.97)	(-3.20)	(1.26)
STATE HHI	0.056	-0.034	0.641***	0.044	-0.047	0.632***
	(0.82)	(-1.15)	(5.57)	(0.63)	(-1.58)	(5.28)
Regulatory Slack Index	0.001	0.002	-0.01	0.001	0.002	-0.012*
	(0.36)	(0.66)	(-1.49)	(0.27)	(0.76)	(-1.86)
National Bank Dummy	0.007	.	.	0.011*	.	.
	(1.18)	.	.	(1.83)	.	.
Constant	1.051***	1.042***	1.129***	1.018***	1.019***	1.057***
	(25.10)	(22.84)	(9.02)	(24.98)	(21.21)	(8.80)
R-squared	0.255	0.253	0.624	0.294	0.272	0.656
Observations	173	122	51	173	122	51
F-statistic	5.16	6.40	129.83	5.41	4.93	90.00
Sample Type	Full Sample	National Banks	State Banks	Full Sample	National Banks	State Banks

Table 7: OLS and Second Stage 2SLS Regressions of ROA on SOLECTRL and Controls

Columns I-III of Table 7 show OLS regressions of ROA on SOLECTRL. Columns IV-V show second stage 2SLS regressions of ROA on SOLECTRL. The set of legal dummies and the national bank dummy forms the complete set of instruments. The national dummy is excluded in the 2SLS regressions to avoid the dummy variable trap. The national dummy=1 if the bank is a national bank. The legal dummies=1 if the bank is a state bank and falls into one of four different legal regimes described in Table 5. Our proxy for ROA=net income before related taxes/book value of assets. SOLECTRL=% own-bank shares with sole voting control. The Intercept is calculated as the predicted level of ROA when voting control is zero and all control variables are at their means. Difference to the Maximum is the difference between the Maximum and the Intercept of the estimated relationship. To calculate the Maximum we evaluate all control variables at their means. Argmax, Difference and Intercept are only shown if the estimated quadratic relationship is concave. If an adjustment factor is indicated for a variable, the true coefficients for that variable=coefficient in table/adjustment factor. Robust t-statistics are shown in parentheses. The standard errors in columns II, III and V are adjusted for potential group correlation within states. ***, ** and * indicate significance at the 1%, 5% and 10% level, respectively.

	Dependent Variable: ROA				
	OLS			2SLS	
Variables	I	II	III	IV	V
SOLECTRL	0.004	0.231*	0.168	0.469*	1.758***
Adjustment factor: 1,000	(0.06)	(1.70)	(1.28)	(1.80)	(2.57)
Squared SOLECTRL	.	-0.002**	-0.001*	.	-0.014**
Adjustment factor: 100		(-2.16)	(-1.91)		(-2.40)
DHI	.	.	-0.002	.	.
Adjustment factor: 100			(-0.44)		
Ln(Assets)	-0.004*	-0.005***	-0.001*	-0.002	-0.006
Adjustment factor: 10	(-1.80)	(-2.10)	(-1.92)	(-0.66)	(-1.65)
Capital/Assets	0.138***	0.124***	0.125***	0.125***	0.118***
	(8.23)	(8.06)	(8.08)	(7.25)	(5.12)
Std. Dev. ROA	-0.318	-0.375*	-0.407*	-0.339	-0.369
	(-1.54)	(-1.70)	(-1.81)	(-1.53)	(-1.49)
% Real Estate Loans	.	-0.001	-0.002	.	-0.004
Adjustment factor: 100		(-0.27)	(-0.73)		(-0.71)
% C&I Loans	.	-0.001	-0.002	.	-0.003
Adjustment factor: 100		(-0.19)	(-0.72)		(-0.52)
% Operating Inc.-Trust	.	0.008**	0.008**	.	0.010
Adjustment factor: 100		(2.23)	(2.05)		(1.44)
State HHI	.	0.003	0.004	.	0.003
		(0.74)	(0.89)		(0.57)
Regulatory Slack Index	.	0.048**	0.045**	.	0.021
Adjustment factor: 100		(2.83)	(2.65)		(0.88)
Constant	0.005	0.007**	0.008*	0.002	0.009
	(1.62)	(1.99)	(1.84)	(0.62)	(1.49)
R^2	0.357	0.428	0.454	0.192	.
Observations	207	207	195	204	204
F-statistic	20.56	14.37	24.44	22.29	10.02
Adj. for group correlation (states)	No	Yes	Yes	No	Yes
P-value for Durbin-Wu-Hausman test	.	.	.	0.0463	0.0292
Argmax	.	6.843	5.776	.	6.151
% Banks with Voting proxy>Argmax	.	10.0	12.4	.	11.5
Difference to the Maximum	.	0.0008	0.0005	.	0.0054
Intercept	.	0.010	0.010	.	0.009

Table 8: OLS Regressions of Tobin's Q on Proxies for Control when the Regulatory Slack Index is Positive

Table 8 shows OLS regressions of Tobin's Q on our proxies for managerial voting control in states in which Regulatory Slack Index is positive. The corresponding coefficients on our proxies for managerial voting control in the full sample are shown at the bottom of the table. The main explanatory variable in columns I-III (IV and V) is SOMECTRL (SOLECTRL). The Intercept is calculated as the predicted level of Tobin's Q when voting control is zero and all control variables are at their means. Difference to the Maximum is the difference between the Maximum and the Intercept. To calculate the Maximum we evaluate all control variables at their means. Argmax, Difference and Intercept are only shown if the estimated quadratic relationship is concave. If an adjustment factor is indicated for a variable, the true coefficients for that variable=coefficient in table/adjustment factor. Robust t-statistics are shown in parentheses. The standard errors in columns II, III and V are adjusted for potential group correlation within states. ***, ** and * indicate significance at the 1%, 5% and 10% level, respectively.

	Dependent Variable: Tobin's Q				
Variables	I	II	III	IV	V
SOMECTRL	0.013**	0.014**	0.037**		
Adjustment factor: 10	(2.10)	(2.17)	(2.25)	.	.
Squared SOMECTRL			-0.011**		
Adjustment factor: 100	.	.	(-2.12)	.	.
SOLECTRL				0.033**	0.036*
Adjustment factor: 10	.	.	.	(2.22)	(1.83)
DHI			0.001*		0.001*
	.	.	(1.74)	.	(1.86)
Ln(Assets)	-0.005**	-0.005	-0.004	-0.004**	-0.003*
	(-2.51)	(-1.57)	(-0.97)	(-2.02)	(-1.78)
Capital/Assets	-0.182	-0.175	-0.173	-0.267	-0.238
	(-0.66)	(-0.65)	(-0.65)	(-1.14)	(-0.99)
ROA 1965	4.697***	4.041***	4.755***	4.634***	3.925***
	(3.78)	(3.47)	(3.33)	(3.68)	(3.72)
Std. Dev. ROA	1.418	1.469	-0.545	1.620	0.697
	(0.58)	(0.55)	(-0.22)	(0.64)	(0.26)
% Real Estate Loans	.	-0.043	-0.053**	.	-0.055**
Adjustment factor: 100		(-1.48)	(-2.07)		(-2.04)
% C&I Loans	.	-0.050	-0.045	.	-0.050
Adjustment factor: 100		(-0.29)	(-1.01)		(-1.23)
% Operating Inc.-Trust	.	0.033	0.057	.	0.045
Adjustment factor: 100		(0.58)	(0.94)		(0.76)
STATE HHI	.	0.075	0.086	.	0.072
		(1.37)	(1.45)		(1.23)
Constant	1.057***	1.085***	1.065***	1.051***	1.059***
	(36.42)	(28.75)	(22.17)	(34.98)	(23.52)
R^2	0.226	0.256	0.282	0.254	0.296
Observations	164	164	152	164	152
F-statistic	6.31	5.01	3.93	5.85	4.37
Adj. for grp. Corr. (states)	No	Yes	Yes	No	Yes
Full sample coefficient on linear control proxy	0.0011	0.0011	.	0.0027	0.0032
Argmax	.	.	16.821	.	.
% Banks with Voting Proxy >Argmax	.	.	3.8	.	.
Difference to the Maximum	.	.	0.031	.	.
Intercept	.	.	1.029	.	.

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