Shareholder Empowerment and Bank Bailouts

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We investigate the hypothesis that shareholder empowerment may have led to more bank bailouts during the recent financial crisis. To test this hypothesis, we propose a management insulation index based on banks' charter and by-law provisions and on the provisions of the applicable state corporate law that make it difficult for shareholders to oust a firm's management. Our index is both conceptually and practically different from the existing alternatives. In a sample of US commercial banks, we show that management insulation is a good predictor of bank bailouts: banks in which managers are fully insulated from shareholders are roughly 17 to 27 percentage points less likely to be bailed out. We also find that banks in which the management insulation index was reduced between 2003 and 2007 are more likely to be bailed out. We discuss alternative interpretations of the evidence. The evidence is mostly consistent with the hypothesis that banks in which shareholders were more empowered performed poorly during the crisis.

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I - Introduction

One, of several, regulatory responses to the financial crisis has been to consider the extent to which bank failure can be explained by flaws in banks' corporate governance arrangements (Kirkpatrick, 2009; Walker, 2009). Attention has been paid in particular to the relationship between board independence and bank failure (Adams, 2009; Minton, Taillard, and Williamson, 2010). Limited attention has been given to the relationship between bank failure and core corporate governance rules which determine the ease with which shareholders can remove and replace management (Bruner, 2011; Laeven and Levine, 2009). In this paper we examine the role played by such rules in mediating the different incentives of shareholders and bank managers, and the effect that such rules have on the probability of bank bailouts.

This paper has two main contributions. The first one is the proposal of a new index to measure the extent to which corporate managers are insulated from shareholder pressure. Many corporate governance indices first identify a set of relevant legal rules and governance provisions and then award scores based on the existence or absence of these legal arrangements (La Porta et al (1998); La Porta et al (2006); Gompers, Ishii, and Metrick (2003); Bebchuk, Cohen and Ferrell (2009)). This way of indexing, however, ignores the fact that certain governance arrangements can be rendered functionally irrelevant by the presence or absence of other rules. Since the absence or existence of an irrelevant governance provision still has an impact on the final score, it adds noise to the final index values. The inclusion of governance provisions that as a result of other legal provisions are rendered functionally irrelevant also means that similar index scores do not necessarily represent similar outcomes.

Our index, which we call the *management insulation index* (MII), takes a different route. Instead of linear indexing, MII is what could be called a contingent index. After filtering out the governance arrangements most relevant to our research question, which we detail in Section II, we identify five combinations of governance arrangements that can theoretically be considered distinct. Most of our index values are the result of different (but, in our view, effectively equivalent) corporate governance arrangements.

Our second contribution is to show that banks with less insulated managers were more likely to receive capital injections under the Capital Purchase Program (CPP), the main bank-recapitalisation program under the US Troubled Assets Relief Program (TARP). Our evidence is based on hand-collected data of the governance arrangements of 276 banks from the applicable corporation laws and the banks' charters and by-laws.

U.S. firms provide an optimal setting in which to apply our index, due to the considerable design flexibility provided by corporate law in the United States. The rules that are central to the construction of our index are the rules that determine: (i) the conditions under which a director can be removed – what percentage of the shareholder vote is required to remove the director, and do the shareholders have to provide a reason or cause for removing the director or can he be removed without providing any reason; (ii) the rules that determine the circumstances in which, and the extent to which, the size of the board can be increased; and (iii) the rules determining when a shareholder meeting can be called, at which any such rights can be exercised.

There are two main advantages of MII in our setting. First, MII is theoretically motivated, and as such it lends itself to a more natural interpretation than that of most alternative indices. Second, because of our contingent approach to the construction of the index, we expect MII to be less affected by measurement errors. This is particularly important in small-sample settings. This conjecture is supported by the evidence that lagged values of MII are robust predictors of bank bailouts. This result is economically and statistically strong, despite the relative small size of our sample. Such a result cannot be replicated with alternative measures of shareholder influence, such as ownership concentration, board independence, and board classification. Thus, MII appears to contain information that is not captured by other governance variables.

Other than explanations based on omitted variables, which we consider in detail below, there are two leading interpretations of the evidence, both of which are interesting. The first one is the possibility that bank participation in CPP is correlated with a bank's need to recapitalize after finding itself in a fragile position during the crisis. Consistent with this view, Bayazitova and Shivdasani (2012) show that weaker banks were more likely to apply for CPP equity injections than stronger banks were. Thus, one interpretation of our evidence is that shareholder empowerment leads to decisions that make banks less prepared to weather the crisis. In Section VI, we discuss the theoretical underpinnings of this hypothesis in more detail.

A second interpretation is as follows. As CPP equity injections can be seen as a source of cheap capital, a decision not to participate in CPP may be a symptom of poor governance. CPP participation came with strings attached, such as restrictions on executive compensation. It is possible that powerful executives would prefer not to participate. Thus, perhaps when banks are offered the opportunity to recapitalize cheaply, only the well-governed ones do so.

Both stories are plausible. Although we cannot perfectly discriminate between them, we offer some additional evidence in that direction. To address the first story, we modify our bailout variable in the following way. We identify those banks that plausibly did not participate in CPP because they were too weak, and treat them as if they were bailed out. We find that the link between MII and the bailout indicator becomes stronger. This finding strengthens the interpretation that shareholder empowerment and bank strength at the beginning of the crisis were negatively associated.

To address the second story, we first identify those banks that did not apply for funds, or that received CPP funds but repaid them early (before the end of 2009). The latter banks chose to replace cheap government capital with more expensive private capital. In particular, banks that exited CPP redeemed preferred shares at par, while the fair value of those shares was below par (Wilson and Wu, 2012). Thus, similarly to the decision not to participate, exiting CPP early could be a symptom of bad governance. However, we find that the link between MII and CPP application (either including or excluding early-repayment banks) is both economically and statistically weak. This evidence is difficult to reconcile with the hypothesis that the negative relation between MII and bailouts is mainly due to management's desire not to be bound by the CPP restrictions.

In Section VI, we briefly discuss some of the possible explanations for our findings.

II – The Management Insulation Index

In order to assess the level of managerial insulation of the banks in our sample, we design a corporate governance index. The *management insulation index* (MII) aims at measuring, in an objective way, the degree of managers' exposure to potential strategic intervention by activist shareholders.

As discussed in the introduction, the typical linear corporate governance indices found in the literature often ignore the fact that certain governance arrangements can be rendered functionally irrelevant by the presence or absence of other rules. Even providing different numerical weighting to different provisions cannot overcome this problem. Apart from the obvious problem of quantifying the relative importance of each legal provision, weighting in and of itself does not take into account the interaction effects between different governance provisions; there simply is no single fixed relative "value" of two governance arrangements.

The MII is a contingent index in the sense that the presence of each governance arrangements only affects the outcome where it has a real effect on manager insulation, taking into account all other governance arrangements. The chart below (Figure 1) shows the different "paths" leading to each of our five outcomes.

– Insert Figure 1 about here –

II.1 Elements of the MII

As outlined above, our aim is to measure the extent to which shareholders can use their legal rights to oust management, or – perhaps more importantly – credibly threaten to do so. It is not our aim to create a general shareholder rights index; we exclusively focus on answering the question of how core corporate law rules make it more or less difficult and time-consuming (and hence costly) to challenge incumbent management. We believe that this is in principle a valuable proxy for actual shareholder pressure.

Although ever since Manne's seminal article (Manne, 1965), the market for corporate control is typically viewed as one of the potentially most powerful corporate governance mechanisms, we do not include here measures of entrenchment relating to (hostile) takeovers. The reason for this is that banks, unlike industrial companies, are typically not exposed to the market for corporate control as the opacity of their balance sheet as well as regulatory hurdles provide for significant protection from disciplining takeovers (Levine, 2004).

II.2 Distinctiveness and Equivalence of MII-values

Our index takes values from one to five. We identify four main ways in which shareholders can gain control over the corporation's board.

First, where all directors are elected annually, shareholders can simply exercise their voting rights to elect different directors.

Second, many US corporations have so-called classified (or staggered) boards, meaning that (typically) only a third of all directors stand for re-election each year. In this case, shareholders can either wait for two years (two consecutive annual stockholder meetings) in order to gain board control, or they can try to "declassify" the board (i.e., changing the bank's governance arrangements to switch to annual election of all directors). The former option is time-consuming and costly; the availability of the latter option crucially depends on the bank's constitutional arrangements set forth in its charter and by-laws, as well as the rules determining how the constitution can be amended. In the absence of a contrary provision in the bank's charter, shareholders can typically amend a corporation's by-laws by majority vote. Accordingly, if the board's classification is set forth in the by-laws then it can be declassified by shareholders alone. But note further, that in some states the charter may impose additional restrictions on a by-law amendment including board approval or a supermajority shareholder vote. A corporation's charter can only be amended with both board and shareholder approval. Accordingly, where board classification is set forth in the charter de-classification is only possible with board approval.

Third, shareholders can elect additional directors to the board and thereby outnumber the incumbent directors. The availability of this option again depends on the provisions in the charter and by-laws of each corporation and the number of appointed directors: Shareholders must first have the right to increase the size of the current board, which differs from bank to bank. This depends on the provisions of the charter and bylaws, as well as on the state default rules. Moreover, if the charter provides for a maximum board size (as it often does), this maximum number must be large enough for the newly appointed directors to be able to outnumber the existing board members. In banks with classified boards, this means that the maximum board size has to be greater by at least a third than the current board size. Together with the third of directors elected annually, this allows shareholders to increase board size to the maximum and fill the vacancies created by the expiring directorships to gain (at least) 50% of the board seats.

Fourth, shareholders in corporations with both classified and unclassified boards sometimes (typically in the case of unclassified boards) have the right to simply remove directors "without cause".

We check the availability of each of the above possibilities for all banks in our sample. Moreover, we also check whether or not shareholders need to wait for an annual stockholder meeting to exercise their control rights. This allows us to form three groups of banks where shareholders can, in theory, gain control over the bank's board almost immediately (MII scores of 1 and 2), within a one year (one meeting) timeframe (MII scores of 3 and 4), or after a two year (two meeting) timeframe (MII score of 5). In the Appendix, we describe each index value in detail and the "paths" leading to these values.

III – Data

Our initial sample consists of 476 US based commercial banks that were publicly listed in 2008 and for which data was available in the BoardEx database in May 2009. We define banks as those companies that held a banking license at the end of 2008. Our sample includes all US investment banks that obtained a banking license as part of the 2008 bailout. Our unit of analysis is a bank holding company; fully-owned subsidiaries are not included. We then exclude all banks that were initially floated after 2003, which reduces our sample to 421 banks.

In order to construct the management insulation index, we tried to obtain the articles of incorporation and by-laws applicable between 2003 and 2007 for all remaining banks in our sample. We first exclude all banks that were not listed throughout the 2003 – 2007 period. For the remaining banks, the documents were hand-collected using the SEC EDGAR database as well as state-based document repositories.

Even though listed companies are in principle required to file with the SEC their articles of incorporation as part of their annual reports, we were not able to collect the relevant documents for some banks. First, corporations are allowed to incorporate the articles of incorporation and by-laws by reference to prior filings. In many instances, the filings referred to were submitted to the SEC before 1994, and are thus unavailable electronically through the EDGAR database. This concerns those banks in our sample that did not change their articles/by-laws between 1994 and 2007. Second, corporations are not required to restate their articles of incorporation or by-laws after each amendment. Consequently, if they choose not to consolidate the amendments, and where the original articles/by-laws date from a time prior to 1994, a precise re-construction of the corporate governance documents was not always possible. We were able to obtain at least partial information for 317 banks, and full sets of all constitutional documents for the 2003-2007 timeframe for 276 banks. We collect information on the specific governance provisions we identified when constructing the Management Insulation Index (see the detailed description at Section II).

We obtain bank financial data from Worldscope. We use book assets as proxies for bank size, and measure leverage as assets over common equity. We collect detailed investor level ownership data from Bankscope, and pay data for the highest paid director from CapitalIQ. We also construct a variable that counts the number of bank acquisitions between 2003 and 2006. We only include those transactions where the acquirer achieved full control by acquiring at least 50% of the target. For this we use the entire M&A database from Thomson One Banker, and match the acquirer name against the board names in our initial database per year. We match the acquisitions of subsidiaries to the parent company. We construct a banking experience indicator variable that equals one if the director had a prior managerial or top-executive position in any bank, and an independence variable based on whether a bank director is declared independent. We adjust the independence variable for a number of dimensions such as prior employment and material client relationship. For an extensive description of the adjustment process (see Ferreira, Kirchmaier and Metzger, 2010).

IV – Management Insulation Scores: Summary Statistics

We assign a score of 1 to 5 to each bank-year from 2003 to 2007, according to the procedure described in Figure 1. Table I shows the number of observations in each group. Figure 2 shows the frequency of each group per year. We see that most banks are either in group 2 (about 27%) or in group 5 (about 37%). Groups 1 and 4 are also significant (about 15% each), but group 3 is fairly uncommon. The distribution of management insulation scores is very stable over the years.

– Insert Table I about here –

– Insert Figure 2 about here –

How should we aggregate these data? A typical procedure is simply to assign a score of 1 to 5 to each of these categories. We define such a variable as the management insulation index (MII). However, there is no a priori reason to assume that all categories are equally important. In fact, we believe that group 5 represents a level of management insulation that is vastly stronger than all the other levels. Thus, we also create an indicator variable that takes the value of one if the management insulation index is equal to five, otherwise it is zero. We call this variable the *management insulation dummy (MID)*. This variable has a straightforward interpretation: it indicates those banks for which it would take two consecutive shareholder meetings for a majority coalition of shareholders to gain control of the board. There is no reason however to restrict ourselves to only these two specifications, and in the empirical analysis we also consider alternative ways of grouping the management insulation variables.

Table II shows the cross-sectional averages of the MII and MID variables per year. It also shows the average of a *classified board dummy (CBD)* variable. If we consider board classification (i.e. the existence of a staggered board) as a measure of managerial entrenchment, we note that, compared to our management insulation dummy, the classified board dummy substantially overestimates the extent to which managers are entrenched. While 77% of the boards in our sample are classified in 2003, in only 37% the banks managers are substantially insulated from shareholder pressure, according to our measure. The MID variable thus paints a very different picture of management insulation in banks from the one suggested by the classified board variable.

– Insert Table II about here –

We expect the MID variable to contain different information than that in the CBD. Table III shows the percentage of banks that have classified boards, but do not have a management insulation index of 5. Just below 40% of all banks have classified boards and their managers are not fully insulated. In fact, it is possible for banks with classified boards to achieve very low scores of management insulation. For example, in 2007, 16% of the classified-board banks had a management insulation index of 1, and 19.5% of such banks had a management insulation index of 2 (results not tabulated).

– Insert Table III about here –

In Table IV we present the summary statistics of the main variables used in our empirical analysis in Section V. About 55% of the banks in our sample received CPP funds. In Table VI we present the averages of selected bank variables, conditional on the values of the management insulation dummy in 2003. We see that insulated banks were about 17 percentage points less likely to be bailed out. That is, a negative relation between management insulation and bailouts exists and is quite strong, even before we consider the impact of additional variables on bailouts. The economic significance of this effect is substantial, as the unconditional probability of bailout in our sample is 55%. Management insulation is mechanically correlated to board classification in 2003, although this correlation is far from perfect. All the other characteristics are very similar across the two groups. Insulated banks are slightly larger on average (but the median insulated bank is smaller than the median non-insulated bank).

– Insert Table IV about here –

– Insert Table V about here –

V – Empirical Results

Our goal in this section is to estimate the probability that a bank is bailed out, which is measured by the bank's participation in the Capital Purchase Program (CPP) in 2008-2009. To investigate the role of bank characteristics on the probability of bailouts, we estimate the following model:

$$Prob(Y_i = 1 | x_i) = \Phi(x_i' \beta),$$

where Y_i is an indicator variable that takes the value of 1 if bank i has received CPP funds, x_i is a vector of lagged bank characteristics (as of 2006 or earlier), β is a vector of parameters to be estimated, and Φ is a the standardized normal cumulative distribution function (i.e. a Probit model).

Our main right-hand side variables of interest are the management insulation index (MII) and the management insulation dummy (MID). As we discuss above, the maximum level of insulation (MII=5) is likely to offer substantially more protection to managers than all the other levels. As further indication of the salience of the MII=5 level, we note that 37% of the banks in our sample have the maximum insulation score in 2003. We thus define the MID variable as an indicator variable that takes the value of one if MII=5 and zero otherwise. Most of our conclusions are based on the MID variable. But we also report results in which we use a different partition of the MII variable.

Because of the small size of the sample, we choose a parsimonious set of covariates to be included in x_i. It is well known that larger banks are more likely to be bailed out (the "too big to fail" effect), thus it is important to control properly for size. We use (the natural logarithm of) the book value of assets as a proxy for size. In order to give more functional-form flexibility to the effect of size on bailouts, we run spline regressions in which the effect of size on bailouts is allowed to differ according to whether the value of the assets is in one of the following three

groups: the bottom sextile (the 6-quantile) of the sample, the top sextile, or between these two. As it will become clear, this particular specification has no important effect on the results.

Alongside size, in our baseline specification we also include leverage. The reason for including leverage is clear: highly-levered banks are more likely to require bailing out. Importantly, we include dummies for the bank's state of incorporation in all regressions (there are banks from 38 states in our sample). We want to make sure that our results are not simply an artifact of differences in corporate law across states.

V.1 Main Results

In Table VI we report our first set of results. The table shows the marginal effects of the independent variables (evaluated at the means of the data) on the probability of bailouts. We report robust z-statistics within brackets, below the estimated coefficients. Our main variable of interest is the MID variable, which is measured as of 2003 (the earliest date for which we have data) in order to minimize concerns about reverse causality. We find that banks with insulated managers are 19 percentage points less likely to be bailed out. The economic significance of this effect is substantial, as the percentage of banks that were bailed out in our sample is 55%. This effect is statistically precise, being 2.28 standard errors away from zero. This effect is also very similar to the 17 percentage point effect found in the univariate analysis, which is reported in Table V.

– Insert Table VI about here –

Larger banks are indeed more likely to be bailed out. The estimated slopes are roughly similar across the three size groups. Indeed, the results are basically identical in (unreported) regressions in which size is broken down into a different number of groups (either more or fewer groups). Leverage appears to be positively related to bailouts.

It is important to clarify our interpretation of these results. The evidence shows that our measure of shareholder empowerment (the negative of management insulation) in 2003 predicts bailouts in 2008-09, after controlling for a set of other bank characteristics. It does not mean that shareholder interference "caused" the bailouts. First, in general we cannot ascertain causality from predictive regressions, as we cannot rule out the possibility that charters and by-laws are endogenously determined alongside bank policies that might have affected their performances during the crisis or their incentives to apply for government support. Second, in a literal sense, laws, charters and by-laws (or any other governance variable) cannot directly cause bank bailouts; bailouts are ultimately determined by some ex ante actions by bank executives and some other variables outside the control of the bank (i.e. luck, politics, etc.). That is, if we could observe those ex ante actions directly and include them in our predictive regressions, we would expect the coefficient on the MID variable to be zero. Thus, the best one could hope for is to find out whether our management insulation index correlates with some of these ex ante actions that led to bank bailouts. The fact that the MID variable is a robust predictor of bailouts suggests that shareholder empowerment correlates with a set of ex ante decisions that eventually led to bailouts.

In column (b) we include an additional set of control variables: board independence (as a proportion of board size), a 20% block ownership dummy, (the natural logarithm of) the total compensation for the highest paid director, which is typically the CEO, the fraction of variable pay over total compensation, the proportion of independent directors with previous banking experience, the number of acquisitions from 2003 to 2006, and a dummy variable indicating a classified board. We note that the effect of management insulation on the probability of bailouts appears slightly stronger in this specification: banks with insulated managers are 23 percentage points less likely to be bailed out. Regarding the other control variables, we note that the effect of leverage is now larger and statistically stronger. The number of acquisitions appears to be positively related to bailouts. The number of acquisitions is strongly correlated with bank size, and we cannot rule out the possibility that its positive effect on bailouts is simply a consequence of the too big to fail effect. This interpretation is strengthened by the fact that the inclusion of the acquisition variable reduces the statistical precision of the size variables (this is verified in unreported regressions).

Our preliminary conclusion is that the management insulation dummy is a robust predictor of bank bailouts. Its predictive power is not diminished by the inclusion of alternative governance variables, such as the presence of large block holders, board independence, board experience, compensation variables, and board classification.

We next consider the effects of changes in the management insulation index. Those changes are typically a consequence of modifications to the bank's charter or by-laws. Such changes happen infrequently. In our data, a change in MII occurs is less than 5% of the bank-years in the period of 2003 to 2007. We postulate that changes that reduce the management insulation index are suggestive of episodes of shareholder activism, either explicit or implicit (for example, by the threat of exit). We create a variable that measures the changes in MII between 2003 and 2007. We interpret this variable as a proxy for recent shareholder interference (that is, negative changes mean that shareholders are more empowered, while positive changes mean the opposite). The average change from 2003 to 2007 is just -0.03. From 2003 to 2007, we find 23 annual decreases in MII, and 21 annual increases in MII (results not tabulated). There are a few cases of major changes, such as from 1 to 5 and from 5 to 1 (see Table IV).

Columns (c) and (d) of Table VI report the results of similar regressions as in the two previous columns, but now including the change in MII as another right-hand side variable. We first note that the inclusion of this variable increases the point estimate of the marginal effect of MID on the probability of bailout. In these specifications, banks with insulated managers are between 24 and 27 percentage points less likely to be bailed out. This effect also appears to be more statistically precise, at roughly at least 2.7 standard deviations from zero. We also find that the change in MII has a strong effect on the probability of bailouts: a one-point reduction in the index increases the probability of a bailout by roughly 14 percentage points. This effect is statistically precise, with z-statistics of at least -2.6.

We conclude that recent changes in the management insulation index from 2003 to 2007 contain information that helps explain the cross-section of bank bailouts. This information goes beyond that contained in the management insulation dummy in 2003.

We now discuss some additional robustness checks and offer some more interpretation.

Finer partition of the MII

The management insulation dummy partitions the sample into two groups: banks with MII from 1 to 4 and banks with MII equal to 5. To check whether there is any loss of information due to such a coarse partition, we replicate the previous regressions using a three-group partition (1-2, 3-4, and 5). As described above, this partition can be interpreted as follows: In the group containing MII-1 and MII-2 banks, shareholders can in theory immediately gain control; in the group containing MII-3 and MII-4 banks, shareholders have to wait up to one year (i.e. until the next annual general meeting) to exercise their rights; the group containing MII-5 banks is equivalent to our dummy variable MID.

Table VII shows the results (group 1-2 is omitted). We see that, in both cases, only the effect of the group with MII=5 is (economically and statistically) different from that of the omitted group. The marginal effects of the management insulation dummy are similar to those from previous regressions, ranging from -0.20 to -0.21. These estimates are not, however, strictly comparable to those in Table VI, because the reference group now only contains those banks with MII of 1 or 2. Because our estimates suggest that group 3-4 has a higher probability of bailout than the reference group, the overall difference between group 5 and group 3-4 is between 29 and 33 percentage points. This difference is statistically significant. We also note that the finer partition makes all estimates less precise. The reason for that is because, in the coarser partition (the one implied by MID), we force groups 1-2 and 3-4 to have the same effect on bailouts, which is a more statistically efficient procedure if these two groups are indeed not too different from each other.

– Insert Table VII about here –

We conclude that, as far as the levels of management insulation are concerned, the simple dummy variable MID contains basically the same amount of information as does the finer partition of MII.

Does the same result apply to the changes in MII? That is, do changes in MII that do not involve the maximum level of management insulation (MII=5) contain additional information? In unreported regressions, we verify that changes in MII that do not involve changes to or away from MII=5 have similar effects to those reported in Table VI, from both an economic and a statistic viewpoint. We conclude that the level of MII in 2003 and the changes to this index between 2003 and 2007 appear to contain qualitatively different information. Whether a bank's governance rules offer the maximum level of management insulation (MII=5) appears to be the most important consideration for explaining the link between the level of management insulation in 2003 and future bailouts. However, subsequent changes to MII provide additional information, even when these changes are from, say, scores 3 to 4. We conjecture that changes in the MII variable serve as a proxy for recent investor activism. Reductions in the management insulation index reflect a more interventionist mood among shareholders in recent times, while the opposite holds when the level of management insulation increases.

Board classification

Substantial research exists on the role of classified boards (also known as *staggered boards*) in entrenching managers.[2] According to our management insulation index, however, a classified board is a necessary but not sufficient condition for a firm achieving the maximum score of management insulation. In fact, it is even possible for a firm with a classified board to achieve the lowest score of management insulation. In 2003, 39.2% of the banks with classified boards had a management insulation index below 5. Still, given the high correlation between the MID variable and the board classification dummy, a question arises of whether our index is nothing more than a proxy for the simpler board classification dummy.

As we can see from Tables VI and VII, the introduction of the board classification dummy in the set of control variables has no material impact on the estimated marginal effects of the MID variable. In Table VIII, we report the output of regressions with the same specifications as those in columns (a) and (b) of Table VI, but we now replace the MID variable with the board classification dummy. We find that, even after dropping the MID variable from the regression, the marginal effects of the classified board variable are both economically and statistically insignificant.

– Insert Table VIII about here –

We conjecture that our management insulation dummy is a more precise measure of management entrenchment than the board classification dummy. In large samples, the board classification dummy may work well, as it is indeed correlated with management entrenchment. However, in small samples, such as ours, a less noisy measure is required. The construction of our management insulation index is theoretically motivated, with the explicit goal of being more precise than a simple categorization between classified and non-classified boards. This additional precision is valuable, not only for obtaining statistically significant results in small samples, but, crucially, for obtaining economically meaningful estimates in samples of any size.

Board Independence

There is evidence linking board structure to bank performance during the crisis (for some examples, see Adams, 2009; Beltratti and Stulz, 2009; Erkens, Hung, and Matos, 2010; Chesney, Stromberg, and Wagner, 2010; and Minton, Taillard, and Williamson, 2010). In particular, a positive relation between board independence and bank bailouts is found in Adams (2009) and Minton, Taillard, and Williamson (2010). As we see from Table VI, the effect of board independence on the probability of bailouts is small and statistically insignificant. We conjecture that board independence is a noisy proxy for shareholder empowerment. As such, its effect in our sample are likely to be small, either because our sample is small or because the management insulation dummy is a more precise proxy for (less) shareholder empowerment, or both.

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[2] For examples, see Bebchuk, Coates and Subramanian (2002), Bebchuk and Cohen (2005), Masulis, Wang, and Xie (2007), Faleye (2007), Bates, Becher, and Lemmon (2008), and Bebchuk, Cohen, and Wang (2011).

V.3 Investigating the Mechanism

As discussed in the introduction, there are two leading explanations for the negative relation between management insulation and the probability of bailouts. First, management insulation may be correlated with decisions that made banks stronger during the crisis, leading to fewer bailouts. Second, insulated managers may have chosen not to apply for bailout funds. As these explanations are not mutually exclusive, we investigate each of them separately to see whether they survive further scrutiny.

Management Insulation and Bank Performance

Banks with serious liquidity needs had no option but to apply for CPP funds. However, some banks did not qualify for CPP capital injections or had their applications rejected because they were too weak (Bayazitova and Shivdasani, 2012). Our bailout indicator is at best a noisy proxy for performance/liquidity needs, because some of the worst-performing banks did not receive CPP funds.

To address the concern that our bailout dummy is a poor proxy for bank strength, we first identify those banks that did not receive funds because they were too weak. These are banks that were closed by the FDIC shortly after the CPP was announced, or banks that stated that they could not issue preferred shares because they had already defaulted/delayed payment on subordinated debt, or there were other clear reasons for not receiving funds due to weakness. There are 14 banks in this category. We also identify 8 banks that did not receive funds and subsequently failed (as of 2010). We then create two new indicator variables. The first one, which we call "bailout + weak bank dummy," is equal to 1 if a bank either is bailed out or is weak but is not bailed out. The second variable, which we call "bailout + weak + failed banks," is equal to the first one except that it also includes the failed banks in the group of bailed out and weak banks. These two new variables are arguably less noisy proxies for poor performance.

In Table IX, columns (a) and (b), we report the output of regressions using the same specification as in column (d) of Table VI (which is the one with the largest set of controls), but replacing the bailout variable with these two different indicator variables. We find that the results become stronger. Now those banks with MID=1 are about 37 percentage points less likely to be poor performers.

– Insert Table IX about here –

As these results are directly comparable to those from Table VI, the evidence here supports an interpretation in which management insulation may have made some banks stronger. We discuss some reasons for that being the case in Section VI.

Management Insulation and Incentives to Apply for CPP funds

The negative relation between management insulation and the acceptance of CPP funds could be explained by badly-governed banks choosing not to apply for these funds. In that case, we expect the negative relation between management insulation and the decision to apply for CPP funds to be even stronger than that between management insulation and bailouts. To test this hypothesis, we create an indicator variable that takes the value of 1 if a bank applied for CPP

funds. We assume that all banks that received CPP funds applied for them. Of the remaining banks, we identify 34 banks that did apply for the funds, but did not get them. This information comes from the banks' company reports, such as 10-Ks, annual reports, or documents on their web pages.

From Table IX, column (c), we see that the MID variable has a negative effect on the probability of applying for funds. This effect is, however, economically smaller than that of the bailout variable and is statistically imprecise. Empirically, this result is explained by the fact that a large number of banks that applied for CPP funds, but did not get them, had the highest insulation score (MII=5). This evidence is difficult to reconcile with an interpretation in which badly-governed banks choose not to apply for bailout funds.

Some banks that received CPP funds exited from the program very early. An early exit could also be a symptom of bad governance. Bayazitova and Shivdasani (2012) show evidence that banks with high levels of CEO compensation were more likely to exit CPP early. Wilson and Wu (2012) argue that there was no compelling economic reason to repay CPP investments early, leaving open the possibility that badly-governed banks chose to exit the programme against the interests of their shareholders. To address this possibility, we identify 23 banks that received CPP funds but repaid these funds at or before October 2009. We use this information to refine our CPP application dummy, which now classifies those banks that exited early in the same group as those that did not apply.

We report the results in Table IX, column (d). The estimated effect of the MID variable on the probability of applying for funds and not repaying them early is economically weaker than that reported in column (c), and its statistical precision is very weak.

Conclusion

Based on the evidence reported in Table IX, we conclude that there is very little support for the hypothesis that the management insulation index works as a proxy for badly-governed banks that choose not to raise cheap government capital. Instead, columns (a) and (b) suggest that the negative relation between management insulation and bailouts is driven by a link between management insulation and overall bank strength during the crisis.

The link between management insulation and bank performance prior to the crisis is unfortunately not directly observable. In unreported regressions, we cannot find any statistically robust associations between management insulation and accounting performance, stock market performance, leverage, non-performing loans, and measures of volatility prior to the crisis. Given the opacity of banks (Morgan, 2002), these are not surprising results. In fact, the literature on TARP offers some contradictory evidence on this issue. For example, Ng, Vasvari, and Wittenberg-Moerman (2011) show that banks that participated in the CPP experienced lower stock returns relative to nonparticipants during the CPP initiation period. However, CPP participants appeared to have stronger fundamentals than nonparticipants. The authors interpret this finding as evidence that the market irrationally perceived CPP participation as bad news. However, it is also possible to reinterpret these findings as consistent with a view in which accounting data from banks are noisy, and that the market learns about important soft

information from CPP participation. As troubled banks indeed improve after receiving CPP funds, eventually their valuations go back in line with those of nonparticipants.

VI – Interpreting the evidence: Why would shareholder empowerment lead to bank fragility during the crisis?

As is well known, in companies with limited liability shareholders have strong incentives to increase the risk profile of the company because shareholders benefit from an unlimited upside and the limited downside of losing their equity investment. Shareholders can be understood as the holders of a call option on the firm which may be exercised at any time when the value of the company's equity exceeds the value of its debt (Merton, 1974). As the value of an option increases with the volatility in the value of the underlying asset, shareholders, as option holders, are strongly incentivised to increase the volatility, and therefore the riskiness, of the company's investments.

Pursuant to Modigliani and Miller's theorem, the value of a corporation is unaffected by the ratio of its debt to equity. An increase in the risk profile of a company increases bankruptcy risk and decreases the probability that the debt holder will be repaid in full. In an efficient debt market, the debt holder will require an increased return or contractual safeguards to compensate him for the increase in the risk (or potential increase in risk) of default. However, in this regard banks and financial institutions are fundamentally different from non-financial corporations.

Although sophisticated debt providers may be capable of incorporating variation in the risk profile of banks into the price of their credit, there is no reason for them to do so. Because the failure of one bank may generate a contagion effect, whereby a run on one bank leads to runs on other banks (including solvent banks), sovereigns provide explicit and implicit guarantees to bank lenders. The explicit guarantees typically take the form of deposit insurance up to a pre-specified amount of deposits (Demirguc-Kunt and Detragiache, 2002). The implicit guarantees arise from the immediate systemic consequences of an actual bank failure, in particular the seizure of credit provision to the real economy. In order to prevent these effects, when a bank failure actually occurs sovereigns are forced to guarantee all the debt issued by the failing bank (Haldane, 2011). During normal market conditions sovereigns may attempt to counteract this moral hazard by making it clear to debt holders that in the event of bank failure they will not bail them out beyond the explicit deposit insurance arrangements. However, this assertion suffers from a time consistency problem whereby debt providers assume that in the event of a banking crisis the sovereign will not keep to its word (Alessandri and Haldane, 2009).

As the sovereign provides a back-stop guarantee for all debt holders, the debt markets are not incentivised to adjust the terms of their credit to take account of variation in bank risk-profile. Pre-crisis evidence from bank credit default swap markets, which did not distinguish between weak and strong banks, supports this position (Haldane 2011). If debt markets do not discipline managers then, unless the sovereign demands risk-adjusted payment from banks for the provision of this implicit guarantee, shareholder option-like incentives to increase risk taking in banks would appear to have a free reign.

However, two considerations suggest that these option-like incentives may not result in an increase in the risk profile of banks. The first is the risk-aversion of undiversified managers

(Laeven and Levine, 2009; Kose, Litov and Yeung, 2008; Demsetz and Lehn, 1985). Although an increase in the risk profile of a bank's investments increases the risk that the bank's equity holders could be wiped-out, equity investors can diversify overall portfolio risk by making low percentile similar investments in multiple financial firms, or through investments in non-financial firms or different asset categories. In contrast, a bank manager's human capital, reputational capital, private benefits of control and financial capital are typically highly undiversified. An increase in the risk profile of the bank results in an increase in the probability of losses for the manager in all of these capital categories, but particularly the first three categories which cannot be diversified at all. Several recent papers have argued that the structure of bank executive remuneration - with its emphasis on performance-based pay linked to return on bank equity - was one of the primary drivers of excessive risk taking in banks and of bank failure (Bebchuk and Spamann, 2010; Gordon, 2011. Haldane, 2011). However, although managers have been one of the clear beneficiaries of the pre-crisis credit bubble, it is not clear that these performance based-incentive arrangements made managers more risk friendly than their diversified shareholder body. No matter how well performance-based pay aligns the financial and risk-taking incentives of managers with those of shareholders, these pay arrangements cannot counteract the incentive mis-alignment generated by the non-diversification of both the manager's human and reputational capital and his private benefits of control. In our view, even in the presence of high-powered performance-based incentives that are paid in, or can be readily and quickly be turned into, cash, managers will be more risk averse than shareholders. The one exception to this is where, as a result of failed investments, the probability of bank failure is high, at which point the manager's human and reputational capital, private benefits of control, and bank equity have all been wiped-out. At such a point managers' and shareholders' risk taking incentives will be aligned (Gordon, 2011; Goodhart and Bray, 2008).

In a recent paper, Jeffrey Gordon argues that the above account of shareholder incentives to increase volatility and risk fails to take account of a separate reason why banks are different (Gordon, 2011). Diversified shareholders will hold shares in non-financial companies and positions in non-stock asset classes whose value would be detrimentally affected by the systemic consequences of a banking crisis. Any increase in the probability of a banking crisis generates systemic risk which shareholders cannot avoid through diversification. Accordingly, if a bank increases its risk profile, the resulting increase in systemic risk damages the whole of the shareholder's diversified portfolio. In such circumstances, the benefits from an increase in the value of the shareholder's financial stocks are likely to be outweighed by the reduction in value of the portfolio as a whole. Gordon argues that this effect means that shareholders do not have incentives to encourage managers to take greater risks or to incentivise them to do so.[3]

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[3] Whether such effects would persist in a model in which shareholders face non-trivial coordination costs is unclear. The internalization of the systemic consequences of bank failures is greater when bank shareholders are more diversified. But well diversified shareholders are likely to hold small stakes in any given bank, and thus face the issue of coordinating their actions with other shareholders. Because activism is costly, even if bank shareholders fully recognize the undesirability of excessive risk taking, they may well be stuck in an inefficient equilibrium in which no individual shareholder is sufficiently incentivised to intervene. Even more problematic is the possibility that this coordination failure may occur at the national (or even global) economy level, rather than at the firm level. Because there might be many "systemic" banks in the economy, even those shareholders who have a large stake in one of

While this argument provides an important nuance to understanding shareholder incentives in banks, there are several practical reasons why bank shareholders will continue to behave like option holders. First, for investors that are over-weighted in financial stocks the benefits of increased equity value in those stocks may well outweigh the decrease in value resulting from the increased systemic risk. Secondly, in an efficient market the increased systemic risk generated by an increase in bank risk profile is imposed on the market as a whole, reducing the benchmark return. For an investor pursing absolute returns, an approach that increases risk profile and equity returns in the financial stocks whilst externalising systemic risk on all shares is likely to generate absolute returns. Thirdly, in an environment where such over-weighted or absolute return investors are incentivised to effectively ignore the increase in systemic risk, it seems likely that everyone will join the party. In our view the case that bank shareholders will act like option holders remains a strong one.

Accordingly, shareholders with strong incentives to increase risk taking are faced with managers who, although they can be incentivised to take more risk, will not share the shareholders' risk friendly preferences. We hypothesise in this paper that core corporate governance rules are likely to influence significantly the outcome of this conflict over risk preferences. Shareholders who cannot successfully persuade or incentivize managers to alter the bank's risk profile may resort to more forceful persuasion: they may threaten managers with removal or loss of control if they fail to implement the shareholders' preferred investment policy. The extent to which any such threat is a credible one is a function of the basic corporate law rules governing a bank, and the extent to which such rules enable an active investor to take control of the bank away from those managers. To the extent such rules provide investors with a credible threat, we would expect those banks to adopt more risky investment strategies and to be more likely to fail than banks where, because of their core governance rules, such threats are less credible. Where such rules make those threats non-credible we would also expect to see banks with fewer active investors who would pressurize banks to take higher risk strategies (assuming that such investors take account of governance arrangements when making investment decisions).

This hypothesis is contrary to one of the emerging consensus narratives of the post-crisis autopsy, namely, that one of the causes of the crisis was the failure of institutional shareholders to discipline managers – they acted instead like "absentee landlords" (Myners, 2009) – and the inadequacy of shareholder rights to facilitate effective shareholder engagement. This is a view which has driven a pro-shareholder rights and responsibilities agenda in the U.S. and the U.K (Bruner, 2011; The U.K. Stewardship Code, 2010; Walker, 2009). The contrarian prediction examined in this paper is that the more powerful the shareholders' rights the greater the probability that banks will attract shareholders willing to use, or to threaten to use, such rights in order to increase the bank's risk profile and the greater probability that such banks will fail.

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these banks may choose not to curb risk taking, as long as they expect that at least one of the other systemic banks will fail. In such a case, it might be better just to "keep dancing while the music is still on."

VII – Final remarks

One of the main contributions of this paper is to illustrate the usefulness of theoretically-motivated corporate governance indices. We develop a new index of management insulation from shareholder pressure, which we call the management insulation index (MII). The MII is an attempt to answer the question of how core corporate law rules make it more or less difficult and time-consuming to replace incumbent management. We show that this index contains information that is useful for predicting bank bailouts during the crisis. We argue that this evidence is consistent with the hypothesis that shareholder empowerment can lead to more risk taking in banks.

Going forward, we expect the managerial insulation index to be used in different applications. The methodology that we adopt to construct the index is not specific to financial firms. This methodology may prove useful in future studies on the costs and consequences of shareholder empowerment.

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Table I – Management Insulation Scores 2003-2007

This table shows the number of US commercial banks in our sample that we classified into each of the five insulation scores described in Figure 1. Sample size (276) is determined by the availability of constitutional documents for the entire 2003-2007 timeframe and other bank characteristics that are used in our analysis.

Insulation score	Year				
	2003	2004	2005	2006	2007
1	41	40	37	34	36
2	68	70	72	75	79
3	20	17	18	21	18
4	44	46	48	45	43
5	103	103	101	101	100
Total	276	276	276	276	276

Table II – Management Insulation Variables and Board Classification: Average Values 2003-2007

This table shows cross–sectional average values per year of the management insulation index (MII), the management insulation dummy (MID), and the board classification dummy (BCD). The MII variable classifies each bank into one of the five insulation scores described in Figure 1 and, in more details, in the Appendix. The MID variable equals 1 if MII=5 and zero otherwise. The BCD variable equals 1 if the bank has a classified board and zero otherwise. The sample size is 276.

Year	Variable		
	Management Insulation Index - MII	Management Insulation Dummy - MID	Board Classification Dummy -BCD
2003	3.36	0.37	0.77
2004	3.37	0.37	0.77
2005	3.38	0.37	0.76
2006	3.38	0.37	0.75
2007	3.33	0.36	0.73

Table III – Classified-board Banks without (fully) Insulated Managers.

This table shows the percentage of banks such that the board classification dummy equals 1 and the management insulation dummy equals zero.

	Year				
	2003	2004	2005	2006	2007
Percentage	39.5%	39.9%	39.1%	38.4%	36.6%

Table IV – Bank Characteristics: Summary Statistics

This table shows the summary of some bank characteristics. The *bailout dummy* equals 1 if the bank received CPP money in 2007-08. The change in management insulation variable is the change in the MII variable from 2003 to 2007. The *number of acquisitions 2003-2006* is the count of control stakes (>50%) acquired in other banks from 2003 to 2006 inclusive. All the other variables are from 2006.The *classified board dummy* equals 1 if the bank has a classified board in 2006. *Book value of assets* is measured in millions of US dollars. *Leverage* is the book value of assets divided by the book value of total equity. *Board independence* is the fraction of independent directors on the board. *Board directors' banking experience* is the fraction of independent directors with previous managerial experience in the banking industry. The *block ownership dummy (20%)* indicates the presence of at least one shareholder with an ownership stake 20% or more. HPD denotes the highest paid director in a bank, typically the CEO.

	Summary Statistics				
Variable	*mean*	*st. dev.*	*min*	*max*	*n*
Bailout dummy	0.55	0.50	0	1	276
Change in management insulation (2003-07)	-0.03	0.76	-4	4	276
Classified board dummy	0.75	0.43	0	1	276
Book assets	24,457	146,586	124	1,459,737	276
Leverage	11.06	3.13	3.43	32.71	276
Number of acquisitions 2003-2006	1.68	2.76	0	17	276
Board independence	0.75	0.13	0.08	0.94	276
Board directors' banking experience	0.18	0.16	0	0.73	276
Block ownership dummy (20%)	0.09	0.29	0	1	276
HPD variable pay (as fraction of total pay)	0.49	0.22	0.03	0.99	259
Log total HPD pay	13.57	1.02	11.80	17.60	267

Table V – Bank Characteristics: Sample Averages Conditional on Management Insulation in 2003

This table shows the sample averages of selected bank characteristics conditional the 2003 value of the management insulation dummy (MID). The *bailout dummy* equals 1 if the bank received CPP money in 2007-08. The *number of acquisitions 2003-2006* is the count of control stakes (>50%) acquired in other banks from 2003 to 2006 inclusive. The *classified board dummy* equals 1 if the bank has a classified board in 2003. All the other variables are from 2006. *Book value of assets* is measured in millions of US dollars. *Leverage* is the book value of assets divided by the book value of total equity. *Return on equity (ROE)* is net income over equity. *Nonperforming loans* is the value of such loans divided by total equity. *Board independence* is the fraction of independent directors on the board. *Board directors' banking experience* is the fraction of independent directors with previous managerial experience in the banking industry. The *block ownership dummy (20%)* indicates the presence of at least one shareholder with an ownership stake 20% or more. *CEO inside ownership* (in %) is the CEO's ownership stake.

	Average Values Conditional on MID	
Variable	*MID = 0*	*MID = 1*
Bailout dummy	0.61	0.44
Classified board dummy	0.63	1
Book assets	23,412.87	26,210.02
Leverage	11.02	11.14
Return on Equity (ROE)	11.87	10.48
Nonperforming loans over equity	4.34	5.19
Number of acquisitions 2003-2006	1.77	2.32
Board independence	0.76	0.73
Board directors' banking experience	0.17	0.20
Block ownership dummy (20%)	0.09	0.10
CEO inside ownership	2.94%	1.97%
Number of observations	173	103

Table VI – Marginal Effects of Management Insulation on the Probability of Bailouts (2008/09)

This table shows results of Probit regressions of bank bailouts on bank characteristics. The sample consists of all US banks for which data are available. The dependent variable – the bailout dummy – is equal to one if the bank received CPP money in 2008-09. The *management insulation dummy* (MID) and the *classified board dummy* are from 2003. The change in management insulation variable is the change in the MII variable from 2003 to 2007. The small size dummy indicate banks in the lowest sextile (6-quantile) of the sample size distribution, as measure by book assets, the large size dummy indicate banks in the top sextile, and the medium size dummy indicates banks in between the bottom and the top sextiles. See Table IV for the definition of variables. HPD denotes the highest paid director in a bank, typically the CEO. All regressions include dummies for the bank's state of incorporation. The reported coefficients represent marginal effects evaluated at the means of the data. Robust z-statistics are in brackets. Asterisks indicate significance at 0.01 (***), 0.05 (**), and 0.10 (*) levels.

Independent Variable	Dependent Variable: Bailout dummy			
	(a)	(b)	(c)	(d)
Management Insulation Dummy -MID (2003)	-0.190**	-0.230**	-0.244***	-0.274***
	[-2.284]	[-2.402]	[-2.791]	[-2.747]
Change in management insulation (2003-07)			-0.148***	-0.136***
			[-2.833]	[-2.605]
Log assets times small size dummy	0.131**	0.127	0.137**	0.126
	[2.073]	[1.434]	[2.087]	[1.382]
Log assets times medium size dummy	0.150***	0.138*	0.155***	0.138*
	[3.063]	[1.822]	[3.036]	[1.765]
Log assets times large size dummy	0.136***	0.118*	0.138***	0.114
	[3.679]	[1.708]	[3.603]	[1.637]
Log leverage	0.023*	0.038**	0.022	0.038**
	[1.695]	[2.505]	[1.607]	[2.522]
Board independence		0.195		0.180
		[0.608]		[0.553]
Block ownership dummy (20%)		-0.164		-0.150
		[-1.253]		[-1.122]
Number of acquisitions 2003-2006		0.040*		0.041*
		[1.867]		[1.933]
HPD variable pay (as fraction of total pay)		0.087		0.127
		[0.209]		[0.298]
Log total HPD pay		-0.026		-0.022
		[-0.182]		[-0.159]
Board directors' banking experience		0.226		0.170
		[1.050]		[0.774]
Classified board dummy (2003)		0.122		0.104
		[1.179]		[0.987]
All observations	276	259	276	259
(excluding perfectly predicted by state dummies)	(266)	(249)	(266)	(249)

Table VII – Bailouts and Management Insulation: Finer partition of the Management Insulation Index

This table shows results of Probit regressions of bank bailouts on bank characteristics similar to those in Table VI, but with a finer partition of the management insulation index (MII). See Table VI for the definition of the sample and variables. The MII is split into three groups: group 1 (MII=5), group 2 (MII=3 to 4) and group 3 (MII= 1 or 2). Group 3 is omitted. Group 1 is identical to the MID variable. All regressions include dummies for the bank's state of incorporation. The reported coefficients represent marginal effects evaluated at the means of the data. Robust z-statistics are in brackets. Asterisks indicate significance at 0.01 (***), 0.05 (**), and 0.10 (*) levels.

Independent Variable	Dependent Variable: Bailout dummy	
	(a)	(b)
Management Insulation Index –Group 1 (MID)	-0.203**	-0.212*
	[-1.981]	[-1.856]
Management Insulation Index –Group 2	0.088	0.122
	[0.743]	[0.996]
Change in management insulation (2003-07)	-0.134**	-0.117**
	[-2.432]	[-2.117]
Log assets times small size dummy	0.135**	0.130
	[2.056]	[1.400]
Log assets times medium size dummy	0.154***	0.142*
	[3.004]	[1.787]
Log assets times large size dummy	0.138***	0.120*
	[3.576]	[1.678]
Leverage	0.021	0.038**
	[1.543]	[2.488]
Board independence		0.197
		[0.603]
Block ownership dummy (20%)		-0.147
		[-1.108]
Number of acquisitions since 2003		0.041*
		[1.908]
HPD variable pay (as fraction of total pay)		0.148
		[0.349]
Log total HPD pay		-0.032
		[-0.227]
Board directors' banking experience		0.170
		[0.760]
Classified board dummy (2003)		0.100
		[0.939]
All observations	276	259
(excluding perfectly predicted by state dummies)	(266)	(249)

Table VIII – Bailouts and Board Classification

This table shows results of Probit regressions of bank bailouts on bank characteristics. The sample consists of all US banks for which data are available. The dependent variable – the bailout dummy – is equal to one if the bank received CPP money in 2008-09. The *classified board dummy (CBD)* is from 2003. The small size dummy indicate banks in the lowest sextile (6-quantile) of the sample size distribution, as measure by book assets, the large size dummy indicate banks in the top sextile, and the medium size dummy indicates banks in between the bottom and the top sextiles. See Table IV for the definition of variables. The reported coefficients represent marginal effects evaluated at the means of the data. Robust z-statistics are in brackets. Asterisks indicate significance at 0.01 (***), 0.05 (**), and 0.10 (*) levels.

Independent Variable	Dependent Variable: Bailout dummy	
	(a)	(b)
Classified board dummy – CBD (2003)	0.048	0.031
	[0.534]	[0.326]
Log assets times small size dummy	0.157**	0.167*
	[2.518]	[1.936]
Log assets times medium size dummy	0.174***	0.173**
	[3.564]	[2.340]
Log assets times large size dummy	0.153***	0.146**
	[4.185]	[2.179]
Leverage	0.024*	0.038***
	[1.774]	[2.580]
Board independence		0.314
		[0.973]
Block ownership dummy (20%)		-0.151
		[-1.155]
Number of acquisitions since 2003		0.036*
		[1.677]
HPD variable pay (as fraction of total pay)		0.076
		[0.186]
Log total HPD pay		-0.031
		[-0.223]
Board directors' banking experience		0.177
		[0.818]
All observations	276	259
(excluding perfectly predicted by state dummies)	(266)	(249)

Table IX – Bailouts, Bank Strength, and the Decision to Participate

This table shows results of Probit regressions of four different indicator variables on bank characteristics. The dependent variables are: (a) banks that received CPP funds in 2008-09 or did not receive funds because they were too weak, (b) the same as in (a) plus all banks that failed up to 2010, (c) banks that applied for CPP funds, and (d) the same as in (c) but without those banks that repaid funds before October 2009. All the other variables are as in Table VI. All regressions include dummies for the bank's state of incorporation. The reported coefficients represent marginal effects evaluated at the means of the data. Robust z-statistics are in brackets. Asterisks indicate significance at 0.01 (***), 0.05 (**), and 0.10 (*) levels.

Independent Variable	Dependent Variable			
	(a) *Bailed out or weak banks*	(b) *Bailed out or weak banks or failed banks*	(c) *Applied for CPP*	(d) *Applied for CPP and no early repayment*
Management Insulation Dummy -MID (2003)	-0.374***	-0.377***	-0.098	-0.059
	[-3.898]	[-3.997]	[-1.087]	[-0.628]
Change in management insulation (2003-07)	-0.154***	-0.138***	-0.119***	-0.111**
	[-3.035]	[-2.815]	[-2.666]	[-2.396]
Log assets times small size dummy	0.083	0.047	0.137	0.069
	[0.924]	[0.533]	[1.607]	[0.776]
Log assets times medium size dummy	0.099	0.060	0.141*	0.077
	[1.290]	[0.798]	[1.934]	[0.999]
Log assets times large size dummy	0.078	0.040	0.112*	0.048
	[1.131]	[0.587]	[1.728]	[0.708]
Leverage	0.058***	0.060***	0.033**	0.003
	[3.819]	[4.087]	[2.371]	[0.282]
Board independence	-0.032	-0.171	0.255	0.516*
	[-0.101]	[-0.566]	[0.845]	[1.755]
Block ownership dummy (20%)	-0.119	-0.090	-0.158	-0.123
	[-0.988]	[-0.769]	[-1.303]	[-1.023]
Number of acquisitions 2003-2006	0.034*	0.030	0.027	-0.012
	[1.671]	[1.509]	[1.285]	[-0.724]
HPD variable pay (as fraction of total pay)	0.089	0.112	-0.017	0.022
	[0.225]	[0.294]	[-0.045]	[0.059]
Log total HPD pay	0.051	0.094	-0.002	0.000
	[0.377]	[0.715]	[-0.017]	[0.003]
Board directors' banking experience	0.212	0.142	0.225	0.404*
	[0.955]	[0.634]	[1.100]	[1.803]
Classified board dummy (2003)	0.091	0.050	0.039	0.057
	[0.874]	[0.491]	[0.384]	[0.597]
All observations (excluding perfectly predicted by state dummies)	259 (249)	259 (247)	259 (237)	259 (239)

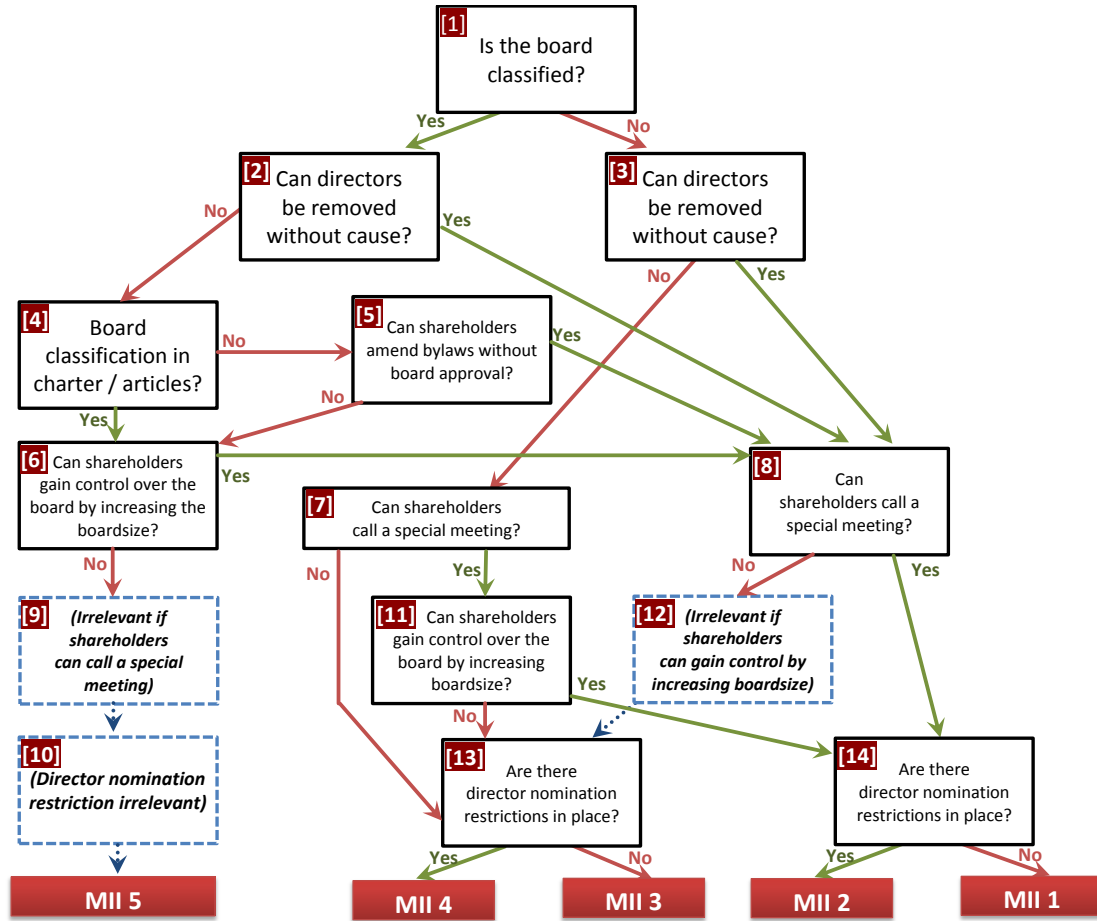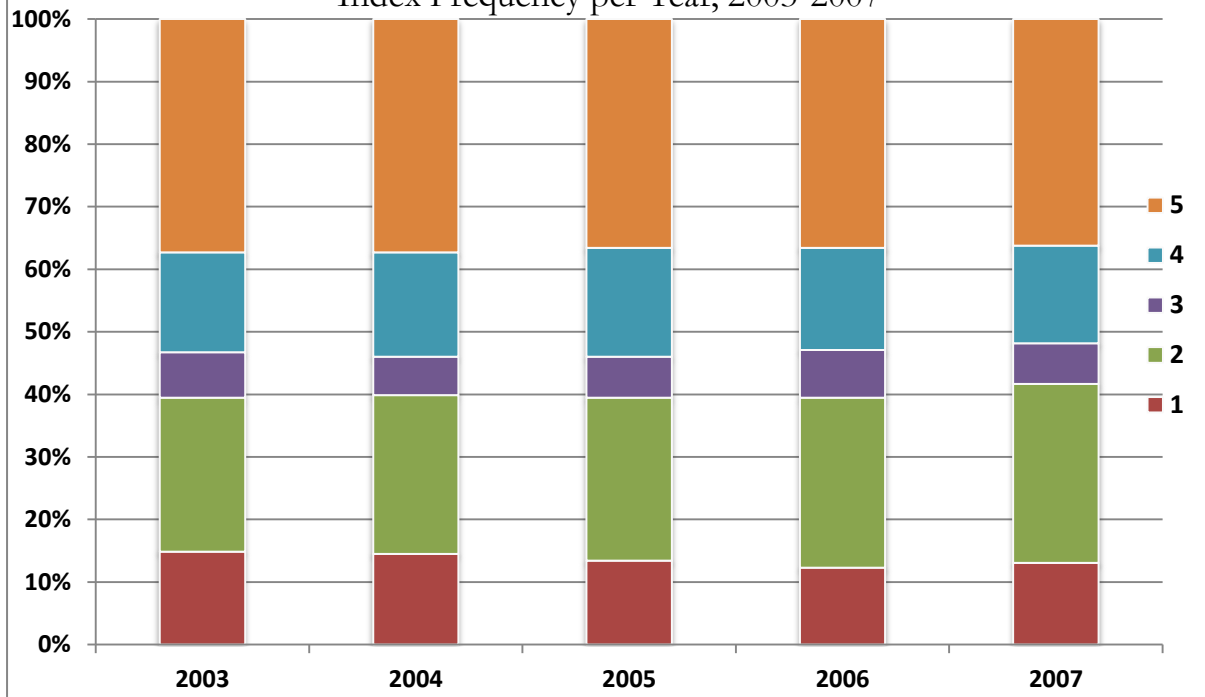# Figure 1 – The Management Insulation Index

Figure 2 - The Management Insulation Index:
Index Frequency per Year, 2003-2007

Appendix – Detailed Description of the Management Insulation Index

Index value	Explanation
5	Corporations with an index value of **5** follow one of two "governance paths". Path 1 (see boxes `1`–`2`–`4`–`6`–`9`–`10`–`MII 5` in Figure `1` above) - The board is classified; - the classification is contained in the corporation's charter, meaning that a decision to declassify the board requires board approval; - shareholders have no right to remove directors without cause; - shareholders are unable to gain control over the board by electing additional directors. Path 2 (see boxes `1`–`2`–`4`–`5`–`6`–`9`–`10`–`MII 5` in Figure `1` above) Alternatively, corporations with a board classification in their by-laws also fall into this category <u>if</u> an amendment of the bylaws is subject to board approval (this can be stated in the charter or be a default rule under state corporate law).[4] **Assessment:** The boards of banks with an index value of 5 enjoy the maximum amount of "insulation" from shareholder pressure. The board is classified, meaning that only a third of the directors stand for re-election each year. Thus, it takes shareholders about two years (two meetings) to reverse the corporation's strategy by gaining control over the board. We ignore special meeting rights for MII-5 banks: Shareholders can neither remove directors, nor add a relevant number of directors or declassify the board in a special meeting. Hence, we deem the existence of such right to be irrelevant. As for restrictions to nominate directors:[5] Such restrictions can limit the effectiveness of a proxy fight by giving the board enough time to react to activist shareholders. This, however, seems irrelevant in MII-5 banks, since management is always secure for at least the time until the second-next general meeting, effectively always allowing for sufficient "response time".

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[4] Where by-laws can be amended by shareholders, but only by supermajority vote, we proceeded as follows: If the supermajority is calculated based on *all* outstanding shares, we assumed that shareholders will not be able, in effect, to amend the by-laws against the will of the incumbent management. Where only shareholders present at the meeting count, we assumed that supermajority requirements *above 66 2/3%* (typically 80%) render it effectively impracticable to rely on changes to the corporation's by-laws in order to gain control over the board.

[5] We define director nomination restrictions as legal arrangements that require more than 90 days advance notice for the nomination of directors by shareholders (and any rule more burdensome than this).

Corporations with an index value of **4** follow one of six "governance paths".

Path 1 (see boxes `1` - `3` - `7` - `11` - `13` - `MII 4`)

- The board is not classified;
- shareholders have no right to remove directors without cause;
- shareholders have the right to call a special meeting;
- but shareholders are unable to gain control over the board by electing additional directors.
- there are some director nomination restrictions in place.

Path 2 (see boxes `1` - `3` - `7` - `13` - `MII 4`)

- The board is not classified;
- shareholders have no right to remove directors without cause;
- shareholders have no right to call a special meeting;
- there are some director nomination restrictions in place.

Path 3 (see boxes `1` - `3` - `8` - `12` - `13` - `MII 4`)

- The board is not classified;
- shareholders have the right to remove directors without cause;
- shareholders have no right to call a special meeting;
- there are some director nomination restrictions in place.

Path 4 (see boxes `1` - `2` - `8` - `12` - `13` - `MII 4`)

- The board is classified;
- nevertheless, shareholders have the right to remove directors without cause;
- shareholders have no right to call a special meeting;
- there are some director nomination restrictions in place.

Path 5 (see boxes `1` - `2` - `4` - `5` - `8` - `12` - `13` - `MII 4`)

- The board is classified;
- shareholders have no right to remove directors without cause;
- the classification of the board is not contained in the corporate charter, but in the by-laws;
- shareholders can amend the by-laws to declassify the board;
- shareholders have no right to call a special meeting;
- there are some director nomination restrictions in place.

Path 6 (see boxes `1` - `2` - `4` - `6` - `8` - `12` - `13` - `MII 4`)

- The board is classified;
- shareholders have no right to remove directors without cause;
- the classification of the board is contained in the corporate charter;
- shareholders can, however, increase the size of the board to gain control;
- shareholders have no right to call a special meeting;
- there are some director nomination restrictions in place.

	Assessment: Banks with a MII value of 4 differ significantly from MII-5 banks. Even though the board may be classified (Paths 4-6), shareholders can effectively gain control over the board within a year. As Path 4 shows, even where the board is classified it is possible that shareholders retain the right to remove directors without cause. This renders the board classification irrelevant. Even without such a removal right, some corporations provide for classified boards in their by-laws only, and allow their shareholders to amend the relevant provisions. This means that shareholders can simply declassify the board, rendering the insulation typically offered by staggered boards irrelevant (see Path 5). Furthermore, even where shareholders cannot remove directors without cause or declassify the board against the will of the management, shareholders are sometimes able to increase board size so as to outnumber the incumbent directors (Path 6). These three sets of governance provisions result in a level of entrenchment equivalent to banks with unclassified boards and without cause removal rights (Path 3). All MII-4 banks
3	Banks with an index value of 3 are effectively a variation of MII-4 banks. They follow the same six "governance paths", but there are no significant director nomination restrictions in place. Assessment: Activist shareholders have to wait until the next general meeting to gain board control (see above). The absence of director nomination restrictions arguably slightly reduces the costs of gaining control over the board when compared to MII-4 banks.
2	Banks with an index value of 2 follow one of five different "governance paths". Path 1 (see boxes 1 - 2 - 8 - 14 - MII 2) - The board is classified; - nevertheless, shareholders have the right to remove directors without cause; - shareholders have the right to call a special meeting; - there are some director nomination restrictions in place. Path 2 (see boxes 1 - 2 - 4 - 5 - 8 - 14 - MII 2) - The board is classified; - shareholders have no right to remove directors without cause; - the classification of the board is not contained in the corporate charter, but in the by-laws; - shareholders can amend the by-laws to declassify the board; - shareholders have the right to call a special meeting; - there are some director nomination restrictions in place. Path 3 (see boxes 1 - 2 - 4 - 6 - 8 - 14 - MII 2) - The board is classified; - shareholders have no right to remove directors without cause; - the classification of the board is contained in the corporate charter; - shareholders can, however, increase the size of the board to gain control; - shareholders have the right to call a special meeting; - there are some director nomination restrictions in place. Path 4 (see boxes 1 - 3 - 8 - 14 - MII 2)

	- The board is not classified; - shareholders have the right to remove directors without cause; - shareholders have the right to call a special meeting; - there are some director nomination restrictions in place. Path 5 (see boxes 1 - 3 - 7 - 11 - 14 - MII 2) - The board is not classified; - shareholders have no right to remove directors without cause; - shareholders have the right to call a special meeting; - shareholders can gain control over the board by increasing the size of the board; - there are some director nomination restrictions in place. Assessment: As with MII-4 banks, an MII value of 2 can be the result of very different looking governance arrangements. As we can see in Paths 1-3, even where the board is classified it is possible that shareholders can gain control over the board almost immediately. In Paths 1 and 2, the combination of special meeting rights and the ability to declassify the board or remove without cause directors renders the board classification irrelevant for entrenchment. Path 3 describes a situation where shareholders of a corporation with a classified board can gain control via an increase of board size. These three sets of governance provisions result in a level of entrenchment equivalent to banks with unclassified boards, without cause removal rights, and without cause removal rights (Path 4). Even where no without cause removal right exists, shareholders can gain control over unclassified corporate boards before the next general meeting where they can increase board size in a special meeting (Path 5). Thus, the connecting characteristic of all MII-2 banks is the ability of shareholders to obtain control at a special meeting. Director nomination restrictions may slightly increase "managerial response time".
1	Banks with an index value of 1 are effectively a variation of MII-2 banks. They follow the same five "governance paths", but there are no significant director nomination restrictions in place. Assessment: Activist shareholders can in principle gain control over the board almost immediately, as they are able to call a special meeting (see above). The absence of director nomination restrictions arguably slightly reduces the costs of gaining control over the board when compared to MII-2 banks.