Measuring Management Insulation from Shareholder Pressure

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Abstract

We propose a management insulation measure based on legal provisions that make it difficult for shareholders to oust a firm's management. Unlike the existing alternatives, our measure considers the interactions between different provisions. We illustrate the usefulness of our measure with an application to the banking industry. We find that banks in which managers were more insulated from shareholders in 2003 were less likely to be both bailed out in 2008/09 and targeted by activist shareholders. By contrast, alternative measures of insulation -- such as staggered boards and the Entrenchment Index -- fail to predict both bailouts and shareholder activism.

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1 Introduction

Scholars of corporate law and finance have long argued the case for and against governance arrangements that hinder shareholders' ability to remove directors or to interfere with board decisions. Those against focus on the lack of direct accountability for managers, which provides them with more room to use corporate power to further their own interests. This results in increased agency costs and destroys value (Bebchuk, Coates, and Subramanian (2002); Bebchuk and Cohen (2005); Cohen and Wang (2013)). Those in favor of management insulation argue that, although reduced accountability may result in increased agency costs, the benefits of insulation outweigh those costs. The benefits come from the ability of managers to make long-term value decisions and to resist managing to the short-term pressures generated by shareholders and the market (Lipton and Rosenblum, (1991); Bainbridge (2006); Bratton and Wachter (2010); Cremers, Litov, and Sepe (2014); Cremers and Sepe (2016)).

This debate about the merits or demerits of insulation can only be settled empirically. To do so requires an accurate and reliable measure of management insulation. To date the literature has approached the question of how to measure legal insulation in two different ways. The first is to take the existence of a classified board (i.e., a staggered board) as a proxy for insulation (e.g., Bebchuk, Coates, and Subramanian (2002); Bebchuk and Cohen (2005); Falaye (2007); Masulis, Wang, and Xie (2007), Bates, Becher, and Lemmon (2008); Cohen and Wang (2013); Cremers, Litov, and Sepe (2014); Karakas and Mohseni (2016)). The second is to create a legal index by aggregating a set of corporate legal rules that are thought to contribute either to management insulation or to shareholder empowerment (e.g., Gompers, Ishii and Metrick (2003); Bebchuk, Cohen and Ferrell (2009)). Cremers and Ferrell (2014) provide a recent application of the two approaches.

The main contribution of this article is to develop and apply an improved measure of management insulation from shareholder pressure, and to test whether this measure is more informative than existing management insulation metrics.

The most popular corporate governance indices are the *G-index* (Gompers, Ishii, and Metrick (2003)) and its parsimonious variation, the *E-Index* (Bebchuk, Cohen, and Ferrell (2009)).[1] These indices are constructed by awarding scores based on the existence or absence of a set of legal rules and governance provisions.

[1] For a recent re-examination of these indices and their empirical performance, see Karpoff, Schonlau, and Wehrly (2015).

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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. As the inclusion of an irrelevant governance provision has an impact on the final score, it adds noise to the final index values. The inclusion of irrelevant governance provisions also means that similar index scores do not necessarily represent similar outcomes.

Our measure, which we call the *Management Insulation Index* (*MI-index*), takes a different route. Instead of linear indexing, the MI-index is a contingent index: It considers the *interaction* between different legal rules, also taking into account the differences in state corporate laws across the US. The index is interpretable and economically meaningful. It provides an answer to the following question: *How long would it take for a majority group of shareholders to gain control of the board?* In answering this question, the MI-index codifies six combinations of governance arrangements that affect the time it takes for gaining control of the board.

There are two main advantages of the MI-index. First, the MI-index has a more natural interpretation than that of most alternative indices. Second, because of our contingent approach to the construction of the index, we expect the MI-index to be less affected by measurement errors. This is particularly important in small-sample settings. This conjecture is supported by our evidence.

To test and validate our approach, we apply our index to analyze the link between bank governance and performance in the last financial crisis. Our application is motivated by a number of reasons. First, the existing literature on the role of bank governance during the crisis has uncovered some surprising results. Beltratti and Stulz (2012) find that banks with shareholder-friendly boards performed particularly poorly during the crisis. Similarly, a positive relation between board independence (as a proxy for strong governance) and bank bailouts (as a proxy for poor performance) is found in Adams (2012) and Minton, Taillard, and Williamson (2014). Similar evidence can also be found in Erkens, Hung, and Matos (2012) and Chesney, Stromberg, and Wagner (2012). We can thus use our index to revisit these findings from a different angle, provide some new complementary evidence and dig deeper into the mechanisms.

Second, because we want to compare the empirical performance of the MI-index with the established alternatives (in particular the E-index), we need to apply these indices to new questions. The E-index (Bebchuk, Cohen, and Ferrell (2009)) in particular was constructed with the explicit aim of finding the provisions that are most detrimental to value. However, there is now controversy about whether takeover defenses such as staggered boards are positively or negatively related to value (Cremers, Litov, and Sepe (2014); Cremers and Sepe (2016)).

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Although the MI-index may also help in this case, it seems reasonable to apply it first to situations in which there is a significant amount of agreement among previous papers. The existing literature by and large finds that measures of "shareholder-oriented" governance are positively related to bank bailouts and negatively related to bank performance during the last financial crisis. This literature, however, does not use bylaws and charter provisions as governance variables, which makes this period and industry a natural testing ground for legal management insulation indices.

Finally, note that our measure of "success" is precision. The MI-index might be theoretically superior to its alternatives, but in practice it may contain the same amount of statistical information as other indices. We have a better chance of detecting differences in precision in small samples, as is the case in our application.

To construct our index, for each year in the 2003-2007 period we hand-collected data on governance arrangements of 276 bank holding companies (from now on we simply refer to them as *banks*; see Section 3 for an explanation of sample selection) from the applicable corporation laws and the banks' charters and bylaws. We use this data to construct the MI-index and the E-index (Bebchuk, Cohen and Ferrell (2009)) for each bank throughout the 2003-2006 period. As expected, the MI-index and the E-index are positively correlated, but the correlation is far from perfect (0.36). Our goal is to compare the predictive abilities of the MI-index and the E-index.

Using the MI-index, we find that banks with less insulated managers were more likely to receive capital injections under the Capital Purchase Program (CPP), the main bank-recapitalization program under the US Troubled Assets Relief Program (TARP). In particular, we find that the MI-index in 2003 is a robust predictor of bank bailouts in 2008-09. This result is economically and statistically strong, despite the relatively small size of our sample. Our most conservative estimate suggests that banks with the highest management insulation scores were 18 percentage points less likely to be bailed out than banks with the lowest insulation scores. Our findings are qualitatively similar to those found in the existing literature (e.g., Adams (2012); Beltratti and Stulz (2012); Minton, Taillard, and Williamson (2014)).

By contrast, we find that the E-index has an economically and statistically weak relation with bank bailouts. The effect of the E-index is further reduced once the MI-index is introduced in the predictive regressions. The MI-index thus appears to contain information that is not captured by E-index.

Our empirical strategy relies on the fact that governance arrangements in charters, bylaws and state corporate laws are very persistent, and thus the

governance provisions in place in 2003 still have significant forecasting power for bank outcomes in 2008-09. We stress that our focus is on predictive ability and not on estimating "treatment effects." To account for the possibility of omitted persistent factors, we saturate the empirical model with a number of bank characteristics. We find that, in models with more covariates, the marginal effects of MI-index on bailouts tend to be stronger. Such a pattern suggests that omitted variables are unlikely to explain our findings. By contrast, the relation between the E-index and bailouts remains weak across specifications.

To validate the interpretation of the MI-index and the E-index as measures of management insulation from shareholder pressure, we investigate whether these measures are related to variables associated with shareholder activism. We expect management insulation provisions to act as a deterrent to shareholder activism. To measure shareholder activism, we use the fact that Section 13d and Regulation 13D of the Securities Exchange Act of 1934 require that an investor who crosses a 5% beneficial ownership threshold in relation to a publicly traded company must file a Schedule 13D, unless that investor does not intend to change or influence the control of the corporation. Accordingly, Schedule 13D filings represent a plausible proxy for the extent to which corporations are subject to actual or probable shareholder activism. Some papers that use Schedule 13D filings as a proxy for activism include Brav, Jiang, Partnoy, and Thomas (2008), Edmans, Fang and Zur (2013), and Collin-Dufresne and Fos (2015), among others.

If less insulated banks are subject to more shareholder pressure, we would expect to see more 13D filings in relation to banks with low MI-index scores and fewer such filings in relation to banks with higher MI-index scores. Our evidence indeed shows that banks with low MI-index scores in 2003 were significantly more likely to have at least one 13D filing between 2003 and 2007. By contrast, there is no robust correlation between the E-index and 13D filings.

The application of our new measure to the banking industry leads to two conclusions. First, the MI-index has a better empirical performance than its best alternative – the E-Index – in the sense of generating estimates of marginal effects that are more statistically precise and economically significant. Second, unlike the E-index, the MI-index appears to be related to measures of shareholder activism.

We then turn to an investigation of the mechanism linking governance and bailouts. We find that banks with insulated managers were less likely to be bailed out partly because these banks rejected bailout funds. It is possible that forgoing cheap funds may be a symptom of bad governance that is picked up by our index. However, we also find that those banks appeared to be in a stronger financial position during the crisis. This stronger position could be explained by their focus

on more traditional banking activities, as evidenced by their more conservative asset and income composition profile. Management insulation may thus reduce bank risk taking and improve banks' resilience in crises. Such a hypothesis is compatible with some of the evidence documented by the existing literature (e.g., Beltratti and Stulz (2012) and Minton, Taillard, and Williamson (2014)).

Our conclusions depend crucially on the measure of management insulation. Our improved measure appears to contain information that is not present in some of the alternatives, such as the E-index and the existence of a classified (or staggered) board. But there is a trade-off. Although the MI-index is, at least in theory, superior to the E-index, its construction is more time consuming. Our results suggest that the extra effort that goes into constructing the MI-index may actually pay off.

2 Measuring Management Insulation

2.1 Existing measures of management insulation

A very simple but compelling measure of management insulation is the presence of a classified (or staggered) board. In a classified board, directors (typically) serve three-year terms and only a third of board members stand for re-election at each annual general meeting. A body of empirical work finds that firms with classified boards perform worse than firms without classified boards. Bebchuk and Cohen (2005) and Falaye (2007) find that classified boards are associated with lower firm value as measured by Tobin's Q. Cremers and Ferrell (2014) find that between 1985 and 2006 corporations with classified boards had an 8.2% lower valuation (as measured by Tobin's Q) than firms without classified boards. By contrast, Cremers, Litov, and Sepe (2014) criticize the existing literature for making strong causal claims based on cross-sectional evidence. When considering over-time changes in board classification status, these authors find that the adoption of classified boards has mostly a positive effect on firm value. Even with the help of natural experiments (Cohen and Wang (2013); Karakas and Mohseni (2016)), the value implications of classified boards are still controversial (Amihud and Stoyanov (2015)).[2]

The key assumption underpinning the use of a classified board as a proxy for insulation is that, the longer the minimum time period within which shareholders can obtain control of the board, the more insulated managers feel.

[2] Larcker, Ormazabal, and Taylor (2011) also provide evidence that questions the value implications of classified boards.

Management insulation is thus understood to be a function of the time (and thus, likely, cost) it would take for shareholders to obtain control of the board. Without a classified board, all directors have a maximum of a one-year term and, in some cases, the rules governing the corporation enable the replacement of the board during the one-year term. If a corporation has a classified board, then each director has a three-year term, and within such term it is often the case that the directors can only be removed for cause. As the "for cause" threshold is typically a very high legal threshold,[3] this means that a shareholder committed to changing the board will have to wait for two consecutive general meetings to do so (with a third of the board being replaced at each of those general meetings).

In our view, the assumption that insulation is primarily a function of the time-control frame is a sound one.[4] The main weakness of the classified board variable is that it does not control for the myriad of other corporate legal rules that may impact on the board's responsiveness to shareholder interests. Broader corporate governance indices have then been developed to provide a more robust measure of insulation.

The pre-eminent example of such an index is the G-Index, developed by Gompers, Ishii, and Metrick (2003), which codes for 24 governance provisions, including classified boards, golden parachutes, director indemnification provisions, poison pills, and fair price charter provisions, among others. Gompers, Ishii, and Metrick (2003) find that a trading strategy associated with buying firms with strong G-Index rights and selling companies with low G-Index rights would have generated an 8.5% abnormal return. More recently, Cremers and Ferrell (2014) find a negative association between the G-Index and Tobin's Q.

Despite its widespread use, some commentators have expressed skepticism about the legal quality of this index. In particular, they have noted concerns about the inclusion of provisions that either have no impact on management insulation or benefit from widespread shareholder support (Klausner, 2013). Bebchuk, Cohen, and Ferrell (2009) observe that "some provisions might have little relevance and some provisions might be positively correlated with firm value" (p.784). A further problem with an index of this nature is that this linear way of indexing ignores the

[3] Ralph Campbell v Loews Incorporated 134 A.2d 565 (Del.1957).

[4] Note however that this time-control assumption cannot be directly tested empirically; if insulation is effective, we will not observe shareholder attempts to gain control over companies and thus we cannot measure the (counterfactual) time it would take for shareholders to gain control over the board.

fact that certain governance arrangements can be rendered functionally irrelevant by the presence or absence of other rules. If Rule X is only relevant in the absence of Rule Y, then an index that codes only for Rule X – or, indeed, one that codes for both, but assigns scores for Rule X irrespective of whether Rule Y is also present – may be a noisy measure of insulation. An additional complication is the fact that similar index scores do not necessarily represent similar governance outcomes.

Bebchuk, Cohen, and Ferrell (2009) attempt to address some of the weaknesses associated with the G-Index's large bucket of important and less important legal rights by reducing the number of provisions from 24 to 6. They identify these provisions as those that have received "substantial opposition" from institutional shareholders in shareholder meetings. Their *E-index* is based on six governance provisions, indicating the presence or absence of a classified board, supermajority charter amendment provisions, supermajority bylaw amendment provisions, super majority merger provisions, poison pills, and golden parachutes. They also show that the reduction in the number of coded provisions appears to enhance the informativeness of the index. These six provisions appear "to be largely driving the correlation that [the G-Index has] with Tobin's Q" (Bebchuk, Cohen, and Ferrell (2009), p. 785). Nevertheless, as a linear index, the E-Index also suffers from the same theoretical weakness identified above in relation to the G-Index: The E-Index provisions do not take account of their possible interactions with other rules that may render them functionally irrelevant.

2.2 Background to the Management Insulation Index

There are two distinctive aspects of corporate law in the United States that are of importance for this paper. First, corporate law in the United States is state-based. Each state is a separate corporate law jurisdiction. As is well known, Delaware is viewed as the market leader among US states.[5] Accordingly, when scholars consider "US corporate law" they typically focus on the Delaware corporate code and Delaware case law. While there is significant convergence amongst states' corporate law rules - and has been since the early late 19th and early 20th century, when many states followed the lead of the then market leader New Jersey - there are many notable differences of approach between states in relation to basic corporate rules, such as shareholder rights to call shareholder meetings and to remove directors.

[5] Amongst all Fortune 500 companies, 59% are incorporated in Delaware, which has a 0.3% share of the US population; see Bebchuk and Hamdani (2002).

A presumption of state-wide convergence to the Delaware approach yields an inaccurate assessment of managers' insulation from shareholders. For example, the consequences of having a classified board in Delaware are very different from the consequences in Florida, Georgia, or California. This factor will vary in importance depending on the prevalence of Delaware corporations in the subject firm sample. Delaware has clearly established its position as the main provider of corporate law, at least for listed companies. However, its dominance may be less pronounced amongst certain industry sectors. For example, while 68% of the non-bank constituents of the Russell 3000 index are incorporated in Delaware as of February 2013, only 21% of our sample banks are governed by Delaware corporate law (compared to 22% of the banks in the Russell 3000 index).[6]

The second distinctive aspect of corporate law in the United States is that many of the core corporate law rules, including shareholder rights to remove directors and call shareholder meetings, are optional. This contrasts with other common and civil law jurisdictions such as the UK and Germany, where such rights are mandatory. It follows that in order to determine how exposed managers are to activist shareholder threats and pressure, we cannot simply consider the mandatory and default corporate law rules of the state of the bank's incorporation, but need to look at those rules in combination with an analysis of the bank's constitutional documents, its charter and bylaws.

The MI-index aims to capture the cross-firm variation in legal rights that shareholders can use to oust management or, perhaps more importantly, credibly threaten to do so. It is not our aim to create a general corporate governance or shareholder rights index. We exclusively focus on answering the question of how core corporate law rules make it more or less time-consuming (and hence costly) to challenge incumbent management. A determined and coordinated shareholder body can, in all US jurisdictions, ultimately decide on the composition of the board. The differences we identify mainly focus on the speed and level of coordination necessary to achieve a change in management. The underlying assumption is that such a time-control variable plays an important de facto role in insulating managers, as the financial return of shareholder intervention required by activist investors will crucially depend on the time horizon of such a payoff.

2.3 The determination of MI-index values

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

[6] Percentages calculated based on data contained in the CapitalIQ database.

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

Second, shareholders sometimes have the right to simply remove directors "without cause." While this is more common in corporations with unclassified boards, it is not uncommon in corporations with classified boards.

Third, where the board is classified and the removal right is a "with cause" removal right, shareholders can either wait for two years (two consecutive annual shareholder 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 firm's constitutional arrangements set forth in its charter and by-laws, as well as the rules determining how the constitution can be amended.

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. In the absence of a contrary provision in the firm's charter, shareholders can typically amend a corporation's bylaws by majority vote. If the board's classification is set forth in the bylaws then it can be declassified by shareholders alone. In some corporations, however, the charter or state corporate law may impose additional restrictions on a bylaw amendment including board approval or a supermajority shareholder vote. This declassification strategy is only effective where declassification also results in the application of a "without cause" removal right, which can be exercised following the declassification, since the directors' tenure will be unaffected by the declassification.

Fourth, shareholders can elect additional directors to the board and thereby outnumber the incumbent directors (board packing). The availability of this option again depends on the provisions in the charter and bylaws 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 firm to firm. 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 firms with classified boards, this means that the maximum board size has to be greater by at least a third than the current board size. This allows shareholders to increase board size to the maximum, fill the vacancies and, together with the third of directors elected annually, to gain control of the board.

Where the constellation of shareholder rights enables shareholders *in theory* to take control of the board, the next question for an insulation index is to determine how quickly the shareholders' rights can be exercised. This is a function of whether or not shareholders can call an interim meeting in between annual shareholder meetings[7] or whether they can act by written consent (a consent solicitation)[8] outside of an annual general meeting. In most jurisdictions, whether or not this is possible depends on whether or not the corporation's constitutional documents grant shareholders the power to call, or requisition directors to call, a meeting. In some jurisdictions, for example, California, shareholders have a mandatory right to call a meeting.

In accordance with the time-control theory which underpins the index, the MI-index provides for three governance groupings: First, where shareholders can, in theory, gain control over the firm's board almost immediately (MI-index scores of 1 and 2); second, where they can gain control within – at most – a one year (one meeting) time frame (MI-index scores of 3 and 4); or where they will have to wait for approximately two years -- a two-year (two-meeting) time frame (MI-index scores of 5 and 6). Note that the extent of management insulation in categories 3 to 6 varies during the year as a function of the length of time to the next annual general meeting, with categories 1-4 featuring similar levels of insulation immediately prior to the annual general meeting.

Note also that within each of these three groups we code for director nomination provisions. Such provisions require advance notice given to the company, typically 90 days prior to a general meeting, in order to be able to nominate a director. Such provisions mean that unless the company is notified prior to the nomination cut-off date, shareholders will have to wait for the next

[7] Where shareholders do not have to wait for an annual stockholder meeting to exercise their rights, we also have to adjust our calculations of the "increase board size" strategy. As directors' terms are unaffected by the holding of a special meeting, we compare the actual board size with the maximum board size. To illustrate this point, take a corporation with a maximum board size of 21, and an actual board size of 12. While shareholders could gain control over the board in an annual meeting (where the terms of 4 directors expire, and shareholders thus can elect a total of 13 directors), this is not true in a special meeting (where only 9 available seats could be filled, leaving the current board in control). Where, as in the above example, control can only be obtained by increasing board size coupled with the replacement of the directors whose term expires, banks can only be classified as MI-index 3 or 4 regardless of the existence of a right to call a special meeting.

[8] In our indexing, we only treat rights to act by written consent (i.e. without a meeting) as equivalent to special meeting rights, where its exercise does not depend on the consent of holders of all, or a supermajority of, outstanding shares.

general meeting to nominate a director. Their presence, therefore, adds an additional element of insulation by giving the board more time to plan their response to an activist shareholder and by reducing the period in each year during which the board is most "vulnerable."

For some corporations the determination of their MI-index values is straightforward. A company that: (i) does not have a classified board, (ii) has a without cause removal right, and (iii) has the right to call interim meeting is allocated an MI-index value of 1. Similarly, a corporation that has a classified board and both (ii) and (iii) also receives an MI-index value of 1. However, for some companies several paths may have to be explored to determine their MI-index values. For example, consider a corporation that has a classified board with a with-cause removal right. Although the board could be declassified, it does not affect the removal right. But suppose further that the board can be packed immediately. Such a corporation also ends up with an MI-index value 1.

The chart below (Figure 1) shows the different "paths" leading to each of our six outcomes. In the Appendix, we describe each index value in detail and the "paths" leading to these values.

When the MI-index is applied to a panel of firms the question that arises is how to aggregate the MI-index data. An option is to assign a score of 1 to 6 to each of the MI-index categories. This is what we call the MI-index. However, there is no a priori reason to assume that all categories within the MI-index are equally important. In fact, we believe that MI-index values 5 and 6 represent 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 or six, 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.

3 Data

Our initial sample consists of 476 US based commercial banks that were publicly listed in 2008 and for which data were 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.

We obtain data on participation of each bank in the Capital Purchase Program (CPP), as well as information on repayment of CPP funds from the official reports published by the U.S. Treasury and by the Office of the Special Inspector General for the Troubled Asset Relief Program (SIGTARP).

In order to construct the MI-index, we tried to obtain the articles of incorporation and bylaws applicable between 2003 and 2007 for all remaining banks in our sample. We first excluded 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. There are two reasons for this. First, corporations are allowed to incorporate the articles of incorporation and bylaws 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/bylaws between 1994 and 2007. Second, corporations are not required to restate their articles of incorporation or bylaws after each amendment. Consequently, if they choose not to consolidate the amendments, and where the original articles/bylaws date from a time prior to 1994, a precise re-construction of the corporate governance documents was not always possible. Where possible, we supplemented data available in the SEC EDGAR database with filings available electronically through the relevant state business registers. 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 in Section 1).

The majority of banks in our sample are not constituents of the S&P 1500 Index, and E-Index values are therefore not readily available. We thus hand-collected information on our sample banks and coded them following Bebchuk, Cohen, and Ferrell (2009).

We obtain data on all Schedule 13D filings with the SEC during the 2003-2007 period from the WRDS SEC Analytics database. We obtain bank financial data from Worldscope. We use book assets as a proxy for bank size, and we measure leverage as assets over common equity. We collect detailed investor level ownership data from Bankscope and compensation 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 in which 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's name against the bank 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 management 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.[9]

4 Management Insulation Scores: Summary Statistics

We assign a score of 1 to 6 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 find that most banks are either in group 2 (about 28%) or in group 6 (about 32%). Groups 1 and 4 are also significant (about 15% each), but groups 3 and 5 are both fairly uncommon. The distribution of management insulation scores is very stable over the years. The reason for this stability is the fact that the governance provisions that are used in the construction of the index are rarely modified. In some cases, these provisions have been in place for decades. This feature is useful for our empirical strategy.

Table II shows the cross-sectional averages of the MI-index (Management Insulation Index) and the MID (Management Insulation Dummy) 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 38% of 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 CBD variable.

[9] For an extensive description of the adjustment process, see Ferreira, Kirchmaier, and Metzger (2010).

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 or 6. Just under 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).

Table IV shows the number of observations in each of the seven groups that form the E-index, for two selected years, 2003 and 2006. For our baseline year of 2003, we also show the proportion of observations with MID=1 for each E-index score. As expected, the larger E-index scores are associated with a higher probability if MID=1; this relation is monotonic. Table V shows pairwise correlations for all insulation variables, including the *Entrenchment Dummy* (ED), which is an indicator function of values of E-index greater or equal to 4. The MI-index and the E-index are positively correlated, but the correlation is not very high.

Table VI presents the summary statistics of the main variables used in our empirical analysis. The unit of observation is a bank-year, thus the maximum sample size is 1267. Some variables are however only available for some years. We see from Table VI that about 56% of the banks in the sample received funds from the Federal Government' s Capital Repurchase Program (CPP funds) during the financial crisis.

Table VII presents the averages of selected bank variables, conditional on the values of the Management Insulation Dummy in 2003. We see that insulated banks were 19 percentage points less likely to be bailed out (defined as participation in the CPP). This difference is statistically significant. The economic significance of this effect is substantial, as the unconditional probability of bailout in our sample is 56%. 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. Management insulation in 2003 is (in part mechanically) correlated to board classification in 2006, although this correlation is far from perfect. Insulated banks are larger on average (but the median insulated bank is smaller than the median non-insulated bank). All the other characteristics are very similar across the two groups.

Finally, Table VIII presents the averages of selected bank variables, conditional on the values of the Entrenchment Dummy in 2003. According to this measure, insulated banks were only 6 percentage points less likely to be bailed out. This difference is not statistically different from zero.

5 Management Insulation and Bank Bailouts

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:

$$\Pr(Y_i = 1|x_i) = \Phi(x_i'\beta), \tag{1}$$

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). We do not report the estimates for the vector β; instead, we always report estimated marginal effects evaluated at the means of the data, so that the reported estimates can be readily interpreted and compared. Our results are not sensitive to the Probit specification.

Our main right-hand side variable of interest is the Management Insulation Dummy (MID). As we discuss above, the maximum level of insulation (MI-index=5 or MI-index=6) is likely to offer substantially more protection to managers than all the other levels. As further indication of the salience of that insulation level, we note that 38% of the banks in our sample have MI-index=5 or MI-index=6 in 2003. We thus define the MID variable as an indicator variable that takes the value of one if MI-index=5 or MI-index=6 and zero otherwise. Using different partitions of the MI-index variable yields similar results.

We use the Entrenchment Dummy (ED) as an alternative measure of management insulation. The Entrenchment Dummy is an indicator function of values of E-index greater or equal to 4. We use this indicator variable to facilitate the comparison with the MID; we obtain similar results using the E-index instead of the ED (these results are omitted for brevity). We have also used the Classified Board Dummy variable as a simpler alternative to both the MID and the ED. For brevity, we do not report the results using this variable in tables; we mention such results in the text where appropriate.

Because of the small size of the sample, we choose a parsimonious set of covariates to be included in x_i. As larger banks are more likely to be bailed out (the "too big to fail" effect), controlling for size is important. 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 some of the 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.

5.1 MID and bailouts

In Table IX 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 z-statistics within brackets, below the estimated effects. Our main variable of interest is the MID variable, which is measured as of 2003 (the earliest date for which we have data). Such a strategy is feasible because the MID variable is quite persistent. In Column (a) we present the result of a univariate Probit regression, in which the MID is the only variable on the right-hand side. 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 56%. This effect is statistically precise, being 3.085 standard errors away from zero. This effect is also identical to the 19 percentage point effect found in the nonparametric univariate analysis, which is reported in Table VII.

In Column (b) we add a first set of controls: size variables and leverage. The effect of the MID is basically unchanged. We find that 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. In Column (c) we add state dummies. The number of observations is reduced because there are ten states with just one bank in the sample. Despite the loss of pure cross-state variation, all estimated effects remain roughly unchanged. The statistical precision of the estimates falls due to a dramatic reduction in degrees of freedom, but still remains at adequate levels.

In Column (d) we include an additional set of control variables: board independence (as a proportion of board size), the proportion of independent

directors with previous banking experience, a 20% block ownership dummy, the ownership stake of the insider with the largest interest in the bank, the number of acquisitions from 2003 to 2006, the fraction of variable pay over the total compensation for the highest paid director (which is typically the CEO), and (the natural logarithm of) the total compensation for the highest paid director. The effect of management insulation on the probability of bailouts is virtually unchanged in this specification: banks with insulated managers are 22 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 (not shown in the table). 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 also 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, and compensation variables. Saturating the model with covariates and state dummies has virtually no effect on the estimated marginal effects of management insulation.

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 bylaws are endogenously determined alongside bank policies that might have affected bank performance during the crisis or banks' incentives to apply for government support. Second, in a literal sense, laws, charters and bylaws (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 their control (i.e., luck, politics, etc.). That is, if we could directly observe those ex ante actions 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. We investigate this possibility in Section 6 below.

We next consider the effects of changes in the Management Insulation Index. Such changes happen infrequently and are typically a consequence of modifications to the bank's charter or bylaws. In our data, a change in the MI-index occurs in less than 5% of the bank-years between 2003 and 2006. 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 – the "Wall Street walk"). We create a variable that measures the changes in the MI-index between 2003 and 2006. 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 2006 is just 0.024 (see Table IV). From 2003 to 2006, we find 23 annual decreases in MI-index, and 21 annual increases in MI-index (results not tabulated). There are a few cases of major changes, such as from 1 to 6 and from 6 to 2 (see Table IV).

Column (e) of Table IX reports the results of a regression using the same specification as in Column (d), but now including the change in MI-index as an additional right-hand side variable. We first note that the inclusion of this variable increases the point estimate of the marginal effect of MID. In this specification, banks with insulated managers are 26.5 percentage points less likely to be bailed out. This effect also appears to be more statistically precise, at roughly 2.57 standard errors from zero. We also find that the change in MI-index has a strong effect on the probability of bailouts: A one-point reduction in the index increases the probability of a bailout by roughly 13 percentage points. This effect is statistically precise, with a z-statistic of -2.1. We conclude that recent changes in the management insulation index from 2003 to 2006 contain information that helps explain the cross-section of bank bailouts. This information goes beyond that contained in the Management Insulation Dummy in 2003.

Although it is impossible to rule out omitted variables as an explanation for our findings, the pattern of estimated marginal effects as more controls are added is reassuring. In virtually all cases in Table IX, the inclusion of additional controls tends to make the results stronger (in an economic sense). Because controls do not appear to make the estimated effects weaker, it seems unlikely that by simply adding more controls one could eventually find the key missing variable. For omitted variables to explain away the effect of the MID variable, we would need to find additional variables that are weakly correlated with the controls included in the specifications in Table IX. For example, suppose that we thought that bank

size could explain the effect of the MID. Our flexible specification for bank size is surely still quite imperfect, thus one could make a case for adding more and better proxies for size. However, one would need to find an alternative size variable that is only weakly correlated with book assets, but strongly correlated with the MID variable. In other words, the common factor between such a variable and the MID must be different than the common factor among all size variables.

5.2 ED and bailouts

In Table X we replicate the regressions in Table IX, now with the ED (the Entrenchment Dummy) replacing the MID. The sample size is reduced because of missing data. We again find that management insulation (measured by the ED) is negatively related to the probability of bailout. However, the marginal effects are economically small and statistically weak. In Column (f), we add both ED and the MID to the regression. We find that the MID remains a robust predictor of bailouts, with a marginal effect very similar to those reported in Table IX. The previously (small) negative effect of ED on bailouts vanishes as the MID is included. Such a comparison suggests that, despite the positive correlation between the MID and the ED, the ability of the MID to predict bailouts comes exactly from those components of MID that are uncorrelated with the ED.[10]

Finally, in unreported regressions, we 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, with the exception of the univariate specification, where the estimated coefficient is borderline significant.

Our tentative conclusion is that the Management Insulation Dummy is a more precise measure of management entrenchment than either the E-dummy (or the E-Index) or the Board Classification Dummy. In large samples, both the ED and the Board Classification Dummy may work well, as they are indeed correlated with management entrenchment. However, in small samples, such as ours, a less noisy measure is required. The Management Insulation Index aims at being a more precise measure of management insulation. 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.

[10] Replacing the ED with the E-index yields very similar results.

5.3 Management insulation and shareholder activism

In this subsection, we ask a basic question, which is crucial for the interpretation of the evidence: Are banks with high management insulation scores really more insulated from shareholder pressure? In other words, we ask whether our interpretation of the MI-index is justified.

Shareholder pressure is very difficult to measure, as most shareholder activism activity occurs behind the scenes. However, it is possible to identify shareholder activism events in some cases when changes in ownership stakes require filing with the SEC. Section 13d and Regulation 13D of the Securities Exchange Act of 1934 require that an investor who crosses a 5% beneficial ownership threshold in a publicly traded company must file a Schedule 13D form, unless that investor does not intend to change or influence the control of the corporation. If less insulated banks are subject to shareholder pressure, we would expect to see more 13D filings in relation to banks with low MI scores, and fewer such filings in relation to banks with higher MI scores.

In Table XI, Columns (a) and (b), we explore the relationship between the MID and the likelihood of activist investors taking a substantial equity position in the bank (as proxied by filings of Schedule 13D). We find that banks with the highest level of insulation in 2003 were between 16-19 percentage points less likely to experience a Schedule 13D filing in 2003-2007. This evidence suggests that banks with higher management insulation scores in 2003 were more likely to experience episodes of shareholder activism between 2003 and 2007.

By contrast, Columns (c) and (d) reveal that the ED variable is not robustly correlated with Schedule 13D filings. Column (e) shows that the MID robustly predicts bailouts even when the ED variable is included in the regression. Overall, the evidence in Table XI again suggests that the MID contains information that is not available in the ED.

6 Investigating the Mechanism

We consider five (non-mutually exclusive) explanations for the negative relation between management insulation and the probability of bailouts. First, management insulation may be correlated with some non-performance-related reasons to apply for and receive CPP funds. Second, management insulation may be correlated with decisions that made banks *weaker* during the crisis and, because of weakness, such banks did not qualify for CPP investments. Third, insulated managers may have chosen not to apply for bailout funds, even if they needed funds. Fourth, insulated

managers may have rejected bailout funds. Finally, management insulation may be correlated with decisions that made banks stronger during the crisis, leading to fewer bailouts. Here we investigate each of these explanations in turn to see whether they survive further scrutiny.

6.1 Non-performance-related reasons to receive CPP funds

Banks with serious liquidity needs had no option but to apply for CPP funds. Participation in the CPP is, however, a less reliable indicator of bank performance during the crisis where reasons other than financial necessity played a role in banks' decisions to accept a bailout. A particular concern is that large banks that were considered systemically important by government regulators may have had little choice but to accept CPP funds, regardless of whether managers felt that their institutions needed a bailout (see Calomiris and Khan, 2015). To address this concern, Column (a) of Table XII reports the output of regressions in which we exclude the largest sextile (by 2006 book assets) from our sample. Following the exclusion of this group the MID remains a robust predictor of bailouts.

If managers of strong banks, due to pressure from the regulator or otherwise, accepted CPP funds, such managers were incentivized to exit CPP as early as possible in order to avoid the restrictions on executive compensation linked to CPP participation (Bayazitova and Shivdasani (2012)). Accordingly, omitting banks that took and repaid CPP funds within a year following the commencement of the program is likely to exclude from our sample many of the banks that took CPP funds for reasons other than financial necessity.

In Column (b) of Table XII, we report the output of regressions excluding banks that repaid early. Finally, in Column (c) of Table XII we exclude both of these groups. Following the exclusion of both these groups the MID remains a robust predictor of bailouts. In additional unreported regressions we group the banks that repaid early together with the banks that did not receive any CPP funds; this regrouping has no significant impact on our results.

Note also that the membership in the two groups excluded in (a) and (b) is highly correlated: 50% of the largest sextile of our sample banks had entirely repaid the received CPP funds by October 2009, while only roughly 10% of the remaining banks had done so. This also supports the hypothesis that some of the largest institutions in our sample participated in CPP because of their systemic importance and not because of financial necessity.

The evidence thus suggests that, although CPP participation is also driven by reasons other than financial necessity, those reasons cannot explain the predictive power of management insulation for bank bailouts.

6.2 Bank bailouts as a proxy for financial strength

Some banks did not qualify for CPP capital injections or had their applications rejected because they were too weak (Bayazitova and Shivdasani, (2012); Duchin and Sosyura, (2014)). It is thus possible that our bailout dummy is a poor proxy for bank weakness, or perhaps worse, that it might be a proxy for bank strength. To consider this possibility, 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, banks that stated that they could not issue preferred shares because they had already defaulted/delayed payment on subordinated debt, or banks with 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 XIII, Columns (a) and (b), we report the output of regressions using the same specification as in Column (e) of Table IX (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 33 to 35 percentage points less likely to be poor performers. As these results are directly comparable to those from Table IX, the evidence here supports an interpretation in which management insulation may have made some banks stronger.

6.3 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. For example, Cadman, Carter and Lynch (2012) show evidence that compensation restrictions affected TARP participation. 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 XIII, 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. 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 scores. 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 program 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 XIII, 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 weak.

6.4 Management insulation and rejection of CPP funds

The strong correlation between management insulation and the probability of receiving CPP is not fully explained by the decision to apply for CPP funds. It is thus likely that some banks with MID=1 applied for CPP funds but did not get them. There are two main reasons for a bank not to receive CPP funds, conditional on applying for such funds. As discussed above, some banks were too weak to qualify for such funds. But we already know from Column (a) that MID=1 banks were less likely to be denied funds because they were weak. Alternatively, some banks had their applications approved, but rejected the CPP investments. The latter banks were relatively strong, as evidenced by the approval of funds and the fact that they believed that they could go on without such funds.

In Column (e) of Table XIII we estimate the probability of rejecting CPP funds, conditional on approval. The sample is restricted to those banks that had their applications approved. We find that banks with MID=1 are 27.6 percentage

points more likely to reject CPP funds after approval. This result again casts doubt on the hypothesis that banks with insulated managers did not receive funds because they were weak. We conclude that insulated banks were less likely to be bailed out partly because some of these banks rejected pre-approved CPP funds.

6.5 Management insulation and bank choices

If management insulation is related to different choices in the period before the crisis, what are these choices? Here we investigate the relation between management insulation and some accounting variables that might be informative about bank choices prior to the crisis.

Using accounting data to assess pre-CPP bank strength is problematic. Accounting data such as leverage ratios are likely to be an opaque and noisy measure of the risk of a bank's asset profile, as such ratios are not informative about the risk attributes of the asset portfolio itself. Likewise, even risk-based capital ratios are similarly opaque and noisy due to their regulatory use,[11] and because their calculation, pre-crisis, was based on assumptions that were proven incorrect by the ensuing financial crisis.[12] In unreported regressions, we find only weak evidence of associations between management insulation and traditional proxies for risk and performance, such as leverage, accounting performance, stock market performance, non-performing loans, and measures of volatility prior to the crisis.

We next investigate the relation between management insulation and variables related to bank *scope*. The first variable that we consider is the ratio of non-interest income over net interest income. Non-interest income is a (possibly noisy) measure of a commercial bank's focus on noncore activities, such as investment banking and trading. Brunnermeier, Dong, and Palia (2012) argue that banks with higher non-interest income ratios contribute more to systemic risk than banks that focus more on deposit taking and lending. They also show that banks have increased their non-interest income ratios in the years prior to the crisis; the

[11]See section 38 of the Federal Deposit Insurance Corporation Act and section 325.103 of the FDIC Rules and Regulations (12 C.F.R. § 325.103). For investment bank conglomerates, see the voluntary regime under the Supervised Investment Bank Holding Company Rules (now repealed), 17 CFR § 240.17i–7.

[12]For example, in the last Form 10-Q Lehman Brothers filed before its bankruptcy (Q2 2008), its reported Total Risk-Based Capital Ratio exceeded the equivalent figures reported by both JPMorgan Chase and Goldman Sachs.

largest increases happened between 2000 and 2003. However, in their sample – as well as in ours – the average non-interest income ratio decreases between 2003 and 2006 (see our Table VI and Brunnermeier et al's Figure 1).

In Table XIV we consider the correlations between bank characteristics in 2003 and the subsequent change in non-interest income ratios. The dependent variable is the log of the 2006 non-interest income ratio divided by the 2003 non-interest income ratio:

$$\text{Change in NII} \equiv \ln\left(\frac{\text{Non-interest income}}{\text{Net interest income}}\right)_{06} - \ln\left(\frac{\text{Non-interest income}}{\text{Net interest income}}\right)_{03}. \qquad (2)$$

We use the same variables as before as covariates. The size of the sample falls because of missing data. We find that banks with the highest management insulation scores experience larger reductions in their non-interest ratios than those banks with low management insulation scores. To understand the economic significance of these results, consider for example the point estimate of -0.21 in the first row of Column (a) (Table XIV). This coefficient roughly means that, compared to an otherwise identical low-insulation bank with no change in its non-interest income ratio, a high-insulation bank would have decreased its non-interest income ratio by 21%. From Table VI, we see that the average (log) change in NII between 2006 and 2003 is -23.2%. The estimates thus suggest that a large fraction of the decrease in NII comes from banks with high management insulation scores.

We next consider Level 3 assets as an alternative measure of a bank's focus on less traditional banking activities. L3 assets are assets, such as financial instruments (SFAS 133, 2008), that are reported at fair value determined through the application of a financial model for which there are no observable market inputs (SFAS 157, 2006). We postulate that a bank's L3 assets as a percentage of its total assets is indicative of the extent of the bank's focus on trading of complex, opaque and illiquid securities. We take L3 assets from the financial statements for the fiscal years beginning after November 15, 2007, the first year that US GAAP required the reporting of this information. This fiscal year end is the closest in time to the implementation of the CPP program, which was announced on October 14, 2008. [13]

Table XV reports the results of regressions in which the percentage of L3 assets is regressed on the management insulation dummy and a number of other bank characteristics. We find that banks with MID=1 in 2003 end up with less

[13] Existing research suggests that the Level-3 assets variable contains useful information. For example, Riedl and Sarafeim (2011) consider level-three assets as a proxy for information risk.

0.512 percentage points in L3 assets in 2008 than banks with MID=0 (see Column (a)). This effect is economically strong: the average percentage of L3 assets in our sample is 0.56% and the standard deviation is 1.26% (see Table VI). One caveat here is that about half of the banks used in Column (a) had no L3 assets (116 out of 240). The OLS regression in Column (a) is thus necessarily misspecified. In Column (b) we then ask a different question: Does the MID affect the percentage of L3 assets among those banks with nonzero L3 assets? The answer is yes. The results are now statistically weaker, but this is to be expected because the sample is halved. The point estimate of -0.771 of the coefficient on the MID variable translates into a marginal effect of -0.428 percentage points, for a bank with the average amount of L3 assets (0.56%).

The evidence in this subsection is only suggestive, thus our conclusions are tentative. Banks with high management insulation scores appear to have been focused more on traditional commercial banking activities (deposit taking and lending) than those banks with low management insulation scores. Such a difference in the scope of bank activities is reflected in the different levels of non-interest income ratios and L3 assets.

6.6 Summary and interpretation

Management insulation in 2003 predicts bank bailouts in 2008-9 in large part because high-insulation banks rejected bailout funds after these funds had been approved (Subsection 6.4). There are two potential explanations for this refusal to receive bailout funds. First, insulated banks may have chosen to forgo cheap funds because managers preferred to preserve flexibility, e.g., to avoid regulator-imposed restrictions on executive compensation. Second, insulated banks may have chosen to forgo these funds because they were not liquidity constrained. These two explanations are not mutually exclusive. In fact, they are likely to be complementary; only banks in good financial shape could afford the luxury of forgoing what was then perceived as cheap capital. The evidence strongly suggests that high-insulation banks were indeed financially stronger (Subsection 6.2). One possible reason for the better shape of such banks is their choice of a more conservative asset and income composition profile (Subsection 6.5).

Why are insulated banks more conservative? One possibility is that governance arrangements influence bank risk taking. Implicit or explicit state guarantees reduce bank creditors' incentives to discipline equity's risk shifting incentives (Jensen and Meckling (1976)). These guarantees may also make equity safer. Kelly, Lustig and Van Nieuwerburgh (2012) provide evidence that

government guarantees to the financial sector have positive spillover effects on equity holders, and also that the implicit bailout promises are priced in the market. It may be that, in banks in which shareholders are less empowered, executives may have more scope to give effect to their own risk preferences, which, due to the less diversified nature of their human capital investments, are less risk-friendly than those of shareholders.

7 Final Remarks

The main contribution of this paper is to illustrate the usefulness of interpretable corporate governance indices. We develop an index of management insulation from shareholder pressure, which we call the Management Insulation Index (MI-index). The MI-index is an attempt to answer the question of how core corporate law rules make it more or less time-consuming to replace an incumbent board. We show that this index contains information that is useful for predicting bank bailouts during the crisis, and we find that this metric is more informative that the existing leading index and other governance variables. Going forward, we note that the methodology that we develop to construct the index is not specific to financial firms. This methodology may prove useful in future studies on the costs and benefits of shareholder empowerment.

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Table I – Management Insulation Scores 2003-2007

This table shows the number of US commercial banks in each of the six management insulation scores described in Figure 1. The 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	72	74	76	79	83
3	20	17	18	21	18
4	40	42	44	41	39
5	17	15	14	13	12
6	86	88	87	88	88
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 six insulation scores described in Figure 1 and, in more details, in the Appendix. The MID variable equals 1 if MII=5 or MII=6, and zero otherwise. The BCD variable equals 1 if the bank has a classified board and zero otherwise. The sample size is 276 in each year.

Year	*Variable*		
	Management Insulation Index - MII	*Management Insulation Dummy - MID*	*Board Classification Dummy -BCD*
2003	3.64	0.38	0.77
2004	3.66	0.38	0.77
2005	3.66	0.37	0.76
2006	3.67	0.37	0.75
2007	3.62	0.37	0.73

Table III – Classified-board Banks with Low Insulation Scores

This table shows the percentage of banks for which 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 – Entrenchment Index Scores

This table shows the distribution of E-Index across the sample. Average values for the MID are reported for comparison purposes.

E-index	2003	2006	*Mean of MID (2003)*
0	8	5	0.00
1	13	18	0.00
2	45	39	0.18
3	35	37	0.31
4	76	77	0.51
5	60	61	0.48
6	17	17	0.71
Total	254	254	0.39

Table V – Correlation of MI-Index and E-Index in 2003

This table shows the pairwise correlations between the Management Insulation Index and the E-Index for 2003. Asterisks indicate significance at 0.01 (***), 0.05 (**), and 0.10 (*) levels. The E-Index Dummy (ED) takes the value of one if the E-index is between 4 and 6 for 2003.

	MI Index	MID	E-Index	ED
MI Index	1.00			
	276			
MID	0.87***	1.00		
	276	276		
E-Index	0.31***	0.36***	1.00	
	254	254	254	
ED	0.29***	0.35***	0.85***	1.00

Table VI – Bank Characteristics: Summary Statistics

This table shows the summary of some bank characteristics. The *bailout dummy* equals 1 if the bank received CPP funds in 2008-09. The *change in management insulation* variable is the change in the MII variable from 2003 to 2006. *Bailed out or weak banks* corrects the bailout dummy by adding those banks that were too weak to receive CPP funds. *Bailed out or weak banks or failed banks* further corrects that dummy by adding banks that subsequent failed. *Applied for CPP* is a dummy for banks that applied to the CPP program, and *Applied for CPP and no early repayment* adjusts that variable by correcting for banks that repaid early. *Approved, but rejected CPP* is a dummy variable indicating those banks that rejected CPP after having been approved. 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 for bank-years between 2003 and 2007. The *classified board dummy* equals 1 if the bank has a classified board. *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. *ROE* is net income over equity. *Board independence* is the proportion of independent directors on the board. *Board directors' banking experience* is the proportion 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 of 20% or more. *Inside owner* (in %) denotes the ownership stake of the insider with the largest interest in the bank. HPD denotes the highest paid director in a bank, typically the CEO. *Change in Non-Interest Income* is the change of a banks' log-ratio of non-interest income to net interest income between 2003 and 2006. *L3 Assets* is the percentage of Level 3 assets over all assets.

	Summary Statistics				
Variable	*mean*	*st. dev.*	*min*	*max*	*n*
Bailout dummy	0.560	0.497	0	1	1267
Change in management insulation (2003-06)	0.024	0.748	-4	5	1267
Bailed out or weak banks	0.610	0.488	0	1	1267
Bailed out or weak banks or failed banks	0.637	0.481	0	1	1267
Applied for CPP	0.679	0.467	0	1	1267
Applied for CPP and no early repayment	0.592	0.492	0	1	1267
Approved, but rejected CPP	0.090	0.286	0	1	1267
Classified board dummy	0.757	0.429	0	1	1267
Book assets	23,184	135,195	76	1,715,746	1267
Leverage	11.384	3.290	2.512	38.307	1267
ROE	0.106	0.065	-0.622	0.391	1267
Number of acquisitions (2003-06)	2.114	5.273	0	52	1267
Board independence	0.735	0.134	0	0.944	1267
Board directors' banking experience	0.181	0.159	0	0.800	1267
Block ownership dummy (20%)	0.088	0.284	0	1	1267
Inside owner	2.547	6.075	0	50.030	636
HPD variable pay (over total pay)	0.241	0.224	0	1	1231
Total HPD pay (in thousands)	1,632	4,414	18	54,000	1230
Change in Non-Interest Income (2003-06)	-0.232	0.429	-1.977	1.177	919
L3 Assets (2008)	0.556	1.262	0	8.292	1128

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

This table shows the sample averages of selected bank characteristics in 2006, conditional on the 2003 value of the Management Insulation Dummy (MID). The *bailout dummy* equals 1 if the bank received CPP money in 2008-09. 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 had 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. *Return on equity (ROE)* is net income over common 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 of 20% or more. *Inside owner* (in %) denotes the ownership stake of the insider with the largest interest in the bank.

	Average Values Conditional on MID	
Variable	*MID = 0*	*MID = 1*
Bailout dummy	0.62	0.43
Classified board dummy	0.62	0.97
Book assets (mean)	23,535	26,034
Book assets (median)	1,554	1,038
Leverage	11.05	11.14
Return on Equity (ROE)	11.08	9.97
Number of acquisitions 2003-2006	1.58	1.84
Board independence	0.76	0.72
Board directors' banking experience	0.17	0.19
Block ownership dummy (20%)	0.09	0.10
Inside owner	7.69	7.43
Number of observations	172	104

Table VIII – Bank Characteristics: Sample Averages Conditional on Entrenchment Dummy in 2003

This table shows the sample averages of selected bank characteristics in 2006, conditional on the 2003 value of the Entrenchment Dummy (ED). The remaining variables are as in Table VII.

	Average Values Conditional on ED	
Variable	*ED = 0*	*ED = 1*
Bailout dummy	0.58	0.52
Classified board dummy	0.51	0.90
Book assets (mean)	31,875	21,108
Book assets (median)	1,261	1,832
Leverage	10.98	11.14
Return on Equity (ROE)	12.43	10.73
Number of acquisitions 2003-2006	1.41	1.91
Board independence	0.76	0.74
Board directors' banking experience	0.19	0.17
Block ownership dummy (20%)	0.11	0.08
Inside owner	4.03	4.16
Number of observations	105	153

Table IX – 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) is from 2003. The change in management insulation variable is the change in the MII variable from 2003 to 2006. 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 VI for the definition of variables. All control variables are from 2006, unless otherwise stated. Additional controls include board independence, director banking experience, block ownership, inside ownership, number of acquisitions (2003-2006), and HPD compensation variables. Robust standard errors are clustered at state level. 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)	(e)
Management Insulation Dummy-MID (2003)	-0.191***	-0.182**	-0.201**	-0.221**	-0.265**
	[-3.085]	[-2.215]	[-2.036]	[-2.004]	[-2.573]
Change in management insulation (2003-06)					-0.130**
					[-2.103]
Log assets times small size dummy		0.078	0.130	0.105	0.111
		[1.410]	[1.550]	[0.809]	[0.842]
Log assets times medium size dummy		0.093**	0.149**	0.127	0.135
		[2.196]	[2.153]	[1.097]	[1.134]
Log assets times large size dummy		0.094***	0.135**	0.107	
		[2.883]	[2.482]	[1.062]	[1.096]
Leverage		0.019**	0.023**	0.040***	0.039***
		[2.034]	[2.074]	[3.857]	[4.099]
State dummies	No	No	Yes	Yes	Yes
Additional controls	No	No	No	Yes	Yes
Observations	276	276	266	248	248

Table X – Marginal Effects of Entrenchment Index 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 *E-index dummy* (MID) is from 2003. The change in E-index is the change in this variable from 2003 to 2006. All other variables are as in Table IX. See Table VI for the definition of variables. All control variables are from 2006, unless otherwise stated. Additional controls include board independence, director banking experience, block ownership, inside ownership, number of acquisitions (2003-2006), and HPD compensation variables. Robust standard errors are clustered at state level. 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)	(e)	(f)
E-Index dummy (ED) (2003)	-0.058	-0.090	-0.067	-0.082	-0.053	0.025
	[-0.832]	[-1.323]	[-0.759]	[-0.807]	[-0.547]	[0.277]
Change in E-Index (2003-06)					0.040	0.092
					[0.617]	[1.288]
Management Insulation Dummy-MID (2003)						-0.278**
						[-2.434]
Change in management insulation (2003-06)						-0.184**
						[-2.263]
Log assets times small size dummy		0.102**	0.159**	0.140	0.148	0.112
		[2.065]	[2.335]	[1.329]	[1.325]	[0.815]
Log assets times medium size dummy		0.107***	0.168***	0.155*	0.161	0.134
		[2.869]	[3.026]	[1.655]	[1.633]	[1.112]
Log assets times large size dummy		0.104***	0.151***	0.129	0.135	0.116
		[3.431]	[3.359]	[1.551]	[1.554]	[1.117]
Leverage		0.019**	0.021*	0.039***	0.040***	0.041***
		[1.968]	[1.798]	[4.169]	[4.394]	[4.387]
State dummies	No	No	Yes	Yes	Yes	Yes
Additional controls	No	No	No	Yes	Yes	Yes
Observations	258	258	248	236	232	232

Table XI – Schedule 13D Filings and Managerial Insulation Measures

This table shows results of Probit regressions of Schedule 13D filings during the period 2003 – 2007 on bank characteristics. The sample consists of all US banks for which data are available. The dependent variable – the " Schedule 13D Filing Dummy" – is equal to one if at least one Schedule 13D was filed between 2003 and 2007, and is zero otherwise. All control variables are from 2006, unless otherwise stated. All controls include log assets times small, medium, and large dummies, leverage, board independence, director banking experience, block ownership, inside ownership, number of acquisitions (2003-2006), and HPD compensation variables. See Tables VI and IX for the definition of these variables. Robust standard errors are clustered on state level. 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: Schedule 13D Filing Dummy*				
	(a)	(b)	(c)	(d)	(e)
Management Insulation Dummy-MID (2003)	-0.156**	-0.187***			-0.244***
	[-2.335]	[-2.773]			[-2.662]
Change in management insulation (2003-06)		-0.093			-0.096*
		[-1.614]			[-1.806]
E-Index dummy (ED) (2003)			-0.056	-0.048	0.014
			[-0.694]	[-0.630]	[0.159]
Change in E-Index (2003-06)				-0.003	0.035
				[-0.034]	[0.394]
State dummies	Yes	Yes	Yes	Yes	Yes
All controls	Yes	Yes	Yes	Yes	Yes
Observations	234	234	224	220	220

Table XII – Excluding Largest Banks and Early Repayers

This table shows results of Probit regressions of bank bailouts on bank characteristics for a reduced sample size. The regression in column (a) excludes the largest sextile (6-quantile) of the sample size distribution, as measured by 2006 book assets; column (b) excludes all banks that repaid the government funds received *in full* by October 2009; in column (c) the "early repayer group" (as in column (a)) *and* the largest sextile of our sample are both excluded. All control variables are from 2006, unless otherwise stated. Additional controls include board independence, director banking experience, block ownership, inside ownership, number of acquisitions (2003-2006), and HPD compensation variables. See Tables VI and IX for the definition of the remaining these variables. The reported coefficients represent marginal effects evaluated at the means of the data. Robust standard errors are clustered on state level. Asterisks indicate significance at 0.01 (***), 0.05 (**), and 0.10 (*) levels.

Independent Variable	*Dependent Variable: Bailout dummy*		
	(a)	(b)	(c)
Management Insulation Dummy-MID (2003)	-0.286**	-0.237**	-0.256**
	[-2.391]	[-2.065]	[-2.160]
Change in management insulation (2003-06)	-0.158**	-0.126*	-0.147**
	[-2.365]	[-1.956]	[-2.170]
Log assets times small size dummy	0.140	0.094	0.117
	[1.107]	[0.612]	[0.908]
Log assets times medium size dummy	0.160	0.113	0.134
	[1.388]	[0.808]	[1.144]
Log assets times large size dummy		0.083	
		[0.660]	
Leverage	0.057***	0.045***	0.059***
	[3.414]	[4.293]	[3.608]
State dummies	Yes	Yes	Yes
Additional controls	Yes	Yes	Yes
Observations	207	224	192

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

This table shows results of Probit regressions of five 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, (d) the same as in (c) but without those banks that repaid funds before October 2009, and (e) banks that rejected CPP for a subsample of banks that did apply and were approved for CPP. All the other variables are as in Table IX. Robust standard errors are clustered on state level. The reported coefficients represent marginal effects evaluated at the means of the data. The fraction of banks meeting the criteria is for: (a) 0.598, (b) 0.627, (c) 0.670, (d) 0.587 and (e) 0.141. Robust z-statistics are in brackets. Asterisks indicate significance at 0.01 (***), 0.05 (**), and 0.10 (*) levels.

Independent Variable	*Dependent Variable*				
	(a)	(b)	(c)	(d)	(e)
	Bailed out or weak banks	*Bailed out or weak banks or failed banks*	*Applied for CPP*	*Applied for CPP and no early repayment*	*Approved, but rejected*
Management Insulation	-0.353***	-0.329***	-0.116	-0.067	0.276***
Dummy -MID (2003)	[-3.611]	[-3.438]	[-1.553]	[-0.811]	[3.121]
Change in management	-0.102**	-0.093**	-0.097*	-0.062	0.106**
insulation (2003-06)	[-2.113]	[-1.982]	[-1.757]	[-1.058]	[2.197]
Log assets times small	0.061	0.048	0.114	0.046	0.006
size dummy	[0.491]	[0.395]	[1.076]	[0.373]	[0.081]
Log assets times medium	0.091	0.076	0.128	0.060	-0.020
size dummy	[0.839]	[0.732]	[1.377]	[0.562]	[-0.301]
Log assets times large size	0.076	0.061	0.103	0.033	-0.018
dummy	[0.801]	[0.687]	[1.319]	[0.382]	[-0.298]
Leverage	0.059***	0.059***	0.035***	0.003	-0.022
	[4.572]	[4.619]	[3.222]	[0.282]	[-1.492]
State dummies	Yes	Yes	Yes	Yes	Yes
All other controls	Yes	Yes	Yes	Yes	yes
Observations	248	246	236	239	126

Table XIV – Banks' Non-Interest Income

This table shows results of OLS regressions of the change of a banks' log-ratio of non-interest income to net interest income between 2003 and 2006 on bank characteristics. The dependent variable is

$$ln\left(\frac{Non\ interest\ income}{Net\ interest\ income}\right)_{06} - ln\left(\frac{Non\ interest\ income}{Net\ interest\ income}\right)_{03}$$

All the other variables are as in Table IX, but are based on 2003 values unless otherwise stated. Standard errors are clustered on state level. Robust t-statistics are in brackets. Asterisks indicate significance at 0.01 (***), 0.05 (**), and 0.10 (*) levels.

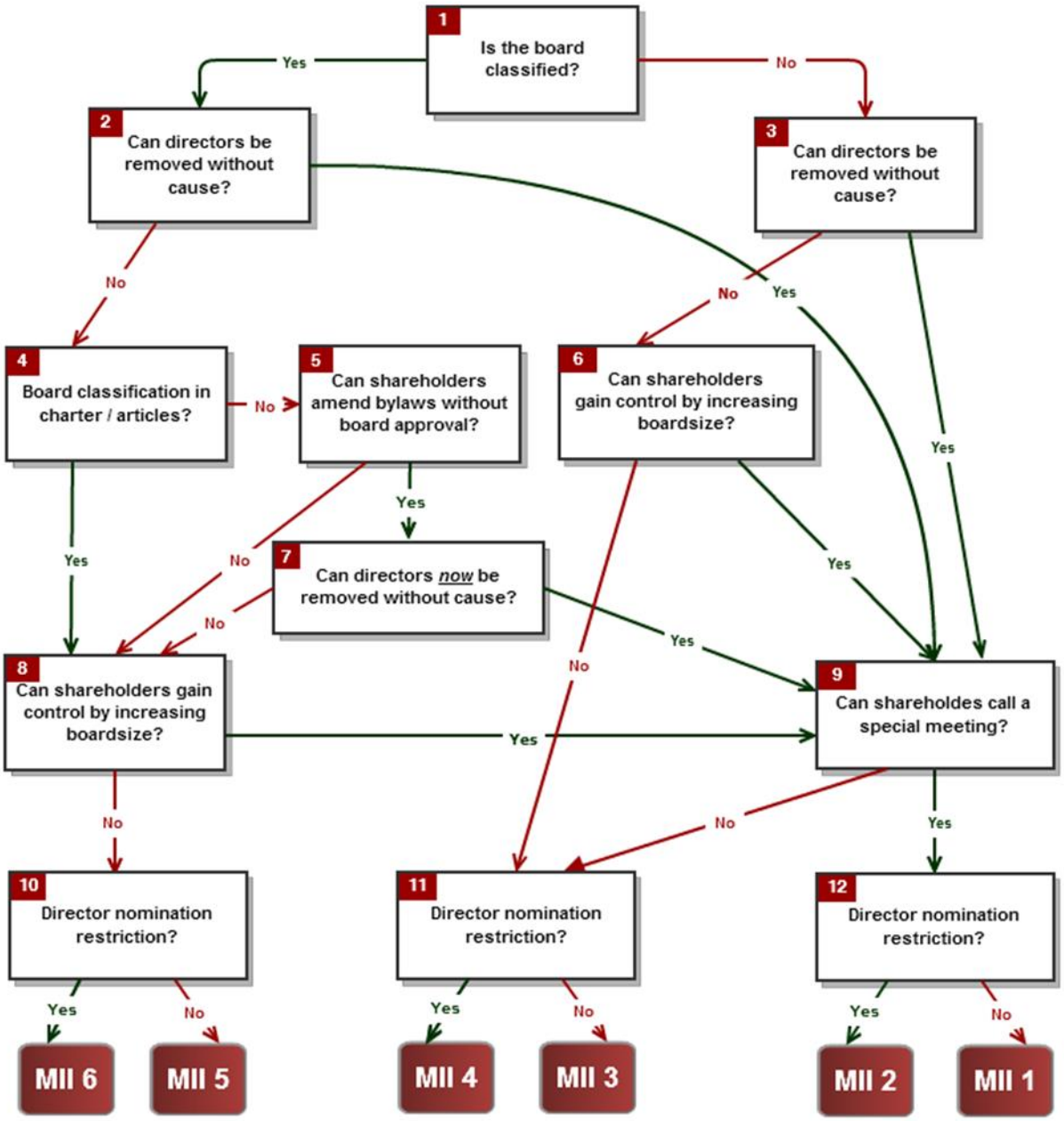
Independent Variable	*Dependent Variable: Change in non-interest income (2003-06)*	
	(a)	(b)
Management Insulation Dummy-MID (2003)	-0.210***	-0.163***
	[-3.687]	[-3.153]
Change in management insulation (2003-06)	-0.041	-0.033
	[-1.590]	[-1.009]
Log assets times small size dummy	0.117	0.154**
	[1.672]	[2.179]
Log assets times medium size dummy	0.087	0.126*
	[1.592]	[1.785]
Log assets times large size dummy	0.066*	0.095*
	[1.802]	[1.736]
Leverage	-0.012**	-0.007
	[-2.117]	[-0.386]
State dummies	Yes	Yes
Additional controls	Yes	Yes
Observations	184	179
R-squared	0.232	0.238

Table XV – Level 3 Assets

This table shows results of OLS regressions of the percentage of assets classified as Level 3 assets on bank characteristics and the MID. The dependent variables are (a) Level 3 assets as a percentage of total assets in 2008 and (b) the natural logarithm of Level 3 assets as a percentage of total assets in 2008 for the sub-sample of banks with non-zero Level 3 assets. All the other variables are as in Table IX. Standard errors are clustered on state level. Robust t-statistics are in brackets. Asterisks indicate significance at 0.01 (***), 0.05 (**), and 0.10 (*) levels.

Independent Variable	*Dependent Variable*	
	(a) *Proportion Level 3 Assets*	(b) *Proportion Level 3 Assets (log)*
Management Insulation Dummy-MID (2003)	-0.512**	-0.771*
	[-2.640]	[-1.764]
Change in management insulation (2003-06)	0.119	0.193
	[1.017]	[0.928]
Log assets times small size dummy	-0.087	0.242
	[-0.420]	[0.525]
Log assets times medium size dummy	-0.079	0.162
	[-0.440]	[0.430]
Log assets times large size dummy	-0.051	0.063
	[-0.289]	[0.186]
Leverage	0.036	0.107**
	[0.830]	[2.143]
State dummies	Yes	Yes
Additional controls	Yes	Yes
Observations	240	124
R-squared	0.346	0.409

Figure 1 – The Management Insulation Index



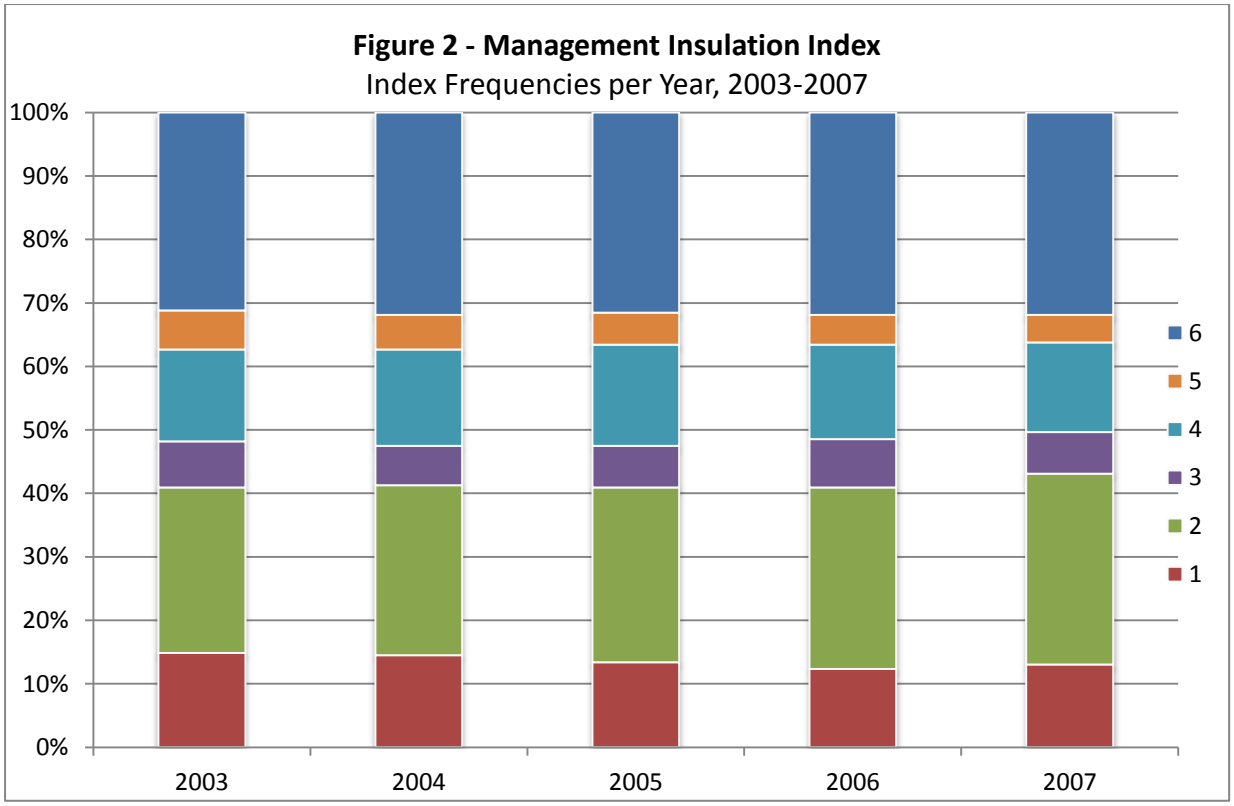


Figure 2 - Management Insulation Index
Index Frequencies per Year, 2003-2007
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
2003
2004
2005
2006
2007
6
5
4
3
2
1

Appendix – Detailed Description of the Management Insulation Index

Index value	Explanation
6	Corporations with an index value of **6** follow one of two "governance paths". Path 1 (see boxes 1 - 2 - 4 - 8 - 10 – MI-index 6 in Figure 1 above) - The board is classified; - shareholders have no right to remove directors without cause; - the classification is contained in the corporation's charter, meaning that a decision to declassify the board requires board approval; - shareholders are unable to gain control over the board by electing additional directors; - director nomination restriction determines whether the final outcome is MI-index5 or MI-index6. Corporations with a board classification in their by-laws also fall into this category if 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).[14] Path 2 (see boxes 1 - 2 - 4 - 5 - 7 - 8 - 10 – MI-index 6 in Figure 1 above) - 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; - following declassification the directors still cannot be removed without cause;

[14] Where bylaws 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.

	- shareholders are unable to gain control over the board by electing additional directors; - director nomination restriction determines whether the final outcome is MI-index5 or MI-index6. **Assessment:** The boards of banks with an index value of 6 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 MI-index-5 and MI-index-6 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 a right to be irrelevant. As for restrictions to nominate directors:[15] Such restrictions can limit the effectiveness of a proxy fight by giving the board enough time to react to activist shareholders. We note, however, that this is likely to be less relevant in MI-index-5 and MI-index-6 banks, since management is always secure for at least the time until the second-next general meeting, effectively always allowing for sufficient "response time". Such provisions can result in a prolonged period of insulation even for classified boards, particularly where an activist period commences before an annual general meeting but after the advanced notice cut-off date.

Index value	Explanation
5	Banks with an index value of 5 are effectively a variation of MI-index-6 banks. They follow the same two "governance paths", but there are no significant director nomination restrictions in place. Assessment: The absence of director nomination restrictions arguably slightly reduces the costs of gaining control over the board when compared to MI-index-6 banks. On the effect of such provisions on the difference

[15] 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).

	in insulation between MI-index-5 and MI-index-6 banks see the MI-index-6 assessment above.

4	Corporations with an index value of **4** follow one of seven "governance paths". Path 1 (see boxes 1 - 3 - 6 - 9 - 11 - MI-index 4) - The board is not classified; - shareholders have no right to remove directors without cause; - but shareholders are able to gain control over the board by electing additional directors; - shareholders have no right to call a special meeting;[16] - there are some director nomination restrictions in place. Path 2 (see boxes 1 - 3 - 6 - 11 - MI-index 4) - The board is not classified; - shareholders have no right to remove directors without cause; - shareholders are unable to gain control over the board by electing additional directors; - there are some director nomination restrictions in place. Path 3 (see boxes 1 - 3 - 9 - 11 - MI-index 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 - 9 - 11 - MI-index 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 - 7 - 9 - 11 - MI-index 4) - The board is classified; - shareholders have no right to remove directors without cause;

[16] We treat the right to act by written consent (i.e. without a meeting) as equivalent to a special meeting right, unless acting without a meeting requires the written consent of the holders of all, or a supermajority of, outstanding shares.

- 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;
- the directors can now be removed without cause and are removed in the same meeting (presuming notice of removal has been given in accordance with the advanced notice bylaws);
- shareholders have no right to call a special meeting;
- there are some director nomination restrictions in place.

Path 6 (see boxes 1 - 2 - 4 - 5 - 7 - 8 - 9 - 11 - MI-index 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;
- the directors cannot now be removed without cause;
- 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.

Path 7 (see boxes 1 - 2 - 4 - 8 - 9 - 11 - MI-index 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 MI-index value of 4 differ significantly from MI-index-6 banks. Even though the board may be classified (Paths 4-7), 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 where declassification results in the application of a without cause

	removal right (see Path 5). Note, however, that the declassification *in itself* does not typically affect the term of the incumbent directors.[17] 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 and 7). These three sets of governance provisions result in a level of entrenchment equivalent to some banks with unclassified boards and without cause removal rights (Path 3).
3	Banks with an index value of 3 are effectively a variation of MI-index-4 banks. They follow the same seven "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 MI-index-4 banks.
2	Banks with an index value of 2 follow one of six different "governance paths". Path 1 (see boxes 1 - 2 - 9 - 12 - MI-index 2) - The board is classified;

[17] In some States, for example New York and Texas the statute clarifies that a director's term of appointment is the term s/he was appointed for. § 703 New York Business Corporation Law provides for example that "each director shall hold office until the expiration of the term for which he is elected". In other jurisdictions, for example Delaware, the statute is unclear as to the effects of declassification on the director's term where that director was originally appointed for a three year term under a classified board structure. A case could be made that declassification alters the directors term (from three years to annual election), however, similarly a case could be made that the term is the term for which he/she was elected (i.e., for three years). The courts have not addressed this issue although the arguments made by the litigants in one case (*Roven v Cotter* 547 A.2d 603) assume the continued application of the three year term (in Delaware the issue is unlikely to be litigated given the application of a without cause removal right following declassification). Similar problems arise in other States that do not take the New York approach. On balance we think in the States that do not take the New York approach the argument for the continued applicability of the original (three year) term is the better position, although with respect to some States the answer may also depend on the exact wording of the relevant bylaws. The issue has similarly not been addressed in other States' case law. For our purposes this is relevant in only one context where: (i) classification is in the by-laws; (ii) following declassification the removal right remains a with cause removal right; and (iii) the bank's articles or bylaws allow the shareholders to call an interim meeting. If courts in States that do not take the New York approach were to provide that declassification reduces a three year term to annual election at the annual general meeting then even in banks that, post-declassification, have a with cause removal right control could be obtained within a year by: (i) calling an interim meeting to declassify; and (ii) at the following annual general meeting removing the whole board. If, in contrast, the terms are unaffected by declassification then it will take approximately two years to obtain control of the board in these circumstances. Given this uncertainty in relation to States that do not take the New York approach we have elected to take the position that terms are unaffected by declassification in all States for the purposes of the Management Insulation Index. *Importantly*, for the purposes of our results taking the opposite view (that declassification results in annual election) does not affect the MID score of any bank in our sample. Any future use of the MI-index would however want to take this point into account.

- 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 - 7 - 9 - 12 - MI-index 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;
- The directors can now be removed without cause;
- shareholders have the right to call a special meeting;
- there are some director nomination restrictions in place.

Path 3 (see boxes 1 - 2 - 4 - 5 - 7 - 8 - 9 - 12 - MI-index 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;
- the directors cannot following declassification be removed without cause;
- 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 - 2 - 4 - 8 - 9 - 12 - MI-index 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 5 (see boxes 1 - 3 - 9 - 12 - MI-index 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 6 (see boxes 1 - 3 - 6 - 9 - 12 - MI-index 2) - The board is not classified; - shareholders have no right to remove directors without cause; - shareholders can gain control over the board by increasing the size of the board; - shareholders have the right to call a special meeting; - there are some director nomination restrictions in place. Assessment: As with MI-index-4 banks, an MI-index value of 2 can be the result of very different looking governance arrangements. As we can see in Paths 1-4, 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 directors without cause renders the board classification irrelevant for entrenchment. Paths 3 and 4 describe 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 5). 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 6). Thus, the connecting characteristic of all MI-index-2 banks is the ability of shareholders to obtain control at a special meeting. Director nomination restrictions may slightly increase managerial insulation.
1	Banks with an index value of 1 are effectively a variation of MI-index-2 banks. They follow the same six "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 MI-index-2 banks.