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Corporate Governance, Performance and Risk-Taking in the U.S. Banking Industry

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For

Mom, Dad, and Dennis

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Abstract

In this dissertation, we first examine the relationship between performance of the bank holding company and several board characteristics. We use five proxies for bank performance including Tobin's Q, ROA, loan loss reserve ratio, non-performing asset ratio, and net charge-offs ratio. Board characteristic variables we include are board size, proportion of outsiders, CEO power, CEO tenure and board tenure. We find that a large board enhances bank performance, as proxied by Tobin's Q and loan quality variables. We find no evidence that board structure or CEO power influences firm performance. We see that CEO and board tenure have a positive effect on firm performance. We further employ a crisis dummy during the period 2007 through 2009 to determine if the relationships between firm performance and board characteristics changed during the crisis. Our crisis results show us that board size has a negative effect on Tobin's Q and the non-performing asset ratio during the crisis. Further, we find that board structure decreases the non-performing asset ratio during the crisis.

We next examine the relationship between risk-taking of the bank holding company and several board characteristics. We use four accounting based proxies for bank risk-taking including credit risk, liquidity risk, capital ratio and operational risk. We also use three market based proxies for bank risk including market beta, idiosyncratic risk and the standard deviation of its stock return. Board characteristic variables we include are board size, board independence, CEO duality, CEO tenure and board tenure. We find that a large board reduces both balance sheet and market risk. We further investigate the relationships between risk-taking and board characteristics changed during the financial crisis of 2007-2009. We find that our results are robust during the crisis.

KEYWORDS: bank performance, bank risk-taking, board characteristics, board of directors

Chapter 1

The Relationship between Boards of Directors and Firm Performance: Evidence from Bank Holding Companies

I. Introduction

Regulators and the board of directors failed to monitors banks during the most recent financial crisis. The world came close to a financial meltdown, which led to a U.S. government bailout. The blame of this crisis was given to credit default swaps, however, at the heart of these contracts were mortgages. Had the board paid more attention to the banks' loan quality, perhaps the banking system we would not have had the extreme situation we faced. In this paper, we examine the relationship between BHC board characteristics and firm performance. We proxy firm performance as other papers have using Tobin's Q and ROA. However, we also use the several loan quality variables to proxy firm performance, following Grove et al. (2009), which include loss reserve ratio, non-performing assets ratio and net charge-offs ratio. There are numerous implications of this paper. Regulators may be able to use the results of this paper to relax or set new rules on boards based on our results. BHCs may see the results of this paper and change their board characteristics to increase firm performance. The goal of our research is the same as that of regulators and BHC boards, to prevent future financial crises.

According to Mehran et al. (2011), the corporate governance of banks is different from that of nonfinancial firms for two reasons. First is that banks have many more stakeholders; second is that the business of banks is opaque and complex. Previous literature on corporate governance has primarily focused on non-financial firms and excludes regulated industries, i.e. the banking industry. However, this is one of the most important industries to examine. As we have seen in recent years, failure of the board to monitor bank activities may result in a bank's failure, and multiple or very large bank failures may lead to systemic problems or even a financial system crisis. Although the U.S. has a strong regulatory structure to prevent crises, it

did not prevent the recent crisis. A better understanding of the board's role in bank governance may help policy makers to establish a more stable financial environment and a less costly regulatory structure. Better internal monitoring of banks by their boards of directors may lessen the need for external monitoring by regulators.

The number of parties with a stake in an institution's activity complicates the governance of the bank. Not only investors, but depositors and regulators have a direct interest in bank performance. Depositors are concerned with the stability of the bank because their money is being held and used by the bank. If the bank fails, the depositor is protected by the Federal Deposit Insurance Corporation (FDIC) from a loss of up to $250,000. However, depositors with more than $250,000 in the bank may lose money and thus worry about the bank's stability. Regulators are concerned with the effect governance has on the performance of banks because the health of the economy at the end depends on their performance. As we saw during the recent financial crisis, a failure of one bank could cause a chain reaction to other banks. Therefore, it is important to study the governance of banks and how it differs from non-financial firms.

Bank board structure may be constrained due to regulations. The board of a national bank, as stipulated by the Office of the Comptroller of Currency (OCC), must consist of at least five, but no more than twenty-five board members. This upper limit is not binding, however, because the OCC can exempt the bank from this limit. Each state member bank, which is supervised by the Federal Reserve, is required to have a board. Board size is regulated separately; different states may have requirements on the board composition of the bank. For example, New York's state regulation requires two-thirds of the directors on the board to be outsiders (NY State Banking Laws, Article 15, Title 7).

Again, the purpose of our paper is to examine the relationship between board size, board composition, CEO power, CEO tenure, board tenure and firm performance. We extend the

Adams and Mehran (2008), Andres and Vallelado (2008), and Belkhir (2009) papers to include much more recent data and larger samples. Consistent with previous studies in governance, our main proxies of bank performance are Tobin's Q and ROA. We use additional proxies of bank performance following Grove et al. (2009 and 2011); these include loan loss reserve ratio (LLRR), non-performing asset ratio (NPAR) and net charge-offs ratio (NCOR). Another contribution of this paper is that we examine how the bank performance is affected during the financial crisis by corporate governance variables.

Our data has a panel structure. We choose the largest 150 banks in 1999 and then follow them all the way to 2009; thus, a firm and year fixed effect model fits our data best. The BHCs in our sample have an average board size of 14 members, with an average of 78.4% outsiders, and 60% of the BHC's CEOs also Chairman. The CEO has been on the board an average of 12.3 years, and the board of directors has an average tenure of 9.8 years. We find a positive relationship between board size and Tobin's Q and ROA. We find a negative relationship between board size and LLRR, NPAR and NCOR, while we find a positive relationship between board tenure and Tobin's Q and CEO tenure and ROA. Interestingly, we find a negative relationship between CEO tenure and NCOR.

During the financial crisis, first we see a negative relationship between board size and Tobin's Q; we also see a negative relationship between board size and NPAR. In addition, we see that NPAR increases as the proportion of insiders increases on the board. Thus, there is a negative relationship between the proportion of outsiders and NPAR.

The paper is presented as follows. The next section will discuss previous literature and develop the hypotheses. Section 3 will discuss data methodology with the following section discussing results. Section 5 will conclude.

II. Literature Review and Hypotheses Development

The effectiveness of boards of directors has been shown to depend on the board's size. Early studies by Lipton and Lorsch (1992) and Jensen (1993) propose that large boards are ineffective. Lipton and Lorsch (1992) argue that the benefits of a large board are outweighed by the costs of slower decision making, less candid discussions of managerial performance and biases against risk taking. Further, Jensen (1993) states that large boards are less likely to function effectively and are easier for the CEO to control. Both of these studies also contend that as the board of directors get bigger, they become less effective because free-riding problems erupt and decisions will be harder to make in a timely manner. Many studies have tested this view empirically. Yermack (1996), Barnhart and Rosenstein (1998), Eisenberg et al. (1998), Bhagat and Black (2002), and Hermalin and Weisbach (2003) test the relationship between board size and firm performance; using only industrial firms in their samples, they find an inverse relationship between board size and firm performance. They use two proxies for firm performance, Tobin's Q and ROA.

Booth et al. (2002), Adams and Mehran (2003) and Hayes et al. (2005) find that banks have larger boards than their non-financial counterparts. Several studies theorized that CEOs of complex, opaque firms may need more advice on their many segments and more board members offer experience and expertise. (Hermalin and Weisbach, 1988; Yermack, 1996; Dalton et al. 1999) Adams and Mehran (2003) suggest three reasons that BHCs have bigger boards. First, there is a positive relationship between board size and asset size. Also, larger, diversified firms might need additional board members to help monitor management. Finally, mergers and acquisitions within the industry may have resulted in banks having larger boards.

Bank board effectiveness has been examined over the last few years. Studies such as Andres and Vallelado (2008), Coles et al. (2008), Adams and Mehran (2008) and Belkhir (2009)

find that larger boards perform better using Tobin's Q and ROA as proxies for firm performance. A different approach by Grove et al. (2009) uses several loan quality variables as proxies for firm performance. They find no relationship between board size and firm performance. A second study by Grove et al. (2011) using a larger sample finds that board size has a concave relationship to ROA and a negative relationship between board size and the non-performing asset ratio. A study by Pathan et al. (2011) uses a much larger sample that the previous studies and finds a negative relationship between board size and firm performance using Tobin's Q and ROA as proxies for firm performance. Since there is no consensus in the previous literature how board size will affect firm performance, we must hypothesize the null, which is that the board size has no effect on firm performance.

***Hypothesis 1**: Board size has no effect on BHC performance.*

Many studies have examined the relationship between board composition and firm performance in industrial firms, but there is no consensus in the literature. MacAvoy et al. (1983), Hermalin and Weisbach (1991), Mehran (1995), Yermack (1996), Klein (1998), Bhagat and Black (2002), and Francis et al. (2012) all find no relationship between firm performance and the proportion of outside directors. On the other hand, Baysinger and Butler (1985) find evidence that companies perform better if boards have more outsiders. However, one problem with their study is that they find that outsider composition affects the company's return on equity ten years later. A ten year lag may be too long for the effects of board composition to be revealed in firm performance without confounding influences. Pearce and Zahra (1992) find that the proportion of outsiders increases firm performance. Agrawal and Knoeber (1996) find a negative relationship between the proportion of outside directors and Tobin's Q. Bhagat and Bolton (2008) find a negative relationship between board independence and future firm operating performance.

Pfeffer (1972) argues that highly regulated firms, i.e. the banking industry, have fewer insiders on their boards. Brickley and James (1987) pioneered the work on board composition in the banking industry. They argue that the market for takeovers and boards of directors are substitute devices for controlling managers; this implies that more independent boards, i.e. outsider dominated boards, will emerge where the market for takeovers is weakest. However, they find, going against their expectations, that the proportion of outsiders is greatest for banks operating in states that allow acquisitions. Agrawal and Knoeber (2000) argue that firms sensitive to political decisions (proxied either by the percentage of sales to the government or by the presence of a public relations office in Washington, D.C.) have more independent directors with political backgrounds. Based on these studies, because banks are highly regulated and are sensitive to political decisions, there should be few insiders and more outsiders on their boards.

Fama and Jensen (1983), Hermalin and Weisbach (1988) and Linck et al. (2008) argue that banks with high information asymmetry may benefit from more insiders on their boards. However, they also argue that independent directors are better monitors of bank management than insiders and can be valuable due to their experience, expertise and connections.

Researchers have not found consistent results in the banking industry either. Adams and Mehran (2008), Belkhir (2009) and Grove et al. (2011) find no relationship between board structure and firm performance. Grove et al. (2009) results indicate that a high proportion of insiders on the board is a sign of weak corporate governance and is associated with poor loan quality. Andres and Vallelado (2008) find that firms perform better if they have more outsiders. Since there is no definitive answer as to the relationship between outsiders on the board and firm performance, we have to assume the null and hypothesize that there is no relationship between the proportion of outsiders and firm performance.

***Hypothesis 2**: Board structure has no effect on BHC performance.*

CEOs are often also chairmen of their boards of directors. Hermalin and Weisbach (1998) and Linck et al. (2008) find that a CEO gains power when they become chairman of the board. Daily and Schwenk (1996) believe that CEO power hinders the board's decision making. Solomon (1993) says that the CEO can control the flow of information and the board's agenda when duality is present. Pi and Timme (1993) find that the firm's return on assets decreases when the CEO is also chairman. Yermack (1996) and Larcker et al. (2007) contend that the CEO who is also chairman reduces the independence of the board and is an indicator of weak corporate governance. Dechow et al. (1996) find that firms that manipulate earnings are more likely to have a CEO that is also chairman. Goyal and Park (2002) discover that the CEO that is chairman is less likely to lose their job due to poor performance. Another study by Bhagat and Bolton (2008) find a negative relationship between CEO power and future operating performance. Thus, it seems that it is not a good thing to have a CEO that is also a chairman.

However, Andersen and Anthony (1996), argue that decisions can be made faster because the board meetings are better focused on objectives and operations. A couple studies have empirically tested the relationship, but none of these found any evidence, i.e. Kiel and Nicholson (2003), Abdullah (2004), Weir and Liang (2000), and Adams et al. (2005). Tian and Lau (2001) find a positive relationship between firm performance and CEO power for Chinese-listed companies. Moreover, a study by Kaymak and Bektas (2008) on Turkish banks find a negative relationship between firm performance and CEO power. Conversely, find that CEO power has no effect on firm performance. Van Ness et al. (2010) theorizes that the CEO with power is an advocate for shareholders which leads to better firm performance; they empirically prove this positive relationship between CEO power and firm performance. There is no consensus in the literature regarding CEO power's relationship with firm performance.

Pathan and Skully (2010) contend that a CEO with power can be an advantage or a disadvantage to a bank. A bank with high monitoring costs may benefit; however, they argue that the CEO and chairman roles should be separated to ensure board independence and that the CEO receives no special treatment. Grove et al. (2009, 2011) test this relationship empirically and find a negative relationship between CEO power and ROA. Thus, we must assume the null hypothesis.

Hypothesis 3: *CEO power has no effect on BHC performance.*

The CEO or board member with a long tenure may be an advantage or a disadvantage. The expertise hypothesis as Pfeffer (1972) discusses, is that longer term directors or CEO should be more knowledgeable and effective than less senior directors. Buchanan (1974) considers directors with longer tenures to be more committed to the organization and to company goals. Fiegener et al. (1996) study BHCs and find that board tenure is positively related to financial performance. Conversely, the management friendliness hypothesis states that the longer term director or CEO is less likely to monitor because now they are too much of a friend to the firm. This can lead to weak corporate governance. Empirical evidence of this hypothesis has also been done. Beasley (1996) finds that director tenure increases are positively associated with financial statement fraud. Vafeas (2005) finds that director tenure is negatively associated with earnings quality. Another Vafeas (2003) study concludes that directors with tenures of over 20 years are more likely to be on nominating and compensation committees and to inflate the CEO's salary. Thus, directors with a longer tenure are more likely to befriend and less likely to monitor managers and therefore more entrenched. Bebchuk and Cohen (2005) find a negative relationship between director tenure and firm performance. Grove et al. (2009) finds a negative relationship between old directors and Tobin's Q and LLRR. This may indicate that old directors are less active monitors. They also find a positive relationship between old directors

and NCOR. This means that there are less charge offs as the board gets older. Grove et al. (2009) suggest that this may be a result of less board monitoring which allows the firm to understate charge offs. Another study by Grove et al. (2011) finds a concave relationship between director age and ROA. They discuss that this may be due to older directors being more experienced and knowledgeable; however, senior directors may be less up to date with modern financial products such as off balance sheet derivatives and could be detrimental to the board. Because CEO and director tenure may be an advantage or a disadvantage and there is no literature to base our assumptions on, we hypothesize the null.

***Hypothesis 4**: There is no relationship between CEO / BOD tenure and BHC performance.*

III. Data and Methodology

Our sample is obtained from the Federal Reserve Bank of Chicago's Bank Holding Company database. The database contains all information that banks reported on form FR-Y-9C, the consolidated balance sheet and income statements of the bank holding company, to the Federal Reserve Board since 1986. Annual stock returns must be available and are obtained from Center for Research and Security Prices (CRSP). Also, proxy statements have to be available either through Lexis-Nexis or the SEC website. The largest 150 BHCs were selected in 1999 and followed through to 2009. The final sample consists of 1,124 observations over the eleven year period from 1999 to 2009. One limitation of our study is its small sample size of only 150 BHCs (the largest 150 BHCs in 1999). Publicly available databases generally have larger samples; however, the data available in those data sets also have consistency problems. Therefore, the entire set of data used in this paper is hand collected.

Insider board members are defined as a person that works for the bank. Outsiders are defined as people who are not employed by the bank, who are not former employees of the bank,

or who are retired from the bank. We should also note that the independence of the bank's board may be overstated because a lending relationship between the directors or the directors' employers is not disclosed on proxy statements.

Summary statistics are shown in Table 1. The average board size for a BHC in our sample is 13.59 with 78.3% outsiders and 12.8% insiders. 60% of CEOs are also Chairman of the board of directors and the CEO has been on the board an average of 12.26 years. The board of directors has been on the job for an average of 9.81 years. The BHC in our sample has an average of $36.8 b in assets. Table 2 shows correlations between the board composition and total asset variables. There do not appear to be any correlations high enough to warrant any concerns.

Following previous literature, Yermack (1996), Adams and Mehran (2008), and Belkhir (2009), we use Tobin's Q and ROA as our main proxies for firm performance in this study. Tobin's Q is often used as a measure of profitability or market value. As in these studies, we define Tobin's Q as the book value of liabilities plus the market value of equity divided by the book value of liabilities plus the book value of equity. Our second proxy for firm performance, return on assets (ROA), is a good measure because a firm's profitability affects its market value. It also reflects the total firm profitability as opposed to the profitability on just one aspect of the firm, i.e. ROE. We define ROA as the bank's net income divided by total assets.

With the dependent variables of firm performance, we will run the following models using the log of board size, proportion of outside directors, proportion of inside directors, return on assets, and the log of firm size as independent variables. Specifically, the equations are:

$$TOBQ = a + B_1LOG(BOARDSIZE) + B_2OUTSIDERS + B_3ROA + B_4LOG(TOTALASSETS) + B_5CEOPOWER + B_6CEOTENURE + B_7BODTENURE + e$$

$$ROA = a + B_1LOG(BOARDSIZE) + B_2OUTSIDERS + B_3LOG(TOTALASSETS) + B_4CEOPOWER + B_5CEOTENURE + B_6BODTENURE + e$$

where TOBQ is Tobin's Q

LOG(BOARDSIZE) is the log of board size

OUTSIDERS is the proportion of outside directors on the board

ROA is the return on assets current year

LOG(TOTALASSETS) is the log of total assets

CEOPOWER is a dummy variable that equals 1 if the CEO is also chair of the board

CEOTENURE is the number of years the CEO has been on the board of directors

And BODTENURE is the average of the tenure of each board member

As Grove et al. (2009), we also use loan loss reserve ratio (LLRR), non-performing asset ratio (NPAR), and net charge off ratio (NCOR) as other proxies for firm performance. The loan loss reserve ratio (LLRR) is calculated as the amount of loan loss reserve over total assets. The non-performing assets ratio (NPAR) is calculated as the amount of non-performing assets over total assets. The net charge-offs ratio (NCOR) is calculated as the amount of net charge-offs over total assets. We use each of these three ratios as the dependent variable in the following models:

$$LLRR = a + B_1LOG(BOARDSIZE) + B_2OUTSIDERS + B_3LOG(TOTALASSETS) + B_4CEOPOWER + B_5CEOTENURE + B_6BODTENURE + e$$

$$NPAR = a + B_1LOG(BOARDSIZE) + B_2OUTSIDERS + B_3LOG(TOTALASSETS) + B_4CEOPOWER + B_5CEOTENURE + B_6BODTENURE + e$$

$$NCOR = a + B_1LOG(BOARDSIZE) + B_2OUTSIDERS + B_3LOG(TOTALASSETS) + B_4CEOPOWER + B_5CEOTENURE + B_6BODTENURE + e$$

Where LLRR is loan loss reserve ratio

NPAR is non-performing asset ratio

And NCOR is net charge off ratio

IV. Results

a. Panel Estimation Results

Data used in this paper has a panel structure so panel estimation is a natural choice for the model described above. In order to do that first, we use the Hausman (1978) specification test which rejects the null hypothesis in favor of the fixed effects (RE) model. Next we test for redundant fixed effects using a likelihood ratio test and we find that the null hypothesis that a cross-sectional and a period fixed effect is redundant is rejected. These specification tests are consistent for all the panel estimation results presented in this section.

Our results show that board size has a positive effect on BHC firm performance. We can see this for Tobin's Q, LLRR, NPAR and NCOR. As shown in Table 3, a larger board will increase Tobin's Q and decrease LLRR, NPAR and NCOR as shown in Tables 5, 6, and 7, respectively. This supports the results of Andres and Vallelado (2008), Coles et al. (2008), Belkhir (2009) and Adams and Mehran (2008). Thus, we reject our first hypothesis and conclude that board size has a positive effect on BHC performance.

None of our proportion of outsiders variables were significant in any models. Similar to Adams and Mehran (2008) and Belkhir (2009), we find no evidence that board structure has any effect on BHC firm performance. Thus, we cannot reject our null hypothesis two that board structure has no effect on BHC performance.

Each of the models we ran has a variable noted as CEO power. None of these variables were significant for any of the models. This is in direct contrast to Grove et al. (2009, 2011) who find a negative relationship between CEO power and ROA. Therefore, we cannot reject our null hypothesis three and must conclude that CEO power has no effect on BHC performance.

The final hypothesis we made is if there is a relationship between CEO or board tenure and BHC performance. In Table 4 we can see that CEO tenure has a positive, significant effect on ROA. Thus perhaps supporting the argument of Pfeffer (1972) that longer term CEOs should be more knowledgeable and effective; or Buchanan (1974) that argues directors with longer tenures are more committed to the organization and to company goals. Looking at Table 7 we see that CEO tenure decreases the net charge-offs ratio. At the surface, this could be a good thing. However, Grove et al. (2009) got similar results. They found that there was a negative relationship between old directors and net charge-offs. The older the directors were, the lower the charge-offs. They postulate that this may be the result of less board monitoring which would allow the firm to understate charge offs. Our results regarding board tenure are shown in Table 3. Board tenure has a positive effect on Tobin's Q. This result supports the findings of Fiegener et al. (1996) and also seems to support the expertise hypothesis. Therefore, we have to reject the null; there is a positive relationship between CEO / board tenure and BHC firm performance.

Our findings overall show that board size increases BHC firm performance, as measured by Tobin's Q, LLRR, NPAR and NCOR. We also see that CEO tenure has a positive effect on ROA and a negative effect on NCOR; BOD tenure has a positive effect on Tobin's Q. It seems that for a bank having a large board of directors is good, as well as an entrenched CEO and board. Our results give evidence of the expertise hypothesis regarding CEO and board tenure.

b. Results during the crisis

Our data covers part of the current financial crisis; thus, we test whether the effect of corporate governance is any different during the crisis period compared to the normal period. In order to test it, we take a dummy variable approach. We create a crisis a dummy variable that takes the value of 1 for 2007, 2008 and 2009 and zero otherwise. We use this dummy variable as an intercept as well as a slope dummy variable to disentangle the effect the crisis has had on the

performance of BHC as well as if any of the explanatory variables. We then ran OLS regressions again for each of the models. We did this in an effort to determine if there is a significant difference between our results before the crisis and during the crisis.

Table 8 shows the results using Tobin's Q as the dependent variable. Here we see that during the crisis board size has a negative effect on Tobin's Q. This may be due to Lipton and Lorsch (1992) and Jensen's (1993) argument that as the board gets bigger, problems will erupt and it will be harder for decisions to be made in a timely manner.

In Table 11 we see some further interesting results. We see that during the crisis, board size decreases the BHC's NPAR. We also see that during the crisis, as we expect, NPAR increases. We further see that the proportion of outsiders decreases the NPAR, while the proportion of insiders increases the NPAR. While a lot of empirical work has not come to a consensus about whether board structure affects firm performance (Hermalin and Weisbach, 1991; Yermack, 1996; Bhagat and Black, 2002; Adams and Mehran, 2008; Belkhir, 2009; and Francis et al. 2012), perhaps now we know why. Board structure may only affect firm performance during a crisis when they are being heavily monitored by the regulators to be better monitors of the BHC thus reducing NPAR.

Overall our crisis results show us that board size has a negative effect on Tobin's Q and NPAR. While the negative effect on NPAR is a good thing, the negative effect on Tobin's Q is definitely not. We see in this case evidence that during a crisis the large board is perhaps too large to respond quickly to impending disaster and the board is too large for its own good; firm performance decreases.

V. Conclusion

In this paper, we examined the relationship between bank performance and several board characteristics, including board size, board structure, CEO power, CEO tenure and board tenure.

We proxied BHC performance as previous studies did using Tobin's Q and ROA, and as Grove et al. (2009) using loan quality variables, i.e. loan loss reserve ratio, non-performing asset ratio and net charge-offs ratio. We found evidence of improved firm performance between board size and the BHC for Tobin's Q, LLRR, NPAR and NCOR. This supports the evidence found by Andres and Vallelado (2008), Coles et al. (2008), Belkhir (2009) and Adams and Mehran (2008). However, we did not find any evidence of a relationship between board structure and firm performance (i.e. Hermalin and Weisbach, 1991; Mehran, 1995; Yermack, 1996; Klein, 1998; Bhagat and Black, 2002; Adams and Mehran, 2008; and Francis et al., 2012) or CEO power and firm performance (i.e. Kiel and Nicholson, 2003; Abdullah, 2004; Weir and Liang, 2000; and Adams et al., 2005). We did, similar to Fiegener et al. (1996), find a positive relationship between board tenure and Tobin's Q. We also found evidence of improved performance between CEO tenure and ROA and NCOR, thus supporting the expertise hypothesis that suggests that the longer term CEOs and directors may be assets to the firm because they have more experience and knowledge.

Results during the crisis show that firm performance decreases with board size, thus supporting Lipton and Lorsch (1992) and Jensen's (1993) theories that a board that is too big may be ineffective and unable to respond quickly to firm problems. We do see, however, that a large board decreases NPAR during the crisis. We also find that board structure decreases NPAR during the crisis. The board and its outsiders may be doing a better job of monitoring non-performing assets during the crisis, especially when it is under scrutiny from stakeholders, the media and regulators.

There are several areas of future research. The first area would be to include CEO and board equity holdings as measures of entrenchment. We used only one measure of entrenchment in this study for each, CEO tenure and board tenure. Another paper could be to compare the

boards of directors' characteristics of banks who failed to a matched sample of those who did not. Perhaps there is a difference in the corporate governance characteristics of those firms who survived from those who failed that we can learn from.

Table 1
Summary Statistics for Sample of BHCs from 1999 to 2009

Table 1 shows summary statistics for select financial variables, board size and board composition and control variables for our sample from 1999 to 2009. Our sample consists of 1124 observations from 150 BHCs. All financial variables were collected from Consolidated Financial Statements for Bank Holding Companies (Form FR-Y-9C) from the Federal Reserve Board. Proxy statement data was collected from SEC database. Tobin's Q is the book value of liabilities plus the market value of equity divided by the book value of liabilities plus the book value of equity. ROA is the bank's net income divided by total assets. The loan loss reserve ratio (LLRR) is calculated as the amount of loan loss reserve over total assets. The non-performing assets ratio (NPAR) is calculated as the amount of non-performing assets over total assets. The net charge-offs ratio (NCOR) is calculated as the amount of net charge-offs over total assets. CEO Power is a dummy variable that takes a value of 1 if the CEO is also Chairman of the Board of Directors. CEO tenure is the number of years the CEO has been on the board of directors. BOD Tenure is the average number of years the board members have been on the board of directors. The tenure of each director is calculated and then an average is taken of all of the directors. A board member is defined as an insider if he is an employee of the bank. Outsiders are classified as those board members that are not insiders, not formerly employed by the bank and not relatives of those that are currently employed by the bank.

	Observations	Mean	Std. Dev.	Minimum	Maximum
Panel A: Performance Variables					
Tobin's Q	1067	1.08575	0.075431	0.892454	1.500065
ROA	1124	0.009882	0.010275	-0.069283	0.077282
Loan Loss Reserve Ratio	1123	0.004398	0.007395	-0.004143	0.076315
Non-Performing Asset Ratio	1124	0.00672	0.012254	0	0.242544
Net Charge Off Ratio	1124	0.004233	0.006027	0	0.074688
Panel B: Corporate Governance Variables					
Board Size	1124	13.59075	4.302844	5	32
Board Tenure	1124	9.813068	3.074389	1.68	21.22222
CEO Power	1124	0.600534	0.490007	0	1
CEO Tenure	1124	12.26512	8.659637	0	50
Outsiders	1124	0.783806	0.114367	0.3125	1
Insiders	1124	0.127953	0.062213	0	0.4375
Panel C: Asset Size					
Total Assets	1124	36821183	1.38E+08	875504	2.22E+09
Log Total Assets	1124	16.04163	1.409395	13.68255	21.52282

Table 2
Correlation of Corporate Governance Variables and Asset Size

Table 2 shows correlation between corporate governance variables and asset size variables. CEO Power is a dummy variable that takes a value of 1 if the CEO is also Chairman of the board of directors. CEO tenure is the number of years the CEO has been on the board of directors. Board Tenure is the average number of years the board members have been on the board of directors. The tenure of each director is calculated and then an average is taken of all of the directors. A board member is defined as an Insider if he is an employee of the bank. Outsiders are classified as those board members that are not insiders, not formerly employed by the bank and not relatives of those that are currently employed by the bank.

Variable	Board Size	Board Tenure	CEO Power	CEO Tenure	Outsiders	Insiders	Total Assets
Board Tenure	-0.1148						
CEO Power	0.1122	0.0767					
CEO Tenure	0.0322	0.4727	0.3052				
Outsiders	-0.0376	-0.1564	0.0638	-0.2607			
Insiders	-0.2669	0.1044	0.1170	0.2450	-0.5886		
Total Assets	0.1440	-0.1314	0.1216	-0.0747	0.1452	-0.1382	
Log Total Assets	0.2871	-0.0787	0.3187	0.0166	0.1383	-0.1574	0.5697

Table 3
Fixed Effects Regressions on Tobin's Q

Table 3 shows fixed effects regressions of Tobin's Q on the log of board size and asset size and board characteristics. Tobin's Q is the book value of liabilities plus the market value of equity divided by the book value of liabilities plus the book value of equity. ROA is the bank's net income divided by total assets. CEO Power is a dummy variable that takes a value of 1 if the CEO is also Chairman of the Board of Directors. CEO tenure is the number of years the CEO has been on the board of directors. BOD Tenure is the average number of years the board members have been on the board of directors. The tenure of each director is calculated and then an average is taken of all of the directors. A board member is defined as an insider if he is an employee of the bank. Outsiders are classified as those board members that are not insiders, not formerly employed by the bank and not relatives of those that are currently employed by the bank. Columns vary by the regressors they include. Significance levels: (***) - 1% (**) - 5% (*) - 10%.

	Dependent Variable: Tobin's Q					
Independent Variable	I	II	III	IV	V	VI
Log Board Size	0.0202**	0.0242***	0.0189**	0.0231***	0.0200**	0.0241***
	(2.4696)	(2.8929)	(2.3213)	(2.7716)	(2.4080)	(2.8299)
Outsiders					-0.0036	-0.0024
					(-0.1715)	(-0.1159)
Insiders			-0.0478	-0.0378		
			(-1.2562)	(-1.0018)		
ROA	3.4198***	3.4170***	3.4275***	3.4250***	3.4187***	3.4161***
	(16.2949)	(16.3764)	(16.2889)	(16.3618)	(16.2592)	(16.3345)
Log Total Assets	-0.0091***	-0.0088***	-0.0095***	-0.0091***	-0.0091***	-0.0088***
	(-3.4823)	(-3.3949)	(-3.6437)	(-3.5451)	(-3.4794)	(-3.3934)
CEO Power	0.0014	0.0024	0.0020	0.0032	0.0014	0.0024
	(0.2622)	(0.5029)	(0.3913)	(0.6828)	(0.2723)	(0.5034)
CEO Tenure	0.0003		0.0004		0.0003	
	(1.1686)		(1.3555)		(1.1509)	
BOD Tenure		0.0025***		0.0024***		0.0025***
		(3.2545)		(3.2286)		(3.2541)
Constant	1.1417***	1.1052***	1.1563***	1.1180***	1.1450***	1.1075***
	(27.3674)	(25.5845)	(27.7036)	(25.8879)	(23.7853)	(22.4554)
Sample Size	1067	1067	1067	1067	1067	1067
F-Statistic	10.6594	10.8241	10.5919	10.7432	10.5586	10.7214
(P-Value)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
R-squared	0.5679	0.5716	0.5687	0.5721	0.5679	0.5716

Table 4
Fixed Effects Regressions on ROA

Table 4 shows fixed effects regressions of ROA on the log of board size and asset size and board characteristics. ROA is the bank's net income divided by total assets. CEO Power is a dummy variable that takes a value of 1 if the CEO is also Chairman of the Board of Directors. CEO tenure is the number of years the CEO has been on the board of directors. BOD Tenure is the average number of years the board members have been on the board of directors. The tenure of each director is calculated and then an average is taken of all of the directors. A board member is defined as an insider if he is an employee of the bank. Outsiders are classified as those board members that are not insiders, not formerly employed by the bank and not relatives of those that are currently employed by the bank. Columns vary by the regressors they include. Significance levels: (***) - 1% (**) - 5% (*) - 10%.

	Dependent Variable: ROA					
Independent Variable	I	II	III	IV	V	VI
Log Board Size	0.0021	0.0024	0.0024	0.0028*	0.0020	0.0023
	(1.3626)	(1.5020)	(1.5109)	(1.6879)	(1.2533)	(1.3677)
Outsiders					-0.0031	-0.0038
					(-0.8117)	(-0.9823)
Insiders			0.0087	0.0108		
			(1.3091)	(1.6161)		
Log Total Assets	-0.0012**	-0.0012**	-0.0011**	-0.0011**	-0.0012**	-0.0012**
	(-2.4553)	(-2.5354)	(-2.2096)	(-2.3240)	(-2.4471)	(-2.5215)
CEO Power	0.0000	0.0000	-0.0002	0.0003	0.0000	0.0006
	(-0.0521)	(0.6451)	(-0.1684)	(0.3675)	(0.0121)	(0.6788)
CEO Tenure	0.0001**		0.0001**		0.0001**	
	(2.1658)		(1.9714)		(2.0839)	
BOD Tenure		0.0002		0.0002		0.0002
		(1.5212)		(1.5556)		(1.4570)
Constant	0.0225***	0.0209***	0.0198***	0.0172**	0.0253***	0.0244***
	(2.9697)	(2.6940)	(2.5842)	(2.1411)	(2.8056)	(2.6679)
Sample Size	1124	1124	1124	1124	1124	1124
F-Statistic	1.9340	1.9100	1.9338	1.9208	1.9228	1.9028
(P-Value)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
R-squared	0.1822	0.1803	0.1836	0.1826	0.1828	0.1812

Table 5
Fixed Effects Regressions on Loan Loss Reserve Ratio

Table 5 shows fixed effects regressions of loan loss reserve ratio on the log of board size and asset size and board characteristics. The loan loss reserve ratio (LLRR) is calculated as the amount of loan loss reserve over total assets. CEO Power is a dummy variable that takes a value of 1 if the CEO is also Chairman of the Board of Directors. CEO tenure is the number of years the CEO has been on the board of directors. BOD Tenure is the average number of years the board members have been on the board of directors. The tenure of each director is calculated and then an average is taken of all of the directors. A board member is defined as an insider if he is an employee of the bank. Outsiders are classified as those board members that are not insiders, not formerly employed by the bank and not relatives of those that are currently employed by the bank. Columns vary by the regressors they include. Significance levels: (***) - 1% (**) - 5% (*) - 10%.

	Dependent Variable: LLRR					
Independent Variable	I	II	III	IV	V	VI
Log Board Size	-0.0018*	-0.0016	-0.0020**	-0.0018*	-0.0016	-0.0013
	(-1.8091)	(-1.5802)	(-1.9684)	(-1.7772)	(-1.6222)	(-1.3461)
Outsiders					0.0037	0.0045*
					(1.4005)	(1.6892)
Insiders			-0.0059	-0.0069		
			(-1.3170)	(-1.5137)		
Log Total Assets	0.0013***	0.0013***	0.0012***	0.0013***	0.0013***	0.0013***
	(3.4569)	(3.7030)	(3.3493)	(3.5459)	(3.4537)	(3.6961)
CEO Power	-0.0004	-0.0009	-0.0003	-0.0008	-0.0005	-0.0009
	(-0.5788)	(-1.4619)	(-0.4674)	(-1.2009)	(-0.6838)	(-1.5214)
CEO Tenure	-0.0001*		-0.0001		-0.0001	
	(-1.7869)		(-1.6044)		(-1.6088)	
BOD Tenure		0.0001		0.0001		0.0001
		(0.9914)		(0.9431)		(1.1320)
Constant	-0.0103*	-0.0135**	-0.0085	-0.0111**	-0.0137*	-0.0177***
	(-1.8416)	(-2.4425)	(-1.5186)	(-1.9715)	(-2.0613)	(-2.7210)
Sample Size	1123	1123	1123	1123	1123	1123
F-Statistic	1.7059	1.6831	1.7054	1.6890	1.7094	1.6966
(P-Value)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
R-squared	0.1644	0.1625	0.1657	0.1643	0.1660	0.1649

Table 6
Fixed Effects Regressions on Non-Performing Assets Ratio

Table 6 shows fixed effects regressions of non-performing assets ratio on the log of board size and asset size and board characteristics. The non-performing assets ratio (NPAR) is calculated as the amount of non-performing assets over total assets. CEO Power is a dummy variable that takes a value of 1 if the CEO is also Chairman of the Board of Directors. CEO tenure is the number of years the CEO has been on the board of directors. BOD Tenure is the average number of years the board members have been on the board of directors. The tenure of each director is calculated and then an average is taken of all of the directors. A board member is defined as an insider if he is an employee of the bank. Outsiders are classified as those board members that are not insiders, not formerly employed by the bank and not relatives of those that are currently employed by the bank. Columns vary by the regressors they include. Significance levels: (***) - 1% (**) - 5% (*) - 10%.

	Dependent Variable: NPAR					
Independent Variable	I	II	III	IV	V	VI
Log Board Size	-0.0033**	-0.0031*	-0.0034**	-0.0032**	-0.0032**	-0.0030*
	(-2.1038)	(-1.9365)	(-2.1908)	(-2.0551)	(-2.0053)	(-1.8017)
Outsiders					0.0022	0.0029
					(0.5498)	(0.7076)
Insiders			-0.0036	-0.0044		
			(-0.5771)	(-0.6784)		
Log Total Assets	0.0017***	0.0018***	0.0017***	0.0017***	0.0017***	0.0018***
	(2.7750)	(3.0044)	(2.6884)	(2.8567)	(2.7716)	(2.9938)
CEO Power	0.0000	-0.0004	0.0001	-0.0003	0.0000	-0.0004
	(0.0175)	(-0.4699)	(0.0612)	(-0.3538)	(-0.0248)	(-0.5002)
CEO Tenure	-0.0001		0.0000		0.0000	
	(-0.8677)		(-0.8167)		(-0.8097)	
BOD Tenure		0.0001		0.0001		0.0001
		(0.7216)		(0.6980)		(0.7842)
Constant	-0.0114	-0.0143*	-0.0102	-0.0128	-0.0134	-0.0170**
	(-1.4117)	(-1.8791)	(-1.2146)	(-1.5350)	(-1.5438)	(-2.0945)
Sample Size	1124	1124	1124	1124	1124	1124
F-Statistic	3.0968	3.0910	3.0700	3.0657	3.0706	3.0673
(P-Value)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
R-squared	0.2629	0.2626	0.2631	0.2628	0.2631	0.2629

Table 7
Fixed Effects Regressions on Net Charge-Offs Ratio

Table 7 shows fixed effects regressions of net charge-offs ratio on the log of board size and asset size and board characteristics. The net charge-offs ratio (NCOR) is calculated as the amount of net charge-offs over total assets. CEO Power is a dummy variable that takes a value of 1 if the CEO is also Chairman of the Board of Directors. CEO tenure is the number of years the CEO has been on the board of directors. BOD Tenure is the average number of years the board members have been on the board of directors. The tenure of each director is calculated and then an average is taken of all of the directors. A board member is defined as an insider if he is an employee of the bank. Outsiders are classified as those board members that are not insiders, not formerly employed by the bank and not relatives of those that are currently employed by the bank. Columns vary by the regressors they include. Significance levels: (***) - 1% (**) - 5% (*) - 10%.

	Dependent Variable: NCOR					
Independent Variable	I	II	III	IV	V	VI
Log Board Size	-0.0022***	-0.0021**	-0.0023***	-0.0023***	-0.0021**	-0.0020**
	(-2.6031)	(-2.5186)	(-2.7219)	(-2.6710)	(-2.4220)	(-2.3001)
Outsiders					0.0031	0.0037*
					(1.4207)	(1.6783)
Insiders			-0.0047	-0.0057		
			(-1.2521)	(-1.5093)		
Log Total Assets	0.0007**	0.0008***	0.0007**	0.0007**	0.0007**	0.0008***
	(2.4708)	(2.6529)	(2.3608)	(2.4920)	(2.4681)	(2.6454)
CEO Power	-0.0003	-0.0007	-0.0003	-0.0006	-0.0004	-0.0008
	(-0.5425)	(-1.3907)	(-0.4320)	(-1.1174)	(-0.6509)	(-1.4496)
CEO Tenure	-0.0001**		-0.0001**		-0.0001**	
	(-2.1528)		(-1.9665)		(-1.9672)	
BOD Tenure		0.0000		0.0000		0.0000
		(0.0769)		(0.0339)		(0.2113)
Constant	-0.0009**	-0.0023	0.0006	-0.0003	-0.0037	-0.0057
	(-0.1898)	(-0.5054)	(0.1309)	(-0.0609)	(-0.6792)	(-1.0655)
Sample Size	1124	1124	1124	1124	1124	1124
F-Statistic	1.8453	1.8043	1.8428	1.8100	1.8494	1.8178
(P-Value)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
R-squared	0.1753	0.1721	0.1765	0.1739	0.1770	0.1745

Table 8
OLS Regressions on Tobin's Q Including Crisis Dummy

Table 8 shows OLS regressions of Tobin's Q on the log of board size and asset size and board characteristics when we include a dummy for the recent financial crisis. We do this to determine if there was a significant change in our results due to the financial crisis. Tobin's Q is the book value of liabilities plus the market value of equity divided by the book value of liabilities plus the book value of equity. ROA is the bank's net income divided by total assets. CEO Power is a dummy variable that takes a value of 1 if the CEO is also Chairman of the Board of Directors. CEO tenure is the number of years the CEO has been on the board of directors. BOD Tenure is the average number of years the board members have been on the board of directors. The tenure of each director is calculated and then an average is taken of all of the directors. A board member is defined as an insider if he is an employee of the bank. Outsiders are classified as those board members that are not insiders, not formerly employed by the bank and not relatives of those that are currently employed by the bank. Columns vary by the regressors they include. Significance levels: (***) - 1% (**) - 5% (*) - 10%.

	Dependent Variable: Tobin's Q					
Independent Variable	I	II	III	IV	V	VI
Log Board Size	0.0169**	0.0197**	0.0169**	0.2000**	0.0137**	0.0160**
	(2.3523)	(2.4967)	(2.3662)	(2.5527)	(2.0255)	(2.1082)
Outsiders			0.0085	0.0212		
			(0.4810)	(1.1786)		
Insiders					-0.0543	-0.0649
					(-1.6280)	(-2.1561)
ROA	6.8119***	6.6894***	6.8067***	6.6778***	6.7354***	6.6042***
	(3.9948)	(3.9908)	(3.9879)	(3.9777)	(3.9177)	(3.9245)
Log Total Assets	0.0020	0.0025	0.0020	0.0023	0.0018	0.0021
	(1.2527)	(1.5317)	(1.1970)	(1.3914)	(1.1322)	(1.3603)
CEO Power	0.0088**	0.0060	0.0085**	0.0058	0.0097**	0.0076*
	(2.0546)	(1.4868)	(1.9680)	(1.4200)	(2.2847)	(1.8842)
CEO Tenure	-0.0003		-0.0002		-0.0002	
	(-0.9920)		(-0.9027)		(-0.6211)	
BOD Tenure		0.0019**		0.0020**		0.0019**
		(2.2138)		(2.4013)		(2.2735)
Crisis	0.2481***	0.2368***	0.2790***	0.2557***	0.2563***	0.2436***
	(4.0567)	(3.9253)	(3.8878)	(3.5961)	(3.7862)	(3.7515)
Log Board Size * Crisis	-0.0385**	-0.0404**	-0.0416**	-0.0412**	-0.0387**	-0.0402**
	(-2.0957)	(-2.2445)	(-2.1422)	(-2.1987)	(-2.0939)	(-2.2383)
Outsiders * Crisis			-0.0362	-0.0255		
			(-0.8618)	(-0.5868)		
Insiders * Crisis					-0.0463	-0.0441
					(-0.5354)	(-0.5073)
ROA * Crisis	-4.8608***	-4.7811***	-4.8330***	-4.7655***	-4.7971***	-4.7128***
	(-2.8227)	(-2.8271)	(-2.8021)	(-2.8122)	(-2.7648)	(-2.7772)
Log Total Assets * Crisis	-0.0100***	-0.0099***	-0.0096***	-0.0096***	-0.0102***	-0.0102***
	(-2.9214)	(-2.9467)	(-2.7485)	(-2.7888)	(-2.9683)	(-3.0158)
CEO Power * Crisis	0.0012	0.0029	0.0023	0.0032	0.0014	0.0034
	(0.1166)	(0.3116)	(0.2263)	(0.3408)	(0.1354)	(0.3491)
CEO Tenure * Crisis	0.0006		0.0005		0.0006	
	(1.1234)		(0.8800)		(1.1135)	
BOD Tenure * Crisis		0.0018		0.0016		0.0019
		(1.0059)		(0.8853)		(1.0641)
Constant	0.9393***	0.9067***	0.9335***	0.8919***	0.9578***	0.9296***
	(33.9390)	(28.2211)	(32.8777)	(27.4198)	(34.5797)	(29.6425)
Sample Size	1067	1067	1067	1067	1067	1067
F-Statistic	73.7485	75.9454	62.3734	64.3590	62.8472	64.9449
(P-Value)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
R-squared	0.4347	0.4419	0.4350	0.4428	0.4369	0.4450

Table 9
OLS Regressions on ROA Including Crisis Dummy

Table 9 shows OLS regressions of ROA on the log of board size and asset size and board characteristics when we include a dummy for the recent financial crisis. We do this to determine if there was a significant change in our results due to the financial crisis. ROA is the bank's net income divided by total assets. CEO Power is a dummy variable that takes a value of 1 if the CEO is also Chairman of the Board of Directors. CEO tenure is the number of years the CEO has been on the board of directors. BOD Tenure is the average number of years the board members have been on the board of directors. The tenure of each director is calculated and then an average is taken of all of the directors. A board member is defined as an insider if he is an employee of the bank. Outsiders are classified as those board members that are not insiders, not formerly employed by the bank and not relatives of those that are currently employed by the bank. Columns vary by the regressors they include. Significance levels: (***) - 1% (**) - 5% (*) - 10%.

	Dependent Variable: ROA					
Independent Variable	I	II	III	IV	V	VI
Log Board Size	0.0006	0.0009	0.0006	0.0009	0.0000	0.0004
	(0.7499)	(1.0877)	(0.7555)	(1.1090)	(-0.0463)	(0.4705)
Outsiders			0.0018	0.0015		
			(1.2636)	(1.0692)		
Insiders					-0.0097***	-0.0081***
					(-3.3785)	(-2.9414)
Log Total Assets	0.0003**	0.0003**	0.0003**	0.0003**	0.0003**	0.0003**
	(2.4878)	(2.5776)	(2.3338)	(2.4314)	(2.1096)	(2.2137)
CEO Power	0.0000	0.0000	-0.0001	0.0000	0.0001	0.0003
	(-0.1169)	(0.1241)	(-0.2354)	(0.0927)	(0.3305)	(0.6960)
CEO Tenure	0.0000**		0.0001**		0.0001**	
	(1.9882)		(2.2160)		(2.5634)	
BOD Tenure		0.0002***		0.0002***		0.0002***
		(2.6886)		(2.7907)		(2.7848)
Crisis	-0.0209	-0.0249	-0.0434*	-0.0520*	-0.0202	-0.0229
	(-1.1170)	(-1.2038)	(-1.9369)	(-2.1081)	(-0.9329)	(-0.9934)
Log Board Size * Crisis	0.0056	0.0053	0.0084	0.0086	0.0056	0.0052
	(0.8566)	(0.7942)	(1.2792)	(1.2752)	(0.8527)	(0.7721)
Outsiders * Crisis			0.0247	0.0287*		
			(1.6449)	(1.8807)		
Insiders * Crisis					-0.0053	-0.0096
					(-0.1726)	(-0.3250)
Log Total Assets * Crisis	-0.0003	-0.0002	-0.0006	-0.006	-0.0003	-0.0002
	(-0.2918)	(-0.1565)	(-0.5966)	(-0.5690)	(-0.3047)	(-0.2069)
CEO Power * Crisis	-0.0018	-0.0027	-0.0026	-0.0029	-0.0018	-0.0025
	(-0.5138)	(-0.8440)	(-0.7498)	(-0.9571)	(-0.4981)	(-0.7493)
CEO Tenure * Crisis	-0.0001		0.0000		-0.0001	
	(-0.4148)		(-0.0314)		(-0.3885)	
BOD Tenure * Crisis		0.0002		0.0004		0.0002
		(0.3184)		(0.8032)		(0.3530)
Constant	0.0048*	0.0023	0.0036	0.0012	0.0080***	0.0051
	(1.7347)	(0.6768)	(1.2738)	(0.3692)	(2.7167)	(1.4135)
Sample Size	1124	1124	1124	1124	1124	1124
F-Statistic	38.6649	39.4953	33.5318	34.8224	32.1698	32.8135
(P-Value)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
R-squared	0.2380	0.2419	0.2491	0.2562	0.2414	0.2451

Table 10
OLS Regressions on Loan Loss Reserve Ratio Including Crisis Dummy

Table 10 shows OLS regressions of loan loss reserve ratio on the log of board size and asset size and board characteristics when we include a dummy for the recent financial crisis. We do this to determine if there was a significant change in our results due to the financial crisis. The loan loss reserve ratio (LLRR) is calculated as the amount of loan loss reserve over total assets. CEO Power is a dummy variable that takes a value of 1 if the CEO is also Chairman of the Board of Directors. CEO tenure is the number of years the CEO has been on the board of directors. BOD Tenure is the average number of years the board members have been on the board of directors. The tenure of each director is calculated and then an average is taken of all of the directors. A board member is defined as an insider if he is an employee of the bank. Outsiders are classified as those board members that are not insiders, not formerly employed by the bank and not relatives of those that are currently employed by the bank. Columns vary by the regressors they include. Significance levels: (***) - 1% (**) - 5% (*) - 10%.

	Dependent Variable: LLRR					
Independent Variable	I	II	III	IV	V	VI
Log Board Size	-0.0008**	-0.0008***	-0.0008**	-0.0008***	-0.0005	-0.0006**
	(-2.4714)	(-2.6848)	(-2.4632)	(-2.6408)	(-1.5353)	(-2.0112)
Outsiders			0.0004	0.0009		
			(0.5395)	(1.1521)		
Insiders					0.0048*	0.0036**
					(2.7219)	(2.1932)
Log Total Assets	0.0004***	0.0004***	0.0004***	0.0004***	0.0004***	0.0004***
	(5.7010)	(5.6862)	(5.5974)	(5.5432)	(5.9683)	(5.8831)
CEO Power	-0.0006***	-0.0007***	-0.0006***	-0.0007***	-0.0007***	-0.0008***
	(-2.8297)	(-3.3220)	(-2.9039)	(-3.3638)	(-3.1145)	(-3.5794)
CEO Tenure	0.0000***		0.0000***		0.0000***	
	(-2.7807)		(-2.4515)		(-3.2818)	
BOD Tenure		0.0000*		0.0000		0.0000*
		(-1.6609)		(-1.4813)		(-1.7600)
Crisis	0.0128	0.0117	0.0258	0.0253	0.0184	0.0167
	(0.8701)	(0.7226)	(1.4746)	(1.3147)	(1.0846)	(0.9271)
Log Board Size * Crisis	-0.0081	-0.0080	-0.0096*	-0.0095*	-0.0089	-0.0086
	(-1.5005)	(-1.4853)	(-1.7122)	(-1.6736)	(-1.600)	(-1.5799)
Outsiders * Crisis			-0.0146	-0.0149		
			(-1.1809)	(-1.1832)		
Insiders * Crisis					-0.0195	-0.0173
					(-1.0800)	(-0.9879)
Log Total Assets * Crisis	0.0010	0.0010	0.0012	0.0012	0.0009	0.0009
	(1.1344)	(1.1505)	(1.2948)	(1.3434)	(1.0131)	(1.0022)
CEO Power * Crisis	0.0015	0.0020	0.0019	0.0021	0.0017	0.0023
	(0.4732)	(0.7573)	(0.6370)	(0.8240)	(0.5474)	(0.8589)
CEO Tenure * Crisis	0.0001		0.0000		0.0001	
	(0.4661)		(0.2300)		(0.5854)	
BOD Tenure * Crisis		0.0002		0.0001		0.0002
		(0.5014)		(0.2456)		(0.5529)
Constant	-0.0011	-0.0008	-0.0014	-0.0014	-0.0027*	-0.0021
	(-0.8428)	(-0.5741)	(-0.9722)	(-0.9194)	(-1.9579)	(-1.3920)
Sample Size	1123	1123	1123	1123	1123	1123
F-Statistic	57.0975	56.9626	47.9421	47.8304	47.2600	47.0093
(P-Value)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
R-squared	0.3159	0.3154	0.3219	0.3214	0.3188	0.3176

Table 11
OLS Regressions on Non-Performing Assets Ratio Including Crisis Dummy

Table 11 shows OLS regressions of loan loss reserve ratio on the log of board size and asset size and board characteristics when we include a dummy for the recent financial crisis. We do this to determine if there was a significant change in our results due to the financial crisis. The non-performing assets ratio (NPAR) is calculated as the amount of non-performing assets over total assets. CEO Power is a dummy variable that takes a value of 1 if the CEO is also Chairman of the Board of Directors. CEO tenure is the number of years the CEO has been on the board of directors. BOD Tenure is the average number of years the board members have been on the board of directors. The tenure of each director is calculated and then an average is taken of all of the directors. A board member is defined as an insider if he is an employee of the bank. Outsiders are classified as those board members that are not insiders, not formerly employed by the bank and not relatives of those that are currently employed by the bank. Columns vary by the regressors they include. Significance levels: (***) - 1% (**) - 5% (*) - 10%.

	Dependent Variable: NPAR					
Independent Variable	I	II	III	IV	V	VI
Log Board Size	-0.0017***	-0.0020***	-0.0017***	-0.0020***	-0.0013***	-0.0017***
	(-3.8283)	(-4.4175)	(-3.8370)	(-4.4614)	(-2.8064)	(-3.7379)
Outsiders			-0.0036***	-0.0027**		
			(-2.8736)	(-2.2290)		
Insiders					0.0074***	0.0053**
					(2.7936)	(2.1421)
Log Total Assets	0.0002*	0.0002*	0.0002**	0.0002*	0.0002**	0.0002**
	(1.7150)	(1.6977)	(2.0450)	(1.9444)	(2.0995)	(1.9762)
CEO Power	-0.0001	-0.0003	0.0000	-0.0003	-0.0002	-0.0004*
	(-0.2694)	(-1.1428)	(0.0636)	(-1.0593)	(-0.7392)	(-1.6568)
CEO Tenure	-0.0001***		-0.0001***		-0.0001***	
	(-3.6813)		(-4.4341)		(-4.0495)	
BOD Tenure		-0.0002***		-0.0002***		-0.0002***
		(-3.6169)		(-4.0107)		(-3.7097)
Crisis	0.0727***	0.0775***	0.1270***	0.1406***	0.0514**	0.0524**
	(3.1377)	(3.0121)	(3.5994)	(3.3139)	(2.0934)	(2.0670)
Log Board Size * Crisis	-0.0308**	-0.0302**	-0.0375**	-0.0378**	-0.0281**	-0.0272**
	(-2.1665)	(-2.0702)	(-2.4382)	(-2.3537)	(-2.0304)	(-1.9731)
Outsiders * Crisis			-0.0598**	-0.0673**		
			(-2.3803)	(-2.2921)		
Insiders * Crisis					0.0815*	0.0922*
					(1.8245)	(2.0848)
Log Total Assets * Crisis	0.0009	0.0004	0.0016	0.0014	0.0013	0.0010
	(0.5350)	(0.2970)	(0.8836)	(0.8355)	(0.7630)	(0.6658)
CEO Power * Crisis	0.0004	0.0043	0.0022	0.0050	-0.0004	0.0025
	(0.0574)	(0.8825)	(0.3174)	(1.0910)	(-0.0567)	(0.5224)
CEO Tenure * Crisis	0.0006		0.0004		0.0005	
	(1.0390)		(0.7908)		(0.8381)	
BOD Tenure * Crisis		0.0006		0.0000		0.0004
		(0.6202)		(0.0269)		(0.4692)
Constant	0.0070***	0.0087***	0.0094***	0.0106***	0.0045***	0.0069***
	(4.5926)	(5.0806)	(5.2286)	(5.5684)	(2.6465)	(3.5741)
Sample Size	1124	1124	1124	1124	1124	1124
F-Statistic	57.9841	54.2395	57.6732	56.4613	52.8928	50.7362
(P-Value)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
R-squared	0.3190	0.3047	0.3633	0.3584	0.3435	0.3342

Table 12
OLS Regressions on Net Charge-Offs Ratio Including Crisis Dummy

Table 12 shows OLS regressions of loan loss reserve ratio on the log of board size and asset size and board characteristics when we include a dummy for the recent financial crisis. We do this to determine if there was a significant change in our results due to the financial crisis. The net charge-offs ratio (NCOR) is calculated as the amount of net charge-offs over total assets. CEO Power is a dummy variable that takes a value of 1 if the CEO is also Chairman of the Board of Directors. CEO tenure is the number of years the CEO has been on the board of directors. BOD Tenure is the average number of years the board members have been on the board of directors. The tenure of each director is calculated and then an average is taken of all of the directors. A board member is defined as an insider if he is an employee of the bank. Outsiders are classified as those board members that are not insiders, not formerly employed by the bank and not relatives of those that are currently employed by the bank. Columns vary by the regressors they include. Significance levels: (***) - 1% (**) - 5% (*) - 10%.

	Dependent Variable: NCOR					
Independent Variable	I	II	III	IV	V	VI
Log Board Size	-0.0012***	-0.0014***	-0.0012***	-0.0014***	-0.0011***	-0.0014***
	(-3.4336)	(-3.7972)	(-3.4306)	(-3.7444)	(-3.0244)	(-3.6393)
Outsiders			0.0016**	0.0022***		
			(2.1584)	(3.0801)		
Insiders					0.0025	0.0008
					(1.6114)	(0.5596)
Log Total Assets	0.0004***	0.0004***	0.0004***	0.0004***	0.0025***	0.0004***
	(6.3363)	(6.2563)	(6.0560)	(5.9007)	(6.4625)	(6.2457)
CEO Power	-0.0004**	-0.0006***	-0.0005**	-0.0006***	-0.0005**	-0.0006***
	(-2.2476)	(-3.2367)	(-2.4819)	(-3.3473)	(-2.4245)	(-3.2410)
CEO Tenure	-0.0001***		-0.0001***		-0.0001***	
	(-4.9427)		(-4.3995)		(-5.1317)	
BOD Tenure		-0.0001***		-0.0001***		-0.0001***
		(-3.8042)		(-3.5269)		(-3.8214)
Crisis	0.0165	0.0144	0.0259*	0.0243	0.0233	0.0196
	(1.3032)	(1.0461)	(1.8579)	(1.6207)	(1.5155)	(1.2572)
Log Board Size * Crisis	-0.0058	-0.0056	-0.0068*	-0.0066	-0.0066	-0.0062
	(-1.4106)	(-1.3558)	(-1.6837)	(-1.6072)	(-1.5471)	(-1.4688)
Outsiders * Crisis			-0.0109	-0.0112		
			(-1.1023)	(-1.1667)		
Insiders * Crisis					-0.0209	-0.0184
					(-1.4806)	(-1.3598)
Log Total Assets * Crisis	0.0002	0.0002	0.0003	0.0003	0.0001	0.0001
	(0.3056)	(0.2790)	(0.4818)	(0.4879)	(0.1551)	(0.1167)
CEO Power * Crisis	0.0015	0.0019	0.0018	0.0020	0.0017	0.0023
	(0.6482)	(0.9276)	(0.8132)	(0.9881)	(0.7464)	(1.0441)
CEO Tenure * Crisis	0.0001		0.0001		0.0001	
	(0.7659)		(0.5117)		(0.9337)	
BOD Tenure * Crisis		0.0003		0.0002		0.0003
		(0.8462)		(0.6300)		(0.9213)
Constant	0.0001	0.0012	-0.0010	-0.0003	-0.0008	0.0009
	(0.0634)	(0.6826)	(-0.6292)	(-0.1882)	(-0.4814)	(0.5009)
Sample Size	1124	1124	1124	1124	1124	1124
F-Statistic	37.5488	37.2654	31.4526	31.3139	31.4696	31.1093
(P-Value)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
R-squared	0.2328	0.2314	0.2373	0.2365	0.2374	0.2353

Appendix - Table 1
OLS Regressions on Tobin's Q

Table 1 shows OLS regressions of Tobin's Q on the log of board size and asset size and board characteristics. Tobin's Q is the book value of liabilities plus the market value of equity divided by the book value of liabilities plus the book value of equity. ROA is the bank's net income divided by total assets. CEO Power is a dummy variable that takes a value of 1 if the CEO is also Chairman of the Board of Directors. CEO tenure is the number of years the CEO has been on the board of directors. BOD Tenure is the average number of years the board members have been on the board of directors. The tenure of each director is calculated and then an average is taken of all of the directors. A board member is defined as an insider if he is an employee of the bank. Outsiders are classified as those board members that are not insiders, not formerly employed by the bank and not relatives of those that are currently employed by the bank. Columns vary by the regressors they include. Significance levels: (***) - 1% (**) - 5% (*) - 10%.

	Dependent Variable: Tobin's Q					
Independent Variable	I	II	III	IV	V	VI
Log Board Size	0.0158**	0.0187***	0.0142**	0.0114*	0.0158**	0.0189***
	(2.3328)	(2.6219)	(1.9783)	(1.6610)	(2.3409)	(2.6739)
Outsiders					-0.0017	0.0076
					(-0.0946)	(0.4140)
Insiders			-0.0813***	-0.0799**		
			(-2.6599)	(-2.5010)		
ROA	4.0898***	4.0742***	4.0569***	4.0705***	4.0903***	4.0724***
	(9.5634)	(9.6872)	(9.7199)	(9.5970)	(9.5563)	(9.6782)
Log Total Assets	0.0004	0.0007	0.0003	0.0000	0.0004	0.0007
	(0.2903)	(0.5330)	(0.1967)	(0.0048)	(0.2989)	(0.4693)
CEO Power	0.0099**	0.0083**	0.0103**	0.0112**	0.0100**	0.0082**
	(2.2462)	(2.0245)	(2.5054)	(2.5593)	(2.2358)	(1.9957)
CEO Tenure	0.0099			0.0001	0.0000	
	(-0.0738)			(0.3835)	(-0.1034)	
BOD Tenure		0.0020***	0.0021***			0.0021***
		(2.9760)	(3.0951)			(3.0873)
Constant	0.9923***	0.9607***	0.9883***	1.0183***	0.9935***	0.9551***
	(35.3121)	(31.5048)	(31.2774)	(34.6843)	(33.9363)	(30.2095)
Sample Size	1067	1067	1067	1067	1067	1067
F-Statistic	101.4319	104.5151	88.5482	85.8327	84.4493	87.0672
(P-Value)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
R-squared	0.3234	0.3300	0.3339	0.3270	0.3234	0.3301

Appendix - Table 2
OLS Regressions on ROA

Table 2 shows OLS regressions of ROA on the log of board size and asset size and board characteristics. ROA is the bank's net income divided by total assets. CEO Power is a dummy variable that takes a value of 1 if the CEO is also Chairman of the Board of Directors. CEO tenure is the number of years the CEO has been on the board of directors. BOD Tenure is the average number of years the board members have been on the board of directors. The tenure of each director is calculated and then an average is taken of all of the directors. A board member is defined as an insider if he is an employee of the bank. Outsiders are classified as those board members that are not insiders, not formerly employed by the bank and not relatives of those that are currently employed by the bank. Columns vary by the regressors they include. Significance levels: (***) - 1% (**) - 5% (*) - 10%.

	Dependent Variable: ROA					
Independent Variable	I	II	III	IV	V	VI
Log Board Size	0.0021**	0.0023**	0.0018	0.0021*	0.0022**	0.0024**
	(2.0795)	(2.1492)	(1.6124)	(1.8082)	(2.1024)	(2.2682)
Outsiders					0.0026	0.0021
					(0.9300)	(0.7627)
Insiders			-0.0059	-0.0046		
			(-0.9543)	(-0.7819)		
Log Total Assets	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	(0.0771)	(0.0564)	(-0.0656)	(-0.0675)	(-0.0385)	(-0.0448)
CEO Power	-0.0001	0.0000	0.0000	0.0002	-0.0002	0.0000
	(-0.1712)	(0.0661)	(-0.0298)	(0.2263)	(-0.2607)	(0.0416)
CEO Tenure	0.0000		0.0001		0.0001	
	(1.0185)		(1.1553)		(0.1390)	
BOD Tenure		0.0001		0.0001		0.0001
		(1.0027)		(1.0293)		(1.3443)
Constant	0.0037	0.0025	0.0056	0.0040	0.0019	0.0010
	(1.0058)	(0.5650)	(1.2826)	(0.8148)	(0.4207)	(0.2100)
Sample Size	1124	1124	1124	1124	1124	1124
F-Statistic	1.5815	1.6209	1.5057	1.4459	1.4380	1.4125
(P-Value)	(0.1769)	(0.1667)	(0.1852)	(0.2051)	(0.2078)	(0.2170)
R-squared	0.0056	0.0058	0.0067	0.0064	0.0064	(0.0063)

Appendix - Table 3
OLS Regressions on Loan Loss Reserve Ratio

Table 3 shows OLS regressions of LLRR on the log of board size and asset size and board characteristics. The loan loss reserve ratio (LLRR) is calculated as the amount of loan loss reserve over total assets. CEO Power is a dummy variable that takes a value of 1 if the CEO is also Chairman of the Board of Directors. CEO tenure is the number of years the CEO has been on the board of directors. BOD Tenure is the average number of years the board members have been on the board of directors. The tenure of each director is calculated and then an average is taken of all of the directors. A board member is defined as an insider if he is an employee of the bank. Outsiders are classified as those board members that are not insiders, not formerly employed by the bank and not relatives of those that are currently employed by the bank. Columns vary by the regressors they include. Significance levels: (***) - 1% (**) - 5% (*) - 10%.

	Dependent Variable: LLRR					
Independent Variable	I	II	III	IV	V	VI
Log Board Size	-0.0024***	-0.0023***	-0.0025***	-0.0025***	-0.0024***	-0.0023***
	(-3.3243)	(-3.2315)	(-3.0760)	(-3.1742)	(-3.3230)	(-3.0655)
Outsiders					0.0007	0.0015
					(0.3123)	(0.7506)
Insiders			-0.0017	-0.0026		
			(-0.4659)	(-0.7679)		
Log Total Assets	0.0008***	0.0008***	0.0008***	0.0008***	0.0008***	0.0008***
	(4.3597)	(4.4999)	(4.2705)	(4.3566)	(4.2939)	(4.4638)
CEO Power	-0.0005	-0.0007	-0.0005	-0.0007	-0.0005	-0.0007
	(-0.9101)	(-1.4232)	(-0.8502)	(-1.2393)	(-0.9598)	(-1.5512)
CEO Tenure	0.0000		0.0000		(0.0000)	
	(-0.7344)		(-0.6235)		(-0.6858)	
BOD Tenure		0.0001		0.0001		0.0001
		(0.8156)		(0.8375)		(1.1304)
Constant	-0.0010	-0.0026	-0.0004	-0.0017	-0.0014	-0.0036
	(-0.3914)	(-0.8578)	(-0.1362)	(-0.4889)	(-0.5127)	(-1.0878)
Sample Size	1123	1123	1123	1123	1123	1123
F-Statistic	6.5014	6.5239	5.2382	5.3153	5.2185	5.3297
(P-Value)	(0.0000)	(0.0000)	(0.0001)	(0.0001)	(0.0001)	(0.0001)
R-squared	0.0227	0.0228	0.0229	0.0232	0.0228	0.0233

Appendix - Table 4
OLS Regressions on Non-Performing Asset Ratio

Table 4 shows OLS regressions of non-performing asset ratio on the log of board size and asset size and board characteristics. The non-performing assets ratio (NPAR) is calculated as the amount of non-performing assets over total assets. CEO Power is a dummy variable that takes a value of 1 if the CEO is also Chairman of the Board of Directors. CEO tenure is the number of years the CEO has been on the board of directors. BOD Tenure is the average number of years the board members have been on the board of directors. The tenure of each director is calculated and then an average is taken of all of the directors. A board member is defined as an insider if he is an employee of the bank. Outsiders are classified as those board members that are not insiders, not formerly employed by the bank and not relatives of those that are currently employed by the bank. Columns vary by the regressors they include. Significance levels: (***) - 1% (**) - 5% (*) - 10%.

	Dependent Variable: NPAR					
Independent Variable	I	II	III	IV	V	VI
Log Board Size	-0.0058***	-0.0058***	-0.0052***	-0.0052***	-0.0059***	-0.0059***
	(-3.2265)	(-3.4511)	(-3.2308)	(-2.7831)	(-4.8472)	(-4.7988)
Outsiders					-0.0069*	-0.0065
					(-2.0696)	(-2.0229)
Insiders			0.0109	0.0112		
			(1.1691)	(1.1272)		
Log Total Assets	0.0005*	0.0005**	0.0006**	0.0006**	0.0006**	0.0006**
	(1.8896)	(2.0065)	(2.1578)	(2.0878)	(2.0080)	(2.0244)
CEO Power	-0.0001	-0.0001	-0.0003	-0.0003	0.0001	0.0000
	(-0.0778)	(-0.0786)	(-0.3883)	(-0.2357)	(0.0979)	(-0.0296)
CEO Tenure	0.0000			0.0000	0.0000	
	(0.0945)			(-0.0925)	(-0.3870)	
BOD Tenure		0.0000	0.0000			0.0000
		(0.1863)	(0.1370)			(-0.0260)
Constant	0.0135***	0.0131***	0.0094**	0.0098**	0.0183***	0.0178***
	(4.1041)	(3.3310)	(2.0970)	(2.3192)	(3.5085)	(3.2521)
Sample Size	1124	1124	1124	1124	1124	1124
F-Statistic	5.7547	5.7653	5.2288	5.2277	5.4739	5.4434
(P-Value)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)
R-squared	0.0202	0.0202	0.0229	0.0228	0.0239	0.0238

Appendix - Table 5
OLS Regressions on Net Charge-Offs Ratio

Table 5 shows OLS regressions of net charge-offs ratio on the log of board size and asset size and board characteristics. The net charge-offs ratio (NCOR) is calculated as the amount of net charge-offs over total assets. CEO Power is a dummy variable that takes a value of 1 if the CEO is also Chairman of the Board of Directors. CEO tenure is the number of years the CEO has been on the board of directors. BOD Tenure is the average number of years the board members have been on the board of directors. The tenure of each director is calculated and then an average is taken of all of the directors. A board member is defined as an insider if he is an employee of the bank. Outsiders are classified as those board members that are not insiders, not formerly employed by the bank and not relatives of those that are currently employed by the bank. Columns vary by the regressors they include. Significance levels: (***) - 1% (**) - 5% (*) - 10%.

	Dependent Variable: NCOR					
Independent Variable	I	II	III	IV	V	VI
Log Board Size	-0.0023***	-0.0024***	-0.0025***	-0.0026***	-0.0023***	-0.0023***
	(-4.0042)	(-3.9888)	(-3.8664)	(-4.0697)	(-3.8451)	(-3.8148)
Outsiders					0.0017	0.0025
					(1.0397)	(1.5465)
Insiders			-0.0031	-0.0043		
			(-1.0180)	(-1.5678)		
Log Total Assets	0.0006***	0.0006***	0.0006***	0.0006***	0.0006***	0.0006***
	(4.5505)	(4.6678)	(4.3312)	(4.3736)	(4.1803)	(4.2477)
CEO Power	-0.0003	-0.0005	-0.0002	-0.0004	-0.0003	-0.0006
	(-0.6770)	(-1.3408)	(-0.5406)	(-1.0110)	(-0.7891)	(-1.4274)
CEO Tenure	0.0000*		0.0000		0.0000	
	(-1.7789)		(-1.4933)		(-1.7601)	
BOD Tenure		0.0000		0.0000		0.0000
		(-0.3182)		(-0.2689)		(-0.1511)
Constant	0.0013	0.0009	0.0023	0.0023	0.0001	-0.0009
	(0.5700)	(0.3305)	(0.8505)	(0.7897)	(0.0381)	(-0.3336)
Sample Size	1124	1124	1124	1124	1124	1124
F-Statistic	8.1355	7.0100	6.7012	6.0092	6.7251	6.0933
(P-Value)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
R-squared	0.0283	0.0244	0.0291	0.0262	0.0292	0.0265

Chapter 2

The Relationship between Boards of Directors and Risk-Taking: Evidence from Bank Holding Companies

I. Introduction

The recession of 2008 was started from a balance sheet crash. This caused the financial system in the United States to collapse (or come close to collapsing). Both of these events are perceived to have started with banks taking excessive risk. The board of directors is supposed to monitor the actions of bank management, so that it does not take excessive risk and make the banks vulnerable. Does the board of directors play this important role? The existing literature examined the relationship between BHC boards of directors and market risk. However, none of the studies (to our knowledge) examine how board characteristics affect bank risk taking. The most recent crash was due to a balance sheet problem in the whole industry. The purpose of this paper is to determine the relationship between board characteristics and the BHC's market risk and balance sheet risk.

According to Mehran et al. (2011), there are two main differences in the corporate governance of bank holding companies (BHCs) from their non-financial counterparts. BHCs have many more stakeholders than other firms; these include debtholders, depositors, and shareholders. Also, bank business is opaque and complex and consists of more than 90 percent debt. Thus, being in the banking business is risky.

The amount of risk a BHC takes is monitored by the Fed, the Office of the Comptroller of the Currency (OCC), credit monitoring agencies, and its stakeholders. Stakeholders and regulators rely on the board of directors which is expected to provide a critical monitoring role about the amount of risk a bank is taking. A BHC that takes too much risk can become insolvent; with too little risk, there is no stock growth and shareholders are not happy. Recently

we saw how vulnerable the U.S. economy became arguably from the poor decisions by our BHCs and the risks that they take. We examine the role of the board and how it affects the bank risk during the crisis.

Merton (1977) showed us that shareholders want banks to take more risk because the premium that is paid by the banks for deposit insurance is not based on how much risk the bank takes. Deposits are insured by the Federal Deposit Insurance Corporation and a premium is paid for this insurance by each bank. However, even though the premiums were increased twice in 1989 and 1991 to risk-adjusted premiums, they were not increased enough to reduce the "moral-hazard" problem according to John et al., 1991. Similarly, Mehran et al. (2011) suggests that deposit insurance has allowed BHCs to increase their opportunities into more complex products, while regulators have not been able to keep up. Marcus (1984) and Keeley (1990) argue that as long as the costs of financial distress are not larger than the benefits of increasing risk, shareholders will pressure the bank to increase risk. If the firm takes on too much risk, the government will provide a "too big to fail" guarantee, as we saw in the most recent crisis. BHCs may see this as another type of insurance and take an excessive amount of risk. As such, board of directors can play an important monitoring role not offered by others.

Following Bharati and Jia (2009), we include credit, liquidity, capital and operational risk measures in our analysis. We also follow the papers of Pathan (2009), Minton et al. (2011) and Ni and Purda (2012) and examine market risk in our study; we further include additional board characteristic variables such as CEO power, CEO tenure and average board of director tenure. Our results support the previous studies that find board size negatively affects both market risk; we also find that board size negatively affects balance sheet risk. We also discover mixed results regarding the CEO's power. We find CEO's power can make the CEO riskier in terms of the

BHC's capital ratio (or leverage), a more powerful CEO can also decrease the BHC's operational risk. This gives us evidence that it is easier for the more powerful CEO to cut costs and make the bank more profitable. Finally, we find that board of director tenure reduces liquidity risk and increases market risk; it is seen by both depositors and investors as a form of weak corporate governance. During the crisis, we again see board size reducing both market risk and balance sheet risk.

The paper is organized as follows. Section 2 discusses the literature review and hypotheses. In section 3 we go over the data and methodology. Section 4 examines the results and section 5 concludes.

II. Literature Review and Hypotheses

Lipton and Lorsch (1992) and Jensen (1993) contend that as the board of directors get bigger, they become less effective; this is because free-riding problems will erupt and it will be harder for decisions to be made in a timely manner. To the contrary, Booth et al. (2002), Adams and Mehran (2003) and Hayes et al. (2005) find statistical evidence that banks have larger boards than their non-financial counterparts. So why do BHCs have larger boards? Hermalin and Weisbach (1988), Yermack (1996), and Dalton et al. (1999) postulate that CEOs of complex firms need more advice on their many segments; board members offer experience and expertise. Since the deregulation of the banking industry, due to the Riegle-Neal Act of 1994 and the Gramm-Leach-Bliley Act in 1999, BHCs have gotten larger and more diversified. Adams and Mehran (2003) suggest three reasons that BHCs have bigger boards. First, there is a positive relationship between board size and asset size. Also, larger, diversified firms might need additional board members to help monitor management. Finally, mergers and acquisitions within the industry may have resulted in banks having larger boards.

Board effectiveness has also been extensively studied. Yermack (1996), Barnhart and Rosenstein (1998), Eisenberg et al. (1998), Bhagat and Black (2002), and Hermalin and Weisbach (2003) find a negative relationship between board size and firm performance. They use industrial firms in their samples and proxy firm performance using Tobin's Q and return on assets (ROA). Andres and Vallelado (2008), Coles et al. (2008) and Belkhir (2009) examine the relationship between BHC board size and firm performance; they all find a positive relationship. Adams and Mehran (2008) also support this positive relationship between board size and firm performance using a sample of 35 BHCs over the period from 1959 to 1999. Proxies for firm performance are Tobin's Q and ROA for all of these studies. Conversely, Pathan et al. (2011) examines 212 BHCs from 1997 to 2004 and finds a negative relationship between board size and firm performance.

Cheng (2008) examines the relationship between board size and firm performance variability and interestingly finds that as boards get larger, firm performance becomes less variable. Pathan (2009) looks at whether having a larger board makes the BHC more or less risky. They begin with 300 BHCs and follow them over the period 1997 to 2004. Bank risk is proxied using total risk, or the standard deviation of its daily stock returns, idiosyncratic risk and systematic risk. They find that larger, more independent boards decrease the BHC's risk. Minton et al. (2011) examine a sample of BHCs over the 2003 – 2008 period to determine the relationship between the boards of directors and risk. They find a negative relationship between board size and total risk. The most recent study by Kryvko and Reichling (2012) examines European banks and also finds a negative relationship between board size and firm risk. The common theme among all of the research on board size and risk is that large boards will decrease the firm's risk. Therefore, we make the following hypothesis.

Hypothesis 1: Larger boards will decrease the BHC's risk.

Fama and Jensen (1983), Hermalin and Weisbach (1988) and Linck et al. (2008) argue that banks with high information asymmetry may benefit from more insiders on their boards. However, they also argue that independent directors are better monitors of bank management than insiders and can be valuable due to their experience, expertise and connections. Knyazeva et al. (2009) show that independent directors rely on their reputations as effective monitors in order to maintain their positions and obtain new ones; this may make them averse to high risk projects. They postulate that outside directors do not own as many shares as insiders so there is a big downside to accepting a risky project and thus, not a very big upside.

The relationship between board independence and firm performance has been empirically tested, but there is no consensus in the literature. Baysinger and Butler (1985) and Pearce and Zahra (1992) find that the proportion of outsiders increases firm performance. However, Hermalin and Weisbach (1991), Mehran (1995), Yermack (1996), Klein (1998), Bhagat and Black (2002), Adams and Mehran (2008) and Francis et al. (2012) find no relationship between the proportion of outsiders and firm performance. An early study by Agrawal and Knoeber (1996) finds a negative relationship between the proportion of outsiders and Tobin's Q. Bhagat and Bolton (2008) find a negative relationship between board independence and future firm operating performance.

One of the first studies to examine the relationship between risk and board independence was Anderson et al. (2004). They proxy risk as the firm's cost of debt; they find that the more independent the board, the lower the firm's cost of debt. Using market risk variables, Pathan (2009) finds that board independence and risk are negatively related. A study by Faleye and Krishnan (2010) examines the relationship between BHCs boards of directors and their

borrowers. They find that increasing the size of the board or the CEO's power actually increases the bank's risk, i.e. their borrowers' credit ratings go down. However, increasing the board's independence will decrease the bank's risk. Minton et al. (2011) examines BHC from 2003 to 2008 to determine the relationship between financial expertise of the board and risk-taking. They find that more independent boards are associated with lower levels of market risk. Ni and Purda (2012) looks at the board of directors of over 2,000 companies in an effort to determine if there is a relationship between the independence of the board and the firm's idiosyncratic risk. They find that companies with a greater proportion of independent directors have a lower idiosyncratic risk. However, they omit financial companies from their sample. We expect to find the same results as all of these studies; independent boards should decrease the BHC's risk.

Hypothesis 2: More independent boards will decrease the BHC's risk.

Pathan and Skully (2010) argue that CEO power can be an advantage or a disadvantage to a bank. The bank with high monitoring costs may benefit from the all-knowing CEO of a complex firm. However, they also argue that the roles should be separated to ensure board independence and that the CEO receives no extra benefits. According to Yermack (1996) and Larcker et al. (2007), CEO power is an indicator of weak corporate governance and reduces the independence of the board. Hermalin and Weisbach (1998) and Linck et al. (2008) find that the CEO gains power as they become chair of the board. Pi and Timme (1993) examine the relationship between CEO power and return on assets; they find that ROA is lower when the CEO is also chairman. Dechow et al. (1996) find that firms manipulating earnings are more likely to have a CEO that is also chairman. Moreover, Goyal and Park (2002) find that the CEO is less likely to lose their job due to poor performance if they are also the chairman. Bhagat and Bolton (2008) discover a negative relationship between CEO power and future operating

performance. However, Adams et al. (2005) find no evidence that CEO power has a negative effect on firm performance. A recent study by Van Ness et al. (2010) finds a positive relationship between CEO power and firm performance. They hypothesize that the CEO who is also the chairman is a competent, reliable advocate for shareholders which leads to stronger firm performance.

Adams et al. (2005) also examine the relationship between CEO power and stock return variability; they find a positive association. Their study, however, ignores BHCs. Pathan (2009) finds that CEO power decreases the BHC's risk. Thus, there is no consensus in the literature and we must hypothesize the null.

Hypothesis 3: CEO Power has no effect on the BHC's risk.

There are two theories regarding CEO or board of director tenure. First is the expertise hypothesis which suggests that a longer term CEO or director may be an asset to the firm because they have more experience and knowledge. Buchanan (1974) believes that directors with a longer tenure are more committed to the organization and toward company goals. Likewise, Pfeffer (1972) says that longer term directors should be more knowledgeable and effective than less senior directors. Fiegener et al. (1996) examine the largest 89 BHCs in 1990 and find that the board of directors' tenure is positively related to financial performance. They also suggest that a policy of "staggered replacement" to achieve tenure diversity has a positive effect on firm performance. These results are replicated by Van Ness et al. (2010) using a sample of industrial firms from 2006 and 2007.

On the other hand, the management friendliness hypothesis states that the longer term director is less likely to monitor because they are now too much of a friend to the firm. This can lead to weak corporate governance. Evidence of this hypothesis too has been plentiful. Beasley

(1996) finds that it is positively associated with financial statement fraud. Similarly, Vafeas (2005) finds director tenure is negatively associated with earnings quality. Another Vafeas (2003) study concludes that directors with over twenty years of experience are more likely to be classified as a "gray" director, to serve on the nominating and compensation committees, and to inflate the CEO's salary. Bebchuk and Cohen (2005) study how the entrenchment of the board affects firm performance and find a negative relationship.

Anderson et al. (2004) tests the relationship between board tenure and the cost of the firm's debt as the proxy for risk. They find that the more entrenched the board is, the more the debt costs, or the riskier the firm is perceived to be. However, Kryvko and Reichling (2012) find that the CEO's tenure decreases his propensity to take risks. Therefore, since there is no consensus in the previous research, we must hypothesize the null, that there is no relationship between CEO power and BHC risk.

Hypothesis 4: There is no effect between CEO / board tenure and BHC risk.

III. Data and Methodology

Our sample is obtained from the Federal Reserve Bank of Chicago's Bank Holding Company database. The database contains all information that banks reported on form FR-Y-9C, the consolidated balance sheet and income statements of the bank holding company, to the Federal Reserve Board since 1986. Annual stock returns must be available and are obtained from Center for Research and Security Prices (CRSP). Also, proxy statements have to be available either through Lexis-Nexis or the SEC website. The largest 150 BHCs were selected in 1999 and followed through to 2009. The number of banks reduces over time due to consolidation or bank failure. The final sample consists of 1,124 observations over the eleven year period from 1999 to 2009.

We proxy credit risk by calculating the noncurrent loan ratio, which is the ratio of noncurrent loans to total loans and leases. Noncurrent loans is the sum of loans that are more than 90 days past due and those that are not accruing interest. Liquidity risk is measured as the ratio of core deposits to total assets. The capital ratio is the ratio of total equity to total assets. Operational risk is measured by the ratio of personal expenses to the number of employees. Personal expenses include all salaries and benefits paid to employees of the bank. CEO Power is a dummy variable that takes a value of 1 if the CEO is also Chairman of the Board of Directors. CEO tenure is the number of years the CEO has been on the board of directors. BOD Tenure is the average number of years the board members have been on the board of directors. The tenure of each director is calculated and then an average is taken of all of the directors. A board member is defined as an insider if he is an employee of the bank. Outsiders are classified as those board members that are not insiders, not formerly employed by the bank and not relatives of those that are currently employed by the bank.

Following Pathan (2009), we use the two-index model from Chen et al. (2006) and Anderson and Fraser (2000), and estimate each year for each bank:

$$R_{it} = \alpha_i + \beta_{1i} R_{mt} + \beta_{2i} INTEREST_t + \varepsilon_{it}$$

where i and t denote bank i and time t respectively,

R is the bank's equity return,

R_m is the return on the S&P 500 market index;

INTEREST is the yield on the three-month Treasury bill rate;

α is the intercept term;

ε is the residuals;

β_{1i} is the systemic risk of bank i;

Summary statistics are shown in Table 1. The average board size for a BHC in our sample is 13.59 with 78.3% outsiders and 12.8% insiders. 60% of CEOs are also Chairman of the board of directors and the CEO has been on the board an average of 12.26 years. The board of directors has been on the job for an average of 9.81 years. The BHC in our sample has an average of $36.8 m in assets. Table 2 shows correlations between the board composition and total asset variables. There do not appear to be any multicollinearity problems.

We consider three different market risk proxies; they are systematic risk (BETAM), idiosyntratic risk (IR) and total market risk (STDEV). We test three models to examine how board characteristics influence market risk.

$$BETAM = a + B_1LOG(BOARDSIZE) + B_2OUTSIDERS + B_3LOG(TOTALASSETS) + B_4CEOPOWER + B_5CEOTENURE + B_6BODTENURE + e$$

$$IR = a + B_1LOG(BOARDSIZE) + B_2OUTSIDERS + B_3LOG(TOTALASSETS) + B_4CEOPOWER + B_5CEOTENURE + B_6BODTENURE + e$$

$$STDEV = a + B_1LOG(BOARDSIZE) + B_2OUTSIDERS + B_3LOG(TOTALASSETS) + B_4CEOPOWER + B_5CEOTENURE + B_6BODTENURE + e$$

Here, OUTSIDERS is the proportion of outside directors on the board; LOG(TOTALASSETS) is the log of total assets ; CEOPOWER is a dummy variable that equals 1 if the CEO is also chair of the board; CEOTENURE is the number of years the CEO has been on the board of directors; BODTENURE is the average of the tenure of each board member and LOG(BOARDSIZE) is the log of board size.

Further we proxy balance-sheet risk-taking using the variables of Bharati and Jia (2009). Using these as the dependent variables, we test four different specifications:

$$CR = a + B_1LOG(BOARDSIZE) + B_2OUTSIDERS + B_3LOG(TOTALASSETS) + B_4CEOPOWER + B_5CEOTENURE + B_6BODTENURE + e$$

$$LR = a + B_1LOG(BOARDSIZE) + B_2OUTSIDERS + B_3LOG(TOTALASSETS) + B_4CEOPOWER + B_5CEOTENURE + B_6BODTENURE + e$$

$$CAPR = a + B_1LOG(BOARDSIZE) + B_2OUTSIDERS + B_3LOG(TOTALASSETS) + B_4CEOPOWER + B_5CEOTENURE + B_6BODTENURE + e$$

$$OR = a + B_1LOG(BOARDSIZE) + B_2OUTSIDERS + B_3LOG(TOTALASSETS) + B_4CEOPOWER + B_5CEOTENURE + B_6BODTENURE + e$$

Here, CR implies credit risk; LR is liquidity risk; CAPR is capital risk and OR is operational risk.

IV. Results

a. Panel Estimation Results

The results presented in table 3 to 9 are estimated with year and firm fixed effects[1]. The results of the regressions on credit risk are shown in Table 3. We see that board size negatively effects credit risk, which is the ratio of noncurrent loans to total loans and leases. Table 4 shows the results using liquidity risk as the dependent variable. We can see that as the board gets larger, the liquidity risk increases. However, remember that we define liquidity risk as core deposits divided by total assets. This just shows us that these banks are paying for their assets with more deposits. CEO tenure seems to increase core deposits also. Perhaps this is because people are more eager to put their deposits at a bank with an experienced CEO. To the contrary, board of director tenure has the opposite effect; a longer tenure seems to decrease the amount of deposits at the bank. We believe that this may be due to depositors seeing the directors as entrenched and not in an advisory role.

[1] We have performed Hausman Test and LR test to verify the validity of our specification.

In Table 5 we present the results of the regressions using the capital ratio as the dependent variable. The capital ratio is the ratio of total equity to total assets. Interestingly, we find that the more powerful a CEO, the less equity the bank has or the more leveraged the bank is. We also see that the more insiders on the board the capital risk increases. The results in Table 6 suggest that board size, CEO power and CEO tenure all decrease the BHC's operational risk. Operational risk is the ratio of personal expenses divided by the number of employees; if this number decreases then the bank's profitability will increase. A larger board may encourage cost cutting measures and maybe this is the reason why they are affiliated with positive firm performance reported by the previous studies (Adams and Mehran, 2008; Andres and Vallelado, 2008; Coles et al., 2008, Belkhir, 2009). CEO power and CEO tenure both represent the CEO's power. This power will enable him to cut costs wherever is necessary without much fight. We also see a positive relationship between board independence and operational risk. It is possible that a more independent board will fight for the BHC's employee salaries and benefits.

Table 7 first shows us that board size decreases market risk. It is plausible that investors believe with large number of directors monitoring the managers, it will be difficult for banks to take excessive market risk. We also find that board independence increases market risk, and the proportion of insiders decreases market risk. This result coincides with the belief that bank business is complex and has a high degree of information asymmetry and that insiders are needed on the board to explain to outsiders the inner workings of the bank. Next we see that board of director tenure increases market risk. This result actually confirms the result we saw in Table 4 that board of director tenure decreases the amount of deposits at the bank. The market may perceive this as entrenchment of the board, thus accordingly perceive lax monitoring from the board and identify these banks as more risky. In Table 8 we present the results of the

regressions using idiosyncratic risk as the dependent variable; none of the independent variables can explain the variation of the dependent variable. Thus, the total risk inherent in the BHC stock is driven mainly from the market, not from any firm specific risk. The results in Table 9 show that board size has a negative effect on the standard deviation or total risk of the BHC. We again see that board independence has a positive effect on total risk.

Our results support our hypothesis that board size reduces the risk of the BHC; thus, supporting the findings of Cheng (2008), Pathan (2009), Minton et al. (2011) and Kryvko and Reichling (2012). We do not, however, support their results regarding board independence. We find a positive relationship between board independence and operational risk, market risk and total risk. Our CEO power results are mixed. We can, however, reject our hypothesis that CEO power has no effect on the BHC's risk. While the CEO with power increases some risk proxies, he decreases others. Kryvko and Reichling (2012) find that CEO power decreases his propensity to take risks; we found evidence of this with operational risk, but not with the capital ratio. The CEO with power was more likely to make the BHC more leveraged. Our results contradict those of Adams et al. (2005) and Pathan (2009); we find no relationship between market risk and CEO power. Finally, our results regarding the relationship between CEO / board tenure and risk support the results of Anderson et al. (2004). We find that a longer CEO / board tenure results in higher balance sheet risk and market risk.

b. Results during the crisis

As shown in Table 10, we find that during the crisis credit risk increases. However, we see that large boards lower credit risk during the crisis. We also see that board independence lowers credit risk. Table 11 shows us the results of regressions on liquidity risk during the crisis. Here we see that larger boards decrease liquidity risk during the crisis; however, as explained,

liquidity risk is just the ratio of core deposits to total assets. It may be that depositors took their deposits from larger, riskier banks, i.e. larger boards and brought them to smaller, safer banks with a smaller board during the crisis. We also see here that CEO power during the crisis has a positive effect on liquidity risk. Depositors may see the CEO with power as able to "weather them through the storm" and trust him. On the other hand, we find that CEO tenure has a negative effect on liquidity risk during the crisis. This is an interesting finding; it implies that we see that banks with more seasoned CEOs had higher core deposits during the crisis.

Table 12 presents the results of regressions on the capital ratio. Here we can see that board independence and CEO power actually increases the capital ratio during the crisis. The first result is intuitive, that during the crisis board independence has played their monitoring role as expected. However the second result may seem a bit counter intuitive, however, as it implies that CEO power somehow allows increasing capital. Regressions on operational risk during the crisis are shown in Table 13. We see that board size increases operational risk during the crisis.

Now we turn our attention to market risk variables. We see in Table 14 that no board characteristics affect the market risk of the BHC during the crisis. However, in Table 15, we see the board size negatively affects idiosyncratic risk during the crisis. Evidently during the crisis, investors see a large board as a riskier firm. Since no board characteristics affected the market risk of the BHC, all of the total risk is coming from the idiosyncratic risk. Table 16 shows this effect. Again, we see that only board size is negatively affecting total risk during the crisis.

Overall, our findings show that board size negatively effects credit risk, liquidity risk, idiosyncratic risk and total risk during the crisis. One exception is that board size increases operational risk during the crisis. Board independence negatively effects credit and liquidity risks during the crisis, but positively affects the capital ratio during the crisis. CEO power is

shown to have a positive effect on liquidity risk and the capital ratio during the crisis. CEO tenure has a negative effect on liquidity risk during the crisis.

V. Conclusion

Much of the previous research has examined the relationship between board characteristics and the BHC's market risk. Arguably the recent financial crisis started with banks taking excessive balance sheet risk. The purpose of the bank board is to monitor the major decisions taken by managers. In this paper we examine whether board characteristics influence how much balance sheet risk a BHC takes. We use four accounting based proxies for bank risk-taking including credit risk, liquidity risk, capital ratio and operational risk. We add to the previous research on the relationship of BHC market risk and board characteristics by including other variables such as CEO and board tenure in the analysis. As in these studies, we use three market based proxies for bank risk including systematic risk, idiosyncratic risk and the total risk of its stock return.

Our study contributes to the literature in several ways. We are the first study to examine the relationship between board characteristics and balance sheet risk. We find that board size reduces both market risk and balance sheet risk. Second, we find that our results are robust during the crisis. Even during the crisis, a large board reduced market risk and balance sheet risk. We find that board independence increases operational risk and market risk. We find that a CEO with power is more likely to increase the leverage of the firm. Finally, we find that increases in board of director tenure increases both balance sheet risk and market risk. This should have serious implications to our regulators. If we force separations of the CEO and chairman positions as well as place a limit on how long a board member can serve on the board of directors of a BHC, we should see the bank's risk profile decrease.

One area for future research that should be explored is how outside financial experts on the board of directors affect the balance sheet and market risk of the BHC. A financial expert may be seen as an asset to the board because BHCs are so complex and opaque. It is also possible that this person could take some of the power away from the CEO, reduce board of director tenure and thus decrease the amount of BHC market and balance sheet risk.

Table 1
Summary Statistics for Sample of BHCs from 1999 to 2009

Table 1 shows summary statistics for select financial variables, board size and board composition and control variables for our sample from 1999 to 2009. Our sample consists of 1124 observations from 150 BHCs. All financial variables were collected from Consolidated Financial Statements for Bank Holding Companies (Form FR-Y-9C) from the Federal Reserve Board. Proxy statement data was collected from SEC database. Standard deviation is the standard deviation of the banks' daily stock returns. Using the two-index model from Chen et006) and Anderson and Fraser (2000), we estimate each year for each bank: $R_{it} = \alpha_i + \beta_{1i} R_{mt} + \beta_{2i} INTEREST_t + \varepsilon_{it}$ Where i and t denote bank i and time t respectively, R is the bank's equity return, R_m is the return on the S&P 500 market index; INTEREST is the yield on the three-month Treasury bill rate; α is the intercept term; ε is the residuals; β_{1i} is the systemic risk of bank i (this is what we call Beta M and use as the dependent variable in these models); while idiosyncratic risk is the standard deviation of the residuals for each year. We proxy credit risk by calculating the noncurrent loan ratio, which is the ratio of noncurrent loans to total loans and leases. Noncurrent loans is the sum of loans that are more than 90 days past due and those that are not accruing interest. Liquidity risk is measured as the ratio of core deposits to total assets. The capital ratio is the ratio of total equity to total assets. Operational risk is measured by the ratio of personal expenses to the number of employees. Personal expenses include all salaries and benefits paid to employees of the bank. CEO Power is a dummy variable that takes a value of 1 if the CEO is also Chairman of the Board of Directors. CEO tenure is the number of years the CEO has been on the board of directors. BOD Tenure is the average number of years the board members have been on the board of directors. The tenure of each director is calculated and then an average is taken of all of the directors. A board member is defined as an insider if he is an employee of the bank. Outsiders are classified as those board members that are not insiders, not formerly employed by the bank and not relatives of those that are currently employed by the bank.

	Observations	Mean	Std. Dev.	Minimum	Maximum
Panel A: Market Variables					
Standard Deviation	1124	0.0239	0.0149	0.0065	0.1145
Beta M	1124	1.0788	0.5574	-0.1827	3.1363
Idiosyncratic	1124	0.0006	0.0009	0.0000	0.0112
Panel B: Accounting Risk Variables					
Credit Risk	1123	0.0131	0.0229	0.0000	0.5360
Liquidity Risk	1124	0.1986	0.1049	0.0000	0.6169
Capital Ratio	1124	0.0893	0.0227	0.0095	0.4684
Operational Risk	1124	58.4679	19.4723	1.2788	189.6206
Panel C: Corporate Governance Variables					
Board Size	1124	13.5908	4.3028	5	32
Board Tenure	1124	9.8131	3.0744	1.6800	21.2222
CEO Power	1124	0.6005	0.4900	0	1
CEO Tenure	1124	12.2651	8.6596	0	50
Outsiders	1124	0.7838	0.1144	0.3125	1
Insiders	1124	0.1280	0.0622	0	0.4375
Panel D: Asset Size					
Total Assets	1124	36821183	1.38E+08	875504	2.22E+09
Log Total Assets	1124	16.04163	1.4094	13.6826	21.5228

Table 2
Correlation of Corporate Governance Variables and Asset Size

Table 2 shows correlation between corporate governance variables and asset size variables. CEO Power is a dummy variable that takes a value of 1 if the CEO is also Chairman of the board of directors. CEO tenure is the number of years the CEO has been on the board of directors. Board Tenure is the average number of years the board members have been on the board of directors. The tenure of each director is calculated and then an average is taken of all of the directors. A board member is defined as an Insider if he is an employee of the bank. Outsiders are classified as those board members that are not insiders, not formerly employed by the bank and not relatives of those that are currently employed by the bank.

Variable	Board Size	Board Tenure	CEO Power	CEO Tenure	Outsiders	Insiders	Total Assets
Board Tenure	-0.1148						
CEO Power	0.1122	0.0767					
CEO Tenure	0.0322	0.4727	0.3052				
Outsiders	-0.0376	-0.1564	0.0638	-0.2607			
Insiders	-0.2669	0.1044	0.1170	0.2450	-0.5886		
Total Assets	0.1440	-0.1314	0.1216	-0.0747	0.1452	-0.1382	
Log Total Assets	0.2871	-0.0787	0.3187	0.0166	0.1383	-0.1574	0.5697

Table 3
Fixed Effects Regressions on Credit Risk

Table 3 shows fixed effects regressions of credit risk on the log of board size and asset size and board characteristics. We proxy credit risk by calculating the noncurrent loan ratio; this is the ratio of noncurrent loans to total loans and leases. Noncurrent loans is the sum of loans that are more than 90 days past due and those that are not accruing interest. CEO Power is a dummy variable that takes a value of 1 if the CEO is also Chairman of the Board of Directors. CEO tenure is the number of years the CEO has been on the board of directors. BOD Tenure is the average number of years the board members have been on the board of directors. The tenure of each director is calculated and then an average is taken of all of the directors. A board member is defined as an insider if he is an employee of the bank. Outsiders are classified as those board members that are not insiders, not formerly employed by the bank and not relatives of those that are currently employed by the bank. Columns vary by the regressors they include. Significance levels: (***) - 1% (**) - 5% (*) - 10%.

	Dependent Variable: Credit Risk					
Independent Variable	I	II	III	IV	V	VI
Log Board Size	-0.0077**	-0.0072**	-0.0074**	-0.0067**	-0.0081***	-0.0075**
	(-2.5011)	(-2.2836)	(-2.3500)	(-2.0880)	(-2.6510)	(-2.4720)
Outsiders			0.0075	0.0086		
			(0.9905)	(1.1072)		
Insiders					-0.0118	-0.0126
					(-1.0883)	(-1.0847)
Log Total Assets	0.0046***	0.0048***	0.0046***	0.0047***	0.0045***	0.0046***
	(3.7932)	(4.0918)	(3.7895)	(4.0777)	(3.6548)	(3.8702)
CEO Power	-0.0009	-0.0015	-0.0010	-0.0016	-0.0007	-0.0012
	(-0.4282)	(-0.9567)	(-0.5118)	(-1.0115)	(-0.3458)	(-0.7602)
CEO Tenure	-0.0007		-0.0005		-0.0006	
	(-0.5698)		(-0.4554)		(-0.4669)	
BOD Tenure		0.0003		0.0003		0.0003
		(1.2450)		(1.3503)		(1.2059)
Constant	-0.0400***	-0.0468***	-0.0468***	-0.0547***	-0.0364***	-0.0424***
	(-2.6004)	(-3.2796)	(-2.8899)	(-3.6827)	(-2.2494)	(-2.7065)
Sample Size	1123	1123	1123	1123	1123	1123
F-Statistic	2.8931	2.8983	2.8757	2.8845	2.8736	2.8800
(P-Value)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
R-squared	0.2501	0.2505	0.2508	0.2514	0.2507	0.2511

Table 4
Fixed Effects Regressions on Liquidity Risk

Table 4 shows fixed effects regressions of liquidity risk on the log of board size and asset size and board characteristics. Liquidity risk is measured as the ratio of core deposits to total assets. CEO Power is a dummy variable that takes a value of 1 if the CEO is also Chairman of the Board of Directors. CEO tenure is the number of years the CEO has been on the board of directors. BOD Tenure is the average number of years the board members have been on the board of directors. The tenure of each director is calculated and then an average is taken of all of the directors. A board member is defined as an insider if he is an employee of the bank. Outsiders are classified as those board members that are not insiders, not formerly employed by the bank and not relatives of those that are currently employed by the bank. Columns vary by the regressors they include. Significance levels: (***) - 1% (**) - 5% (*) - 10%.

	Dependent Variable: Liquidity Risk					
Independent Variable	I	II	III	IV	V	VI
Log Board Size	0.0304***	0.0250**	0.0331***	0.0273**	0.0285***	0.0233**
	(2.7409)	(2.1714)	(2.9211)	(2.3183)	(2.5935)	(2.0281)
Outsiders			0.0591**	0.0468		
			(2.0673)	(1.6218)		
Insiders					-0.0682	-0.0580
					(-1.3206)	(-1.1228)
Log Total Assets	-0.0271***	-0.0283***	-0.0271***	-0.0282***	-0.0277***	-0.0288***
	(-7.9314)	(-8.2366)	(-8.0247)	(-8.3228)	(-8.0257)	(-8.2887)
CEO Power	-0.0019	0.0038	-0.0031	0.0034	-0.0010	0.0051
	(-0.3057)	(0.6937)	(-0.4954)	(0.6252)	(-0.1602)	(0.8902)
CEO Tenure	0.0006		0.0007*		0.0007*	
	(1.6114)		(1.9335)		(1.8332)	
BOD Tenure		-0.0027**		-0.0026**		-0.0027**
		(-2.5038)		(-2.3733)		(-2.5311)
Constant	0.5494***	0.6118***	0.4957***	0.5690***	0.5706***	0.6320***
	(10.5687)	(10.8351)	(8.5090)	(9.1051)	(10.6110)	(10.7158)
Sample Size	1124	1124	1124	1124	1124	1124
F-Statistic	12.9964	13.0819	12.9805	13.0266	12.9175	12.9909
(P-Value)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
R-squared	0.5995	0.6011	0.6015	0.6024	0.6004	0.6017

Table 5
Fixed Effects Regressions on Capital Ratio

Table 5 shows fixed effects regressions of capital ratio on the log of board size and asset size and board characteristics. The capital ratio is the ratio of total equity to total assets. CEO Power is a dummy variable that takes a value of 1 if the CEO is also Chairman of the Board of Directors. CEO tenure is the number of years the CEO has been on the board of directors. BOD Tenure is the average number of years the board members have been on the board of directors. The tenure of each director is calculated and then an average is taken of all of the directors. A board member is defined as an insider if he is an employee of the bank. Outsiders are classified as those board members that are not insiders, not formerly employed by the bank and not relatives of those that are currently employed by the bank. Columns vary by the regressors they include. Significance levels: (***) - 1% (**) - 5% (*) - 10%.

	Dependent Variable: Capital Ratio					
Independent Variable	I	II	III	IV	V	VI
Log Board Size	-0.0015	-0.0019	-0.0011	0.0016	-0.0022	-0.0026
	(-0.3528)	(-0.4461)	(-0.2616)	(-0.3677)	(-0.5199)	(-0.6006)
Outsiders			0.0082	0.0067		
			(1.1378)	(0.9202)		
Insiders					-0.0254*	-0.0233*
					(-1.8758)	(-1.7158)
Log Total Assets	0.0025**	0.0024**	0.0025**	0.0023**	0.0023**	0.0021**
	(2.3025)	(2.2446)	(2.3068)	(2.2424)	(2.0703)	(1.9955)
CEO Power	-0.0072***	-0.0065***	-0.0074***	-0.0065***	-0.0069***	-0.0060***
	(-3.5097)	(-3.4114)	(-3.6404)	(-3.4635)	(-3.2592)	(-2.9990)
CEO Tenure	0.0009		0.0001		0.0001	
	(1.0494)		(1.2448)		(1.4077)	
BOD Tenure		-0.0002		-0.0002		-0.0002
		(-0.7823)		(-0.7131)		(-0.8335)
Constant	0.0565***	0.0626***	0.0491***	0.0565***	0.0644***	0.0707***
	(3.8240)	(4.1223)	(3.0995)	(3.4610)	(4.0039)	(4.2356)
Sample Size	1124	1124	1124	1124	1124	1124
F-Statistic	3.2293	3.2267	3.2112	3.2387	3.2387	3.2305
(P-Value)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
R-squared	0.2711	0.2710	0.2720	0.2736	0.2736	0.2731

Table 6
Fixed Effects Regressions on Operational Risk

Table 6 shows fixed effects regressions of operational risk on the log of board size and asset size and board characteristics. Operational risk is measured by the ratio of personal expenses to the number of employees. Personal expenses include all salaries and benefits paid to employees of the bank. CEO Power is a dummy variable that takes a value of 1 if the CEO is also Chairman of the Board of Directors. CEO tenure is the number of years the CEO has been on the board of directors. BOD Tenure is the average number of years the board members have been on the board of directors. The tenure of each director is calculated and then an average is taken of all of the directors. A board member is defined as an insider if he is an employee of the bank. Outsiders are classified as those board members that are not insiders, not formerly employed by the bank and not relatives of those that are currently employed by the bank. Columns vary by the regressors they include. Significance levels: (***) - 1% (**) - 5% (*) - 10%.

	Dependent Variable: Operational Risk					
Independent Variable	I	II	III	IV	V	VI
Log Board Size	-13.6673***	-13.5960***	-13.0056***	-12.8151***	-13.8415***	-13.8788***
	(-6.1722)	(-5.9242)	(-5.7801)	(-5.4777)	(-6.2561)	(-6.0428)
Outsiders			14.8680***	16.3305***		
			(3.1213)	(3.3804)		
Insiders					-6.2695	-9.4625
					(-0.6656)	(-0.9976)
Log Total Assets	5.1720***	5.2826***	5.1703***	5.2688***	5.1196***	5.1940***
	(7.2777)	(7.4697)	(7.2320)	(7.4052)	(7.0969)	(7.2300)
CEO Power	-2.3095*	-3.4308***	-2.6052*	-3.5597***	-2.2280	-3.2294***
	(-1.7280)	(-2.8833)	(-1.9737)	(-3.0181)	(-1.6310)	(-2.6081)
CEO Tenure	-0.1678**		-0.1382**		-0.1606**	
	(-2.4944)		(-2.0808)		(-2.4166)	
BOD Tenure		-0.0423		0.0034		-0.0048
		(-0.2232)		(0.0183)		(-0.2527)
Constant	13.9481	11.02158	0.4423	-3.9282	15.8997	14.3118
	(1.3533)	(1.0325)	(0.0379)	(-0.3237)	(1.4682)	(1.2746)
Sample Size	1124	1124	1124	1124	1124	1124
F-Statistic	10.8518	10.7419	10.1000	10.8358	10.7573	10.6601
(P-Value)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
R-squared	0.5556	0.5531	0.5592	0.5576	0.5558	0.5535

Table 7
Fixed Effects Regressions on Beta M

Table 7 shows fixed effects regressions of Beta M on the log of board size and asset size and board characteristics. Using the two-index model from Chen et al. (2006) and Anderson and Fraser (2000), we estimate each year for each bank: $R_{it} = \alpha_i + \beta_{1i} R_{mt} + \beta_{2i} INTEREST_t + \varepsilon_{it}$ Where i and t denote bank i and time t respectively, R is the bank's equity return, R_m is the return on the S&P 500 market index; INTEREST is the yield on the three-month Treasury bill rate; α is the intercept term; ε is the residuals; β_{1i} is the systemic risk of bank i (this is what we call Beta M and use as the dependent variable in these models); while idiosyncratic risk is the standard deviation of the residuals for each year. CEO Power is a dummy variable that takes a value of 1 if the CEO is also Chairman of the Board of Directors. CEO tenure is the number of years the CEO has been on the board of directors. BOD Tenure is the average number of years the board members have been on the board of directors. The tenure of each director is calculated and then an average is taken of all of the directors. A board member is defined as an insider if he is an employee of the bank. Outsiders are classified as those board members that are not insiders, not formerly employed by the bank and not relatives of those that are currently employed by the bank. Columns vary by the regressors they include. Significance levels: (***) - 1% (**) - 5% (*) - 10%.

	Dependent Variable: Beta M					
Independent Variable	I	II	III	IV	V	VI
Log Board Size	-0.4564***	-0.4199***	-0.4162***	-0.3743***	-0.4955***	-0.4617***
	(-6.1572)	(-5.5585)	(-5.6367)	(-4.9883)	(-6.7524)	(-6.1635)
Outsiders			0.9049***	0.9520***		
			(4.6531)	(4.9753)		
Insiders					-1.4047***	-1.4016***
					(-4.0058)	(-4.0183)
Log Total Assets	0.2424***	0.2492***	0.2423***	0.2484***	0.2307***	0.2360***
	(10.4597)	(10.6768)	(10.3632)	(10.5590)	(9.8696)	(10.0196)
CEO Power	-0.0413	-0.0700	-0.0593	-0.0775*	-0.0231	-0.0402
	(-0.8877)	(-1.6119)	(-1.2789)	(-1.8092)	(-0.4998)	(-0.9312)
CEO Tenure	-0.0026		-0.0008		-0.0010	
	(-0.9577)		(-0.2904)		(-0.3538)	
BOD Tenure		0.0189**		0.0216***		0.0181*
		(2.5067)		(2.9010)		(2.4113)
Constant	-1.5846***	-1.9867***	-2.4066***	-2.8582***	-1.1473***	-1.4993***
	(-4.3637)	(-5.1308)	(-5.8112)	(-6.6280)	(-3.0250)	(-3.6754)
Sample Size	1124	1124	1124	1124	1124	1124
F-Statistic	2.2858	2.5440	2.7041	2.7956	2.6444	2.7073
(P-Value)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
R-squared	0.2226	0.2266	0.2393	0.2454	0.2352	0.2395

Table 8
Fixed Effects Regressions on Idiosyncratic Risk

Table 8 shows fixed effects regressions of Beta M on the log of board size and asset size and board characteristics. Using the two-index model from Chen et al. (2006) and Anderson and Fraser (2000), we estimate each year for each bank: $R_{it} = \alpha_i + \beta_{1i} R_{mt} + \beta_{2i} INTEREST_t + \varepsilon_{it}$ Where i and t denote bank i and time t respectively, R is the bank's equity return, R_m is the return on the S&P 500 market index; INTEREST is the yield on the three-month Treasury bill rate; α is the intercept term; ε is the residuals; β_{1i} is the systemic risk of bank i (this is what we call Beta M and use as the dependent variable in these models); while idiosyncratic risk is the standard deviation of the residuals for each year. CEO Power is a dummy variable that takes a value of 1 if the CEO is also Chairman of the Board of Directors. CEO tenure is the number of years the CEO has been on the board of directors. BOD Tenure is the average number of years the board members have been on the board of directors. The tenure of each director is calculated and then an average is taken of all of the directors. A board member is defined as an insider if he is an employee of the bank. Outsiders are classified as those board members that are not insiders, not formerly employed by the bank and not relatives of those that are currently employed by the bank. Columns vary by the regressors they include. Significance levels: (***) - 1% (**) - 5% (*) - 10%.

	Dependent Variable: Idiosyncratic Risk					
Independent Variable	I	II	III	IV	V	VI
Log Board Size	-0.0002	-0.0002	-0.0002	-0.0001	-0.0002	-0.0002
	(-1.3980)	(-1.2790)	(-1.2281)	(-1.0828)	(-1.5770)	(-1.4731)
Outsiders			0.0005	0.0005		
			(1.4455)	(1.6036)		
Insiders					-0.0007	-0.0007
					(-1.0806)	(-1.1705)
Log Total Assets	0.0001***	0.0001***	0.0001***	0.0001***	0.0001***	0.0001***
	(2.7929)	(2.9021)	(2.7930)	(2.8933)	(2.7120)	(2.7986)
CEO Power	-0.0005	-0.0008	-0.0006	0.0000	-0.0004	-0.0001
	(-0.6290)	(-1.1299)	(-0.7471)	(-1.1868)	(-0.5531)	(-0.9984)
CEO Tenure	0.0000		0.0000		0.0000	
	(-0.9814)		(-0.7620)		(-0.8466)	
BOD Tenure		0.0000		0.0000		0.0000
		(0.3838)		(0.4968)		(0.3861)
Constant	-0.0007	-0.0009	-0.0011	-0.0014	-0.0005	-0.0006
	(-1.1225)	(-1.3456)	(-1.6380)	(-1.8892)	(-0.8507)	(-1.0230)
Sample Size	1124	1124	1124	1124	1124	1124
F-Statistic	2.1918	2.1830	2.1933	2.1897	2.1844	2.1788
(P-Value)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
R-squared	0.2016	0.2009	0.2032	0.2030	0.2026	0.2022

Table 9
Fixed Effects Regressions on Standard Deviation

Table 9 shows fixed effects regressions of standard deviation on the log of board size and asset size and board characteristics. Standard deviation is the standard deviation of the banks' daily stock returns. CEO Power is a dummy variable that takes a value of 1 if the CEO is also Chairman of the Board of Directors. CEO tenure is the number of years the CEO has been on the board of directors. BOD Tenure is the average number of years the board members have been on the board of directors. The tenure of each director is calculated and then an average is taken of all of the directors. A board member is defined as an insider if he is an employee of the bank. Outsiders are classified as those board members that are not insiders, not formerly employed by the bank and not relatives of those that are currently employed by the bank. Columns vary by the regressors they include. Significance levels: (***) - 1% (**) - 5% (*) - 10%.

	Dependent Variable: Standard Deviation					
Independent Variable	I	II	III	IV	V	VI
Log Board Size	-0.0042**	-0.0037*	-0.0037*	-0.0032	-0.0044**	-0.0039*
	(-1.9643)	(-1.7118)	(-1.7248)	(-1.4341)	(-2.0792)	(-1.8302)
Outsiders			0.0112**	0.0124**		
			(2.0566)	(2.2936)		
Insiders					-0.0041	-0.0055
					(-0.4097)	(-0.5494)
Log Total Assets	0.0028***	0.0030***	0.0029***	0.0030***	0.0028***	0.0029***
	(4.3159)	(4.4995)	(4.3208)	(4.4932)	(4.1766)	(4.3236)
CEO Power	-0.0012	-0.0019*	-0.0014	-0.0020*	-0.0011	-0.0018
	(-0.9153)	(-1.6090)	(-1.0842)	(-1.6925)	(-0.8864)	(-1.5598)
CEO Tenure	0.0000		0.0000		-0.0001	
	(-1.2235)		(-0.9144)		(-1.1395)	
BOD Tenure		0.0002		0.0002		0.0002
		(1.0513)		(1.2134)		(1.0835)
Constant	-0.0095	-0.0156	-0.0197	-0.0269**	-0.0082	-0.0137
	(-0.9191)	(-1.4274)	(-1.7198)	(-2.2507)	(-0.7828)	(-1.2197)
Sample Size	1124	1124	1124	1124	1124	1124
F-Statistic	1.5876	1.5836	1.6152	1.6217	1.5742	1.5718
(P-Value)	(0.0002)	(0.0002)	(0.0000)	(0.0000)	(0.0002)	(0.0002)
R-squared	0.1546	0.1543	0.1581	0.1587	0.1548	0.1546

Table 10
OLS Regressions on Credit Risk Including Crisis Dummy

Table 10 shows OLS regressions of credit risk on the log of board size and asset size and board characteristics when we include a dummy for the recent financial crisis. We do this to determine if there was a significant change in our results due to the financial crisis. We proxy credit risk by calculating the noncurrent loan ratio, which is the ratio of noncurrent loans to total loans and leases. Noncurrent loans is the sum of loans that are more than 90 days past due and those that are not accruing interest. CEO Power is a dummy variable that takes a value of 1 if the CEO is also Chairman of the Board of Directors. CEO tenure is the number of years the CEO has been on the board of directors. BOD Tenure is the average number of years the board members have been on the board of directors. The tenure of each director is calculated and then an average is taken of all of the directors. A board member is defined as an insider if he is an employee of the bank. Outsiders are classified as those board members that are not insiders, not formerly employed by the bank and not relatives of those that are currently employed by the bank. Columns vary by the regressors they include. Significance levels: (***) - 1% (**) - 5% (*) - 10%.

	Dependent Variable: Credit Risk					
Independent Variable	I	II	III	IV	V	VI
Log Board Size	-0.0044***	-0.0049***	-0.0044***	-0.0049***	-0.0039***	-0.0046***
	(-4.9903)	(-5.6263)	(-4.9854)	(-5.6247)	(-4.2353)	(-5.1500)
Outsiders			-0.0033	-0.0021		
			(-1.4054)	(-0.9293)		
Insiders					0.0075	0.0045
					(1.4842)	(0.9438)
Log Total Assets	0.0007***	0.0007***	0.0007***	0.0007***	0.0007***	0.0007***
	(4.1237)	(4.0332)	(4.1403)	(3.9817)	(4.2041)	(4.0034)
CEO Power	0.0003	0.0000	0.0004	0.0000	0.0002	-0.0001
	(0.5619)	(-0.0030)	(0.7167)	(0.0297)	(0.3281)	(-0.2209)
CEO Tenure	-0.0001***		-0.0001***		-0.0001***	
	(-3.1607)		(-3.5801)		(-3.2773)	
BOD Tenure		-0.0003***		-0.0003***		-0.0003***
		(-3.6212)		(-3.8621)		(-3.6708)
Crisis	0.0854**	0.0992**	0.1703**	0.2027**	0.0580	0.0641
	(2.0352)	(2.1828)	(2.4281)	(2.3754)	(1.2471)	(1.3676)
Log Board Size * Crisis	-0.0629**	-0.0619**	-0.0732**	-0.0742**	-0.0595**	-0.0577*
	(-2.1368)	(-2.0461)	(-2.2356)	(-2.1564)	(-2.0112)	(-1.9568)
Outsiders * Crisis			-0.0939*	-0.1110*		
			(-1.8380)	(-1.8053)		
Insiders * Crisis					0.1047	0.1286
					(1.5055)	(1.9225)
Log Total Assets * Crisis	0.0057	0.0046	0.0069*	0.0062*	0.0062*	0.0054*
	(1.5687)	(1.5759)	(1.6905)	(1.7579)	(1.7125)	(1.7930)
CEO Power * Crisis	-0.0065	0.0016	-0.0038	0.0027	-0.0077	-0.0009
	(-0.3917)	(0.1644)	(-0.2520)	(0.2937)	(-0.4622)	(-0.0905)
CEO Tenure * Crisis	0.0011		0.0008		0.0010	
	(0.9463)		(0.8018)		(0.8215)	
BOD Tenure * Crisis		0.0009		0.0000		0.0007
		(0.4621)		(-0.0094)		(0.3629)
Constant	0.0099***	0.0134***	0.0121***	0.0148***	0.0074**	0.0118***
	(3.4762)	(4.1160)	(3.8831)	(4.3976)	(2.1059)	(3.0339)
Sample Size	1123	1123	1123	1123	1123	1123
F-Statistic	52.4699	48.0407	49.1220	47.4172	45.1443	42.3227
(P-Value)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
R-squared	0.2979	0.2798	0.3272	0.3195	0.3089	0.2953

Table 11
OLS Regressions on Liquidity Risk Including Crisis Dummy

Table 11 shows OLS regressions of liquidity risk on the log of board size and asset size and board characteristics when we include a dummy for the recent financial crisis. We do this to determine if there was a significant change in our results due to the financial crisis. Liquidity risk is measured as the ratio of core deposits to total assets. CEO Power is a dummy variable that takes a value of 1 if the CEO is also Chairman of the Board of Directors. CEO tenure is the number of years the CEO has been on the board of directors. BOD Tenure is the average number of years the board members have been on the board of directors. The tenure of each director is calculated and then an average is taken of all of the directors. A board member is defined as an insider if he is an employee of the bank. Outsiders are classified as those board members that are not insiders, not formerly employed by the bank and not relatives of those that are currently employed by the bank. Columns vary by the regressors they include. Significance levels: (***) - 1% (**) - 5% (*) - 10%.

	Dependent Variable: Liquidity Risk					
Independent Variable	I	II	III	IV	V	VI
Log Board Size	0.0561***	0.0557***	0.0562***	0.0557***	0.0474***	0.0497***
	(5.5387)	(5.3496)	(5.5455)	(5.3313)	(4.6705)	(4.7848)
Outsiders			0.0310	0.0043		
			(1.1367)	(0.1617)		
Insiders					-0.1449***	-0.1001*
					(-2.6533)	(-1.8886)
Log Total Assets	-0.0387***	-0.0391***	-0.0390***	-0.0392***	-0.0394***	-0.0397***
	(-19.7486)	(-20.0809)	(-19.7733)	(-19.7922)	(-19.8044)	(-19.9669)
CEO Power	-0.0193***	-0.0128**	-0.0201***	-0.0128**	-0.0169***	-0.0102*
	(-3.0082)	(-2.0859)	(-3.0682)	(-2.0815)	(-2.6392)	(-1.6747)
CEO Tenure	0.0011***		0.0013***		0.0014***	
	(3.2515)		(3.4289)		(3.8807)	
BOD Tenure		-0.0004		-0.0004		-0.0003
		(-0.3639)		(-0.3400)		(-0.2926)
Crisis	0.1318	0.1140	0.2888*	0.2573	-0.0149	-0.0184
	(1.0498)	(0.8478)	(1.6637)	(1.4155)	(-0.1159)	(-0.1362)
Log Board Size * Crisis	-0.1035**	-0.1033**	-0.1197**	-0.1198**	-0.0820**	-0.0854**
	(-2.3453)	(-2.3457)	(-2.4795)	(-2.4852)	(-2.1506)	(-2.2505)
Outsiders * Crisis			-0.1831*	-0.1554		
			(-1.7517)	(-1.4782)		
Insiders * Crisis					0.5118**	0.4534*
					(2.1479)	(1.9292)
Log Total Assets * Crisis	0.0089	0.0096*	0.0110*	0.0118*	0.0114*	0.0122**
	(1.5457)	(1.7251)	(1.8065)	(1.9432)	(1.8846)	(2.0583)
CEO Power * Crisis	0.0427**	0.0336*	0.0479**	0.0350*	0.0361*	0.0241
	(2.0469)	(1.8440)	(2.2602)	(1.9300)	(1.7452)	(1.3807)
CEO Tenure * Crisis	-0.0016		-0.0022**		-0.0023**	
	(-1.4671)		(-2.0274)		(-1.9949)	
BOD Tenure * Crisis		-0.0008		-0.0021		-0.0014
		(-0.2411)		(-0.6376)		(-0.4393)
Constant	0.6695***	0.6921***	0.6487***	0.6892***	0.7180***	0.7272***
	(18.1147)	(16.7051)	(15.2947)	(14.9711)	(17.7636)	(16.2563)
Sample Size	1124	1124	1124	1124	1124	1124
F-Statistic	44.6106	43.1156	37.2421	35.8411	38.4655	36.6681
(P-Value)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
R-squared	0.2649	0.2583	0.2692	0.2617	0.2756	0.26618

Table 12
OLS Regressions on Capital Ratio Including Crisis Dummy

Table 12 shows OLS regressions of capital ratio on the log of board size and asset size and board characteristics when we include a dummy for the recent financial crisis. We do this to determine if there was a significant change in our results due to the financial crisis. The capital ratio is the ratio of total equity to total assets. CEO Power is a dummy variable that takes a value of 1 if the CEO is also Chairman of the Board of Directors. CEO tenure is the number of years the CEO has been on the board of directors. BOD Tenure is the average number of years the board members have been on the board of directors. The tenure of each director is calculated and then an average is taken of all of the directors. A board member is defined as an insider if he is an employee of the bank. Outsiders are classified as those board members that are not insiders, not formerly employed by the bank and not relatives of those that are currently employed by the bank. Columns vary by the regressors they include. Significance levels: (***) - 1% (**) - 5% (*) - 10%.

	Dependent Variable: Capital Ratio					
Independent Variable	I	II	III	IV	V	VI
Log Board Size	0.0058**	0.0057**	0.0058**	0.0057*	0.0037	0.0041
	(2.1180)	(1.9705)	(2.1091)	(1.9417)	(1.2966)	(1.3292)
Outsiders			-0.0063	-0.0092*		
			(-1.1387)	(-1.6670)		
Insiders					-0.0346***	-0.0280***
					(-3.4990)	(-2.8835)
Log Total Assets	-0.0002	-0.0002	-0.0001	-0.0001	-0.0003	-0.0004
	(-0.3257)	(-0.4571)	(-0.2004)	(-0.2601)	(-0.6818)	(-0.7576)
CEO Power	-0.0010***	-0.0091***	-0.0098***	-0.0090***	-0.0094***	-0.0084***
	(-7.2855)	(-6.8016)	(-7.1026)	(-6.7403)	(-6.9380)	(-6.3222)
CEO Tenure	0.0002		0.0001		0.0002**	
	(1.5887)		(1.3551)		(2.1580)	
BOD Tenure		0.0000		-0.0001		0.0000
		(-0.2538)		(-0.4333)		(-0.1831)
Crisis	-0.0351	-0.0375	-0.0681**	-0.0739**	-0.0275	-0.0276
	(-1.2937)	(-1.2627)	(-2.2132)	(-2.1853)	(-0.9072)	(-0.8408)
Log Board Size * Crisis	0.0098	0.0098	0.0133	0.0134	0.0094	0.0091
	(1.0461)	(1.0398)	(1.3805)	(1.3771)	(1.0266)	(0.9896)
Outsiders * Crisis			0.0385**	0.0415**		
			(2.0841)	(2.2186)		
Insiders * Crisis					-0.0370	-0.0433
					(-1.0301)	(-1.2134)
Log Total Assets * Crisis	0.0009	0.0011	0.0005	0.0005	0.0008	0.0008
	(0.7324)	(0.8507)	(0.3680)	(0.3894)	(0.5956)	(0.6312)
CEO Power * Crisis	0.0106**	0.0092**	0.0095**	0.0088**	0.0109**	0.0099**
	(2.3609)	(2.2382)	(2.1798)	(2.2028)	(2.3994)	(2.4126)
CEO Tenure * Crisis	-0.0003		-0.0001		-0.0002	
	(-0.9552)		(-0.4346)		(-0.8245)	
BOD Tenure * Crisis		-0.0002		0.0002		0.0000
		(-0.2297)		(0.2297)		(-0.1013)
Constant	0.0798***	0.0831***	0.0840***	0.0895***	0.0914***	0.0928***
	(6.3289)	(5.7516)	(6.9886)	(6.5843)	(6.8113)	(5.9399)
Sample Size	1124	1124	1124	1124	1124	1124
F-Statistic	8.0090	7.6703	7.0048	6.8439	7.7898	7.2829
(P-Value)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
R-squared	0.0608	0.0584	0.0648	0.0634	0.0715	0.0672

Table 13
OLS Regressions on Operational Risk Including Crisis Dummy

Table 13 shows OLS regressions of operational risk on the log of board size and asset size and board characteristics when we include a dummy for the recent financial crisis. We do this to determine if there was a significant change in our results due to the financial crisis. Operational risk is measured by the ratio of personal expenses to the number of employees. Personal expenses include all salaries and benefits paid to employees of the bank. CEO Power is a dummy variable that takes a value of 1 if the CEO is also Chairman of the Board of Directors. CEO tenure is the number of years the CEO has been on the board of directors. BOD Tenure is the average number of years the board members have been on the board of directors. The tenure of each director is calculated and then an average is taken of all of the directors. A board member is defined as an insider if he is an employee of the bank. Outsiders are classified as those board members that are not insiders, not formerly employed by the bank and not relatives of those that are currently employed by the bank. Columns vary by the regressors they include. Significance levels: (***) - 1% (**) - 5% (*) - 10%.

	Dependent Variable: Operational Risk					
Independent Variable	I	II	III	IV	V	VI
Log Board Size	-7.7385***	-8.1714***	-7.7032***	-7.9378***	-8.6757***	-9.2430***
	(-3.7652)	(-3.8270)	(-3.8632)	(-3.7725)	(-4.3418)	(-4.3590)
Outsiders			25.0213***	24.9613***		
			(4.7277)	(4.7867)		
Insiders					-15.4798	-18.0508*
					(-1.5944)	(-1.8805)
Log Total Assets	5.4778***	5.4821***	5.2466***	5.2339***	5.3996***	5.3820***
	(13.9206)	(13.9495)	(13.0956)	(13.0903)	(13.5203)	(13.4761)
CEO Power	-2.2166*	-2.6589**	-2.8415**	-2.8498**	-1.9551	-2.2038*
	(-1.7893)	(-2.3280)	(-2.2538)	(-2.4683)	(-1.5917)	(-1.9405)
CEO Tenure	-0.1217*		-0.0243		-0.0967	
	(-1.8485)		(-0.3791)		(-1.4918)	
BOD Tenure		-0.2845		-0.1559		-0.0272
		(-1.2688)		(-0.7287)		(-1.2252)
Crisis	-23.1929	-22.6242	-47.7160*	-45.9055*	-21.9948	-23.1120
	(-1.1055)	(-1.0654)	(-1.6840)	(-1.6948)	(-1.0440)	(-1.0619)
Log Board Size * Crisis	13.8154**	14.2671**	18.6799***	18.7895***	13.9284**	14.6297***
	(2.4377)	(2.5329)	(3.4837)	(3.5961)	(2.4572)	(2.6072)
Outsiders * Crisis			21.0831	18.7113		
			(1.4489)	(1.3891)		
Insiders * Crisis					-8.4031	-2.9425
					(-0.3461)	(-0.1226)
Log Total Assets * Crisis	0.0230	-0.0913	-0.3022	-0.4576	-0.0150	-0.1158
	(0.0163)	(-0.0667)	(-0.2233)	(-0.3449)	(-0.0106)	(-0.0842)
CEO Power * Crisis	-6.0971	-4.9697	-6.8191	-5.1881	-6.0885	-5.0103
	(-1.3976)	(-1.3271)	(-1.5969)	(-1.4201)	(-1.4071)	(-1.3481)
CEO Tenure * Crisis	0.1926		0.2521		0.1963	
	(1.0143)		(1.3046)		(1.0101)	
BOD Tenure * Crisis		0.1900		0.4279		0.2093
		(0.4051)		(0.9454)		(0.4517)
Constant	-8.3820	-5.8119	-25.1410***	-23.0676***	-3.1942	0.4705
	(-1.1545)	(-0.6808)	(-3.1973)	(-2.6064)	(-0.4164)	(0.0512)
Sample Size	1124	1124	1124	1124	1124	1124
F-Statistic	29.3999	29.2645	28.1321	28.0334	24.3845	24.3677
(P-Value)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
R-squared	0.1919	0.1912	0.2177	0.2171	0.1943	0.1942

Table 14
OLS Regressions on Beta M Including Crisis Dummy

Table 14 shows OLS regressions of beta m on the log of board size and asset size and board characteristics when we include a dummy for the recent financial crisis. We do this to determine if there was a significant change in our results due to the financial crisis. Using the two-index model from Chen et al. (2006) and Anderson and Fraser (2000), we estimate each year for each bank: $R_{it} = \alpha_i + \beta_{1i} R_{mt} + \beta_{2i} INTEREST_t + \varepsilon_{it}$ Where i and t denote bank i and time t respectively, R is the bank's equity return, R_m is the return on the S&P 500 market index; INTEREST is the yield on the three-month Treasury bill rate; α is the intercept term; ε is the residuals; β_{1i} is the systemic risk of bank i (this is what we call Beta M and use as the dependent variable in these models); while idiosyncratic risk is the standard deviation of the residuals for each year. CEO Power is a dummy variable that takes a value of 1 if the CEO is also Chairman of the Board of Directors. CEO tenure is the number of years the CEO has been on the board of directors. BOD Tenure is the average number of years the board members have been on the board of directors. The tenure of each director is calculated and then an average is taken of all of the directors. A board member is defined as an insider if he is an employee of the bank. Outsiders are classified as those board members that are not insiders, not formerly employed by the bank and not relatives of those that are currently employed by the bank. Columns vary by the regressors they include. Significance levels: (***) - 1% (**) - 5% (*) - 10%.

	Dependent Variable: Beta M					
Independent Variable	I	II	III	IV	V	VI
Log Board Size	-0.2348***	-0.2327***	-0.2344***	-0.2294***	-0.2803***	-0.2704***
	(-4.3841)	(-4.2833)	(-4.3693)	(-4.2093)	(-4.8801)	(-4.8533)
Outsiders			0.3152**	0.3516**		
			(2.0585)	(2.4197)		
Insiders					-0.5848*	-0.6361**
					(-1.9569)	(-2.1722)
Log Total Assets	0.0325***	0.0337***	0.0296**	0.0302**	0.0296**	0.0301**
	(2.7542)	(2.8395)	(2.4567)	(2.4947)	(2.4772)	(2.5133)
CEO Power	-0.0033	-0.0180	-0.0112	-0.0207	0.0065	-0.0020
	(-0.0927)	(-0.4978)	(-0.3094)	(-0.5732)	(0.1830)	(-0.0555)
CEO Tenure	-0.0024		-0.0012		-0.0015	
	(-1.2396)		(-0.5795)		(-0.7477)	
BOD Tenure		0.0016		0.0034		0.0020
		(0.2825)		(0.6093)		(0.3658)
Crisis	-0.5340	-0.4324	-0.2241	-0.1062	-0.7795	-0.6779
	(-0.8881)	(-0.6661)	(-0.3482)	(-0.1517)	(-1.1958)	(-0.9744)
Log Board Size * Crisis	0.0163	0.0094	0.0041	-0.0037	0.0581	0.0501
	(0.0971)	(0.0557)	(0.0249)	(-0.0220)	(0.3304)	(0.2853)
Outsiders * Crisis			-0.4255	-0.4412		
			(-1.1816)	(-1.2404)		
Insiders * Crisis					0.7700	0.7236
					(1.1838)	(1.1419)
Log Total Assets * Crisis	0.0705**	0.0735**	0.0748**	0.0783**	0.0744**	0.0776**
	(2.1710)	(2.2650)	(2.2784)	(2.3855)	(2.2900)	(2.3904)
CEO Power * Crisis	0.0802	0.0561	0.0912	0.0596	0.0682	0.0384
	(0.8829)	(0.6524)	(0.9928)	(0.6914)	(0.7474)	(0.4399)
CEO Tenure * Crisis	-0.0040		-0.0056		-0.0051	
	(-0.8126)		(-1.0863)		(-1.0281)	
BOD Tenure * Crisis		-0.0159		-0.0185		-0.0165
		(-1.1705)		(-1.3148)		(-1.2106)
Constant	1.0921***	1.0320***	0.8810***	0.7890***	1.2881***	1.2534***
	(5.2878)	(4.5235)	(3.9491)	(3.2396)	(5.6136)	(5.0583)
Sample Size	1124	1124	1124	1124	1124	1124
F-Statistic	33.6202	33.3550	27.9990	27.9502	27.9612	27.8582
(P-Value)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
R-squared	0.2136	0.2123	0.2169	0.2166	0.2167	0.2160

Table 15
OLS Regressions on Idiosyncratic Risk Including Crisis Dummy

Table 15 shows OLS regressions of idiosyncratic risk on the log of board size and asset size and board characteristics when we include a dummy for the recent financial crisis. We do this to determine if there was a significant change in our results due to the financial crisis. Using the two-index model from Chen et al. (2006) and Anderson and Fraser (2000), we estimate each year for each bank: $R_{it} = \alpha_i + \beta_{1i} R_{mt} + \beta_{2i} INTEREST_t + \varepsilon_{it}$ Where i and t denote bank i and time t respectively, R is the bank's equity return, R_m is the return on the S&P 500 market index; INTEREST is the yield on the three-month Treasury bill rate; α is the intercept term; ε is the residuals; β_{1i} is the systemic risk of bank i (this is what we call Beta M and use as the dependent variable in these models); while idiosyncratic risk is the standard deviation of the residuals for each year. CEO Power is a dummy variable that takes a value of 1 if the CEO is also Chairman of the Board of Directors. CEO tenure is the number of years the CEO has been on the board of directors. BOD Tenure is the average number of years the board members have been on the board of directors. The tenure of each director is calculated and then an average is taken of all of the directors. A board member is defined as an insider if he is an employee of the bank. Outsiders are classified as those board members that are not insiders, not formerly employed by the bank and not relatives of those that are currently employed by the bank. Columns vary by the regressors they include. Significance levels: (***) - 1% (**) - 5% (*) - 10%.

	Dependent Variable: Idiosyncratic Risk					
Independent Variable	I	II	III	IV	V	VI
Log Board Size	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	(-0.5752)	(-0.8892)	(-0.6036)	(-0.9879)	(1.5233)	(1.0261)
Outsiders			-0.0004***	-0.0004***		
			(-3.3608)	(-3.4440)		
Insiders					0.0013***	0.0012***
					(5.0942)	(4.9199)
Log Total Assets	0.0000***	0.0000***	0.0000***	0.0000***	0.0000***	0.0000***
	(-6.2710)	(-6.4138)	(-5.7351)	(-5.8320)	(-5.3464)	(-5.4130)
CEO Power	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000*
	(-0.5417)	(-0.4671)	(-0.1217)	(-0.3412)	(-1.5585)	(-1.8896)
CEO Tenure	0.0000		0.0000**		0.0000***	
	(-0.8346)		(-2.0091)		(-2.7762)	
BOD Tenure		0.0000**		0.0000***		0.0000
		(-2.2370)		(-2.7579)		(-2.5630)
Crisis	0.0017	0.0021	0.0034	0.0041	0.0014	0.0017
	(0.8550)	(0.9524)	(1.2939)	(1.4294)	(0.6522)	(0.7250)
Log Board Size * Crisis	-0.0018***	-0.0018**	-0.0020***	-0.0020***	-0.0017***	-0.0017***
	(-2.6019)	(-2.5584)	(-2.7282)	(-2.7267)	(-2.7682)	(-2.7219)
Outsiders * Crisis			-0.0018	-0.0020		
			(-1.0659)	(-1.2096)		
Insiders * Crisis					0.0014	0.0017
					(0.3945)	(0.4603)
Log Total Assets * Crisis	0.0003**	0.0002**	0.0003***	0.0003***	0.0003**	0.0003**
	(2.5645)	(2.4697)	(2.6471)	(2.6179)	(2.4989)	(2.4239)
CEO Power * Crisis	0.0002	0.0003	0.0003	0.0003	0.0002	0.0003
	(0.7364)	(0.9524)	(0.9145)	(1.0265)	(0.6974)	(0.8484)
CEO Tenure * Crisis	0.0000		0.0000		0.0000	
	(0.1996)		(-0.1372)		(0.1279)	
BOD Tenure * Crisis		0.0000		0.0000		0.0000
		(-0.4156)		(-0.7983)		(-0.4940)
Constant	0.0012***	0.0013***	0.0014***	0.0015***	0.0008***	0.0009***
	(10.4018)	(10.6861)	(9.8769)	(10.3181)	(6.1487)	(6.4235)
Sample Size	1124	1124	1124	1124	1124	1124
F-Statistic	76.5461	77.0900	65.2751	66.3538	64.8517	65.3544
(P-Value)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
R-squared	0.3821	0.3838	0.3924	0.3963	0.3908	0.3926

Table 16
OLS Regressions on Standard Deviation Including Crisis Dummy

Table 16 shows OLS regressions of standard deviation on the log of board size and asset size and board characteristics when we include a dummy for the recent financial crisis. We do this to determine if there was a significant change in our results due to the financial crisis. Standard deviation is the standard deviation of the banks' daily stock returns. CEO Power is a dummy variable that takes a value of 1 if the CEO is also Chairman of the Board of Directors. CEO tenure is the number of years the CEO has been on the board of directors. BOD Tenure is the average number of years the board members have been on the board of directors. The tenure of each director is calculated and then an average is taken of all of the directors. A board member is defined as an insider if he is an employee of the bank. Outsiders are classified as those board members that are not insiders, not formerly employed by the bank and not relatives of those that are currently employed by the bank. Columns vary by the regressors they include. Significance levels: (***) - 1% (**) - 5% (*) - 10%.

	Dependent Variable: Standard Deviation					
Independent Variable	I	II	III	IV	V	VI
Log Board Size	-0.0009	-0.0011	-0.0009	-0.0012	0.0008	0.0004
	(-1.1058)	(-1.4233)	(-1.1436)	(-1.5180)	(1.1337)	(0.5909)
Outsiders			-0.0065***	-0.0062***		
			(-3.0047)	(-2.9823)		
Insiders					0.0283***	0.0264***
					(6.1969)	(5.9194)
Log Total Assets	-0.0012***	-0.0012***	-0.0011***	-0.0011***	-0.0010***	-0.0011***
	(-6.8501)	(-6.9658)	(-6.4008)	(-6.4922)	(-5.9487)	(-6.0135)
CEO Power	-0.0003	-0.0003	-0.0002	-0.0003	-0.0008	-0.0010**
	(-0.6372)	(-0.6796)	(-0.2991)	(-0.5780)	(-1.6171)	(-2.0468)
CEO Tenure	0.0000		0.0000**		0.0000***	
	(-1.0735)		(-1.9711)		(-2.8842)	
BOD Tenure		-0.0002**		-0.0002***		-0.0002***
		(-2.2921)		(-2.7357)		(-2.6474)
Crisis	0.0013	0.0044	0.0123	0.0183	0.0049	0.0073
	(0.0676)	(0.2070)	(0.5166)	(0.7015)	(0.2268)	(0.3178)
Log Board Size * Crisis	-0.0155**	-0.0153**	-0.0173***	-0.0174***	-0.0164***	-0.0161***
	(-2.5003)	(-2.4443)	(-2.7041)	(-2.6758)	(-2.6800)	(-2.6149)
Outsiders * Crisis			-0.0106	-0.0134		
			(-0.7503)	(-0.9286)		
Insiders * Crisis					-0.0061	-0.0035
					(-0.2193)	(-0.1296)
Log Total Assets * Crisis	0.0043***	0.0042***	0.0044***	0.0044***	0.0042***	0.0042***
	(4.1000)	(4.0626)	(4.1594)	(4.1912)	(3.9944)	(3.9789)
CEO Power * Crisis	0.0027	0.0028	0.0031	0.0029	0.0030	0.0030
	(0.8311)	(0.9343)	(0.9469)	(0.9867)	(0.8865)	(0.9812)
CEO Tenure * Crisis	0.0000		0.0000		0.0000	
	(-0.1126)		(-0.2880)		(-0.0091)	
BOD Tenure * Crisis		-0.0003		-0.0004		-0.0003
		(-0.5978)		(-0.8367)		(-0.6288)
Constant	0.0407***	0.0429***	0.0451***	0.0472***	0.0312***	0.0337***
	(14.7937)	(14.7082)	(14.0656)	(14.1167)	(10.2780)	(10.4351)
Sample Size	1124	1124	1124	1124	1124	1124
F-Statistic	212.3694	214.2854	176.4973	178.5610	181.7410	182.7847
(P-Value)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
R-squared	0.6318	0.6339	0.6358	0.6385	0.6426	0.6439

Appendix - Table 1
OLS Regressions on Credit Risk

Table 1 shows OLS regressions of credit risk on the log of board size and asset size and board characteristics. We proxy credit risk by calculating the noncurrent loan ratio, which is the ratio of noncurrent loans to total loans and leases. Noncurrent loans is the sum of loans that are more than 90 days past due and those that are not accruing interest. CEO Power is a dummy variable that takes a value of 1 if the CEO is also Chairman of the Board of Directors. CEO tenure is the number of years the CEO has been on the board of directors. BOD Tenure is the average number of years the board members have been on the board of directors. The tenure of each director is calculated and then an average is taken of all of the directors. A board member is defined as an insider if he is an employee of the bank. Outsiders are classified as those board members that are not insiders, not formerly employed by the bank and not relatives of those that are currently employed by the bank. Columns vary by the regressors they include. Significance levels: (***) - 1% (**) - 5% (*) - 10%.

	Dependent Variable: Credit Risk					
Independent Variable	I	II	III	IV	V	VI
Log Board Size	-0.0125***	-0.0125***	-0.0126***	-0.0127***	-0.0120***	-0.0119***
	(-3.4269)	(-3.8117)	(-3.3970)	(-3.7107)	(-3.0695)	(-3.6923)
Outsiders			-0.0073	-0.0075		
			(-1.0255)	(-0.8757)		
Insiders					0.0093	0.0098
					(0.5617)	(0.6670)
Log Total Assets	0.0019***	0.0019***	0.0020***	0.0019***	0.0019***	0.0019***
	(3.3703)	(3.5690)	(3.2649)	(3.3342)	(3.5119)	(3.5915)
CEO Power	-0.0008	-0.0001	-0.0001	-0.0005	-0.0009	-0.0008
	(-0.2936)	(-0.3090)	(-0.2286)	(-0.2834)	(-0.3672)	(-0.4547)
CEO Tenure	0.0000		0.0000		0.0000	
	(0.1621)		(0.0216)		(0.0841)	
BOD Tenure		0.0000		0.0000		0.0000
		(-0.0130)		(-0.1417)		(-0.0344)
Constant	0.0149**	0.0155**	0.0200**	0.0209**	0.0119	0.0122
	(2.3709)	(2.1852)	(2.3223)	(2.3089)	(1.4919)	(1.5058)
Sample Size	1123	1123	1123	1123	1123	1123
F-Statistic	8.6003	8.5624	7.1575	7.1660	6.9982	6.9902
(P-Value)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
R-squared	0.0299	0.0297	0.0310	0.0311	0.0303	0.0303

Appendix - Table 2
OLS Regressions on Liquidity Risk

Table 2 shows OLS regressions of liquidity risk on the log of board size and asset size and board characteristics. Liquidity risk is measured as the ratio of core deposits to total assets. CEO Power is a dummy variable that takes a value of 1 if the CEO is also Chairman of the Board of Directors. CEO tenure is the number of years the CEO has been on the board of directors. BOD Tenure is the average number of years the board members have been on the board of directors. The tenure of each director is calculated and then an average is taken of all of the directors. A board member is defined as an insider if he is an employee of the bank. Outsiders are classified as those board members that are not insiders, not formerly employed by the bank and not relatives of those that are currently employed by the bank. Columns vary by the regressors they include. Significance levels: (***) - 1% (**) - 5% (*) - 10%.

	Dependent Variable: Liquidity Risk					
Independent Variable	I	II	III	IV	V	VI
Log Board Size	0.0444***	0.0440***	0.0447***	0.0439***	0.0396***	0.0411***
	(4.3332)	(4.1902)	(4.3183)	(4.1208)	(4.0302)	(4.0813)
Outsiders			0.0149	-0.0061		
			(0.5406)	(-0.2254)		
Insiders					-0.0843	-0.0517
					(-1.3614)	(-0.8515)
Log Total Assets	-0.03699***	-0.0375***	-0.0371***	-0.0375***	-0.0374***	-0.0378***
	(-19.9839)	(-20.3828)	(-19.7115)	(-19.8167)	(-19.5780)	(-19.7882)
CEO Power	-0.0139**	-0.0082	-0.0143**	-0.0081	-0.0125**	-0.0069
	(-2.2416)	(-1.4081)	(-2.2512)	(-1.3926)	(-2.0508)	(-1.2098)
CEO Tenure	0.0009***		0.0001***		0.0010***	
	(2.6529)		(2.7196)		(3.0112)	
BOD Tenure		-0.0004		-0.0004		-0.0004
		(-0.4443)		(-0.4770)		(-0.3995)
Constant	0.6754***	0.6969***	0.6651***	0.7012***	0.7031***	0.7145***
	(19.1296)	(17.6419)	(15.8996)	(15.4699)	(18.1057)	(16.7722)
Sample Size	1124	1124	1124	1124	1124	1124
F-Statistic	92.0990	89.7624	73.7080	71.7623	74.4338	72.0645
(P-Value)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
R-squared	0.2477	0.2429	0.2479	0.2430	0.2497	0.2437

Appendix - Table 3
OLS Regressions on Capital Ratio

Table 3 shows OLS regressions of capital ratio on the log of board size and asset size and board characteristics. The capital ratio is the ratio of total equity to total assets. CEO Power is a dummy variable that takes a value of 1 if the CEO is also Chairman of the Board of Directors. CEO tenure is the number of years the CEO has been on the board of directors. BOD Tenure is the average number of years the board members have been on the board of directors. The tenure of each director is calculated and then an average is taken of all of the directors. A board member is defined as an insider if he is an employee of the bank. Outsiders are classified as those board members that are not insiders, not formerly employed by the bank and not relatives of those that are currently employed by the bank. Columns vary by the regressors they include. Significance levels: (***) - 1% (**) - 5% (*) - 10%.

	Dependent Variable: Capital Ratio					
Independent Variable	I	II	III	IV	V	VI
Log Board Size	0.0060**	0.0060**	0.0060**	0.0059**	0.0036	0.0040
	(2.2756)	(2.1827)	(2.2803)	(2.1716)	(1.3147)	(1.3847)
Outsiders			-0.0004	-0.0027		
			(-0.0792)	(-0.5140)		
Insiders					-0.0415***	-0.0361***
					(-4.1965)	(-3.7250)
Log Total Assets	0.0002	0.0001	0.0002	0.0002	0.0001	-0.0006
	(0.4271)	(0.3021)	(0.4230)	(0.3522)	(-0.0288)	(-0.1476)
CEO Power	-0.0086***	-0.0079***	-0.0086***	-0.0079***	-0.0079***	-0.0070***
	(-6.4573)	(-6.1880)	(-6.4951)	(-6.1663)	(-5.9945)	(-5.4915)
CEO Tenure	0.0001		0.0001		0.0002*	
	(1.2574)		(1.2518)		(1.9609)	
BOD Tenure		0.0000		0.0000		0.0001
		(-0.0421)		(-0.1042)		(0.0729)
Constant	0.0746***	0.0766***	0.0749***	0.0786***	0.0882***	0.0889***
	(6.4817)	(5.8960)	(6.7001)	(6.3090)	(7.1677)	(6.3208)
Sample Size	1124	1124	1124	1124	1124	1124
F-Statistic	9.6608	9.1823	7.7227	7.3821	10.3009	9.3760
(P-Value)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
R-squared	0.0334	0.0318	0.0334	0.0320	0.0440	0.0402

Appendix - Table 4
OLS Regressions on Operational Risk

Table 4 shows OLS regressions of operational risk on the log of board size and asset size and board characteristics. Operational risk is measured by the ratio of personal expenses to the number of employees. Personal expenses include all salaries and benefits paid to employees of the bank. CEO Power is a dummy variable that takes a value of 1 if the CEO is also Chairman of the Board of Directors. CEO tenure is the number of years the CEO has been on the board of directors. BOD Tenure is the average number of years the board members have been on the board of directors. The tenure of each director is calculated and then an average is taken of all of the directors. A board member is defined as an insider if he is an employee of the bank. Outsiders are classified as those board members that are not insiders, not formerly employed by the bank and not relatives of those that are currently employed by the bank. Columns vary by the regressors they include. Significance levels: (***) - 1% (**) - 5% (*) - 10%.

	Dependent Variable: Operational Risk					
Independent Variable	I	II	III	IV	V	VI
Log Board Size	-7.2592***	-7.4852***	-6.9103***	-6.8925***	-8.3327***	-8.6550***
	(-3.7622)	(-3.7527)	(-3.6949)	(-3.5125)	(-4.4060)	(-4.3664)
Outsiders			28.4075***	28.4492***		
			(5.6313)	(5.7691)		
Insiders					-18.6433**	-20.8130**
					(-2.0426)	(-2.3084)
Log Total Assets	5.7205***	5.7545***	5.4455***	5.4466***	5.6261***	5.6350***
	(14.0306)	(14.1874)	(13.3329)	(13.3958)	(13.6910)	(13.7596)
CEO Power	-3.2291**	-3.7530***	-3.9537***	-3.9618***	-2.9299**	-3.2407***
	(-2.5512)	(-3.1959)	(-3.0820)	(-3.3693)	(-2.3365)	(-2.7815)
CEO Tenure	-0.1083*		0.0004		-0.0794	
	(-1.7488)		(0.0059)		(-1.2895)	
BOD Tenure		-0.1484		0.01222		-0.1315
		(-0.7339)		(0.0632)		(-0.6587)
Constant	-11.4397	-10.9630	-31.0856***	-31.2924***	-5.3242	-3.8613
	(-1.6190)	(-1.3628)	(-3.9072)	(-3.5976)	(-0.7208)	(-0.4512)
Sample Size	1124	1124	1124	1124	1124	1124
F-Statistic	48.1112	47.5163	46.4276	46.4287	39.3591	39.1579
(P-Value)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
R-squared	0.1467	0.1452	0.1719	0.1719	0.1497	0.1490

Appendix - Table 5
OLS Regressions on Beta M

Table 5 shows OLS regressions of Beta M on the log of board size and asset size and board characteristics. Using the two-index model from Chen et al. (2006) and Anderson and Fraser (2000), we estimate each year for each bank: $R_{it} = \alpha_i + \beta_{1i} R_{mt} + \beta_{2i} INTEREST_t + \varepsilon_{it}$ Where i and t denote bank i and time t respectively, R is the bank's equity return, R_m is the return on the S&P 500 market index; INTEREST is the yield on the three-month Treasury bill rate; α is the intercept term; ε is the residuals; β_{1i} is the systemic risk of bank i (this is what we call Beta M and use as the dependent variable in these models); while idiosyncratic risk is the standard deviation of the residuals for each year. CEO Power is a dummy variable that takes a value of 1 if the CEO is also Chairman of the Board of Directors. CEO tenure is the number of years the CEO has been on the board of directors. BOD Tenure is the average number of years the board members have been on the board of directors. The tenure of each director is calculated and then an average is taken of all of the directors. A board member is defined as an insider if he is an employee of the bank. Outsiders are classified as those board members that are not insiders, not formerly employed by the bank and not relatives of those that are currently employed by the bank. Columns vary by the regressors they include. Significance levels: (***) - 1% (**) - 5% (*) - 10%.

	Dependent Variable: Beta M					
Independent Variable	I	II	III	IV	V	VI
Log Board Size	-0.2865***	-0.2809***	-0.2822***	-0.2721***	-0.3237***	-0.3227***
	(-5.2644)	(-5.0739)	(-5.1890)	(-4.9106)	(-5.7131)	(-5.6389)
Outsiders			0.3468**	0.4222***		
			(2.2973)	(2.9599)		
Insiders					-0.6469**	-0.7425**
					(-2.1900)	(-2.578)
Log Total Assets	0.0571***	0.0596***	0.0537***	0.0551***	0.0538***	0.0554***
	(4.2584)	(4.4351)	(3.9864)	(4.0811)	(4.0248)	(4.1345)
CEO Power	-0.0035	-0.0294	-0.0123	-0.0325	0.0069	-0.0111
	(-0.0967)	(-0.8133)	(-0.3392)	(-0.9033)	(0.1917)	(-0.3094)
CEO Tenure	-0.0037*		-0.0024		-0.0027	
	(-1.9022)		(-1.1619)		(-1.3628)	
BOD Tenure		0.0043		0.0067		0.0049
		(0.7625)		(1.1824)		(0.8710)
Constant	0.9447***	0.8168***	0.7048***	0.5151**	1.1569***	1.0702***
	(4.2865)	(3.3996)	(2.8970)	(1.9749)	(4.8959)	(4.2138)
Sample Size	1124	1124	1124	1124	1124	1124
F-Statistic	10.3173	9.5727	9.3537	9.3839	9.2880	9.0850
(P-Value)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
R-squared	0.0356	0.0331	0.0402	0.0403	0.0399	0.0390

Appendix - Table 6
OLS Regressions on Idiosyncratic Risk

Table 6 shows OLS regressions of Beta M on the log of board size and asset size and board characteristics. Using the two-index model from Chen et al. (2006) and Anderson and Fraser (2000), we estimate each year for each bank: $R_{it} = \alpha_i + \beta_{1i} R_{mt} + \beta_{2i} INTEREST_t + \varepsilon_{it}$ Where i and t denote bank i and time t respectively, R is the bank's equity return, R_m is the return on the S&P 500 market index; INTEREST is the yield on the three-month Treasury bill rate; α is the intercept term; ε is the residuals; β_{1i} is the systemic risk of bank i (this is what we call Beta M and use as the dependent variable in these models); while idiosyncratic risk is the standard deviation of the residuals for each year. CEO Power is a dummy variable that takes a value of 1 if the CEO is also Chairman of the Board of Directors. CEO tenure is the number of years the CEO has been on the board of directors. BOD Tenure is the average number of years the board members have been on the board of directors. The tenure of each director is calculated and then an average is taken of all of the directors. A board member is defined as an insider if he is an employee of the bank. Outsiders are classified as those board members that are not insiders, not formerly employed by the bank and not relatives of those that are currently employed by the bank. Columns vary by the regressors they include. Significance levels: (***) - 1% (**) - 5% (*) - 10%.

	Dependent Variable: Idiosyncratic Risk					
Independent Variable	I	II	III	IV	V	VI
Log Board Size	-0.0003***	-0.0003***	-0.0003***	-0.0003***	-0.0003***	-0.0003***
	(-3.1773)	(-3.1511)	(-3.1848)	(-3.1461)	(-2.7266)	(-2.9705)
Outsiders			-0.0003	-0.0002		
			(-0.8317)	(-0.6851)		
Insiders					0.0009	0.0000
					(1.2716)	(-0.0911)
Log Total Assets	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	(0.7459)	(0.7826)	(0.8406)	(0.8646)	(0.9224)	(0.7740)
CEO Power	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	(0.0116)	(-0.1667)	(0.1168)	(-0.1422)	(-0.2196)	(-0.1840)
CEO Tenure	0.0000		0.0000		0.0000	
	(-0.5208)		(-0.7828)		(-0.8788)	
BOD Tenure		0.0000		0.0000		0.0000
		(-0.0268)		(-0.1425)		(-0.0136)
Constant	0.0011***	0.0011***	0.0013***	0.0012***	0.0008**	0.0011***
	(3.3275)	(2.8324)	(3.1519)	(2.7410)	(2.0290)	(2.8170)
Sample Size	1124	1124	1124	1124	1124	1124
F-Statistic	2.9047	2.8256	2.5318	2.4005	3.0272	2.2602
(P-Value)	(0.0209)	(0.0238)	(0.0274)	(0.0354)	(0.0101)	(0.0465)
R-squared	0.0103	0.0100	0.0112	0.0106	0.0134	0.0100

Appendix - Table 7
OLS Regressions on Standard Deviation

Table 7 shows OLS regressions of standard deviation on the log of board size and asset size and board characteristics. Standard deviation is the standard deviation of the banks' daily stock returns. CEO Power is a dummy variable that takes a value of 1 if the CEO is also Chairman of the Board of Directors. CEO tenure is the number of years the CEO has been on the board of directors. BOD Tenure is the average number of years the board members have been on the board of directors. The tenure of each director is calculated and then an average is taken of all of the directors. A board member is defined as an insider if he is an employee of the bank. Outsiders are classified as those board members that are not insiders, not formerly employed by the bank and not relatives of those that are currently employed by the bank. Columns vary by the regressors they include. Significance levels: (***) - 1% (**) - 5% (*) - 10%.

	Dependent Variable: Standard Deviation					
Independent Variable	I	II	III	IV	V	VI
Log Board Size	-0.0050***	-0.0049***	-0.0050***	-0.0049***	-0.0040***	-0.0041***
	(-3.5771)	(-3.4439)	(-3.5910)	(-3.4439)	(-2.7414)	(-2.7869)
Outsiders		-0.0005	-0.0021	-0.0005		
		(-0.1286)	(-0.5024)	(-0.1259)		
Insiders					0.0175**	0.0146*
					(2.0092)	(1.7217)
Log Total Assets	0.0001	0.0001	0.0001	0.0001	0.0002	0.0002
	(0.2577)	(0.3704)	(0.3102)	(0.3704)	(0.4816)	(0.5658)
CEO Power	-0.0004	-0.0009	-0.0004	-0.0009	-0.0007	-0.0012
	(-0.4544)	(-0.8990)	(-0.3978)	(-0.8990)	(-0.7345)	(-1.2539)
CEO Tenure	-0.0006		-0.0007		-0.0009	
	(-1.1643)		(-1.2722)		(-1.5969)	
BOD Tenure		0.0003		0.0004		0.0003
		(0.2150)		(0.2150)		(0.1602)
Constant	0.0361***	0.0348***	0.0375***	0.0348***	0.0303***	0.0294***
	(6.3613)	(4.8642)	(5.6941)	(4.8642)	(4.8762)	(4.3174)
Sample Size	1124	1124	1124	1124	1124	1124
F-Statistic	3.5932	2.5944	2.9271	2.5944	3.8859	3.3267
(P-Value)	(0.0064)	(0.0242)	(0.0124)	(0.0242)	(0.0017)	(0.0055)
R-squared	0.0127	0.0115	0.0129	0.0115	0.0171	0.0147

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Vita

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