

Discussion Paper

Corporate Governance, Bank Mergers and Executive Compensation

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Abstract

Using a sample of US bank mergers from 1995 to 2012, we observe that the pre-post merger changes in CEO bonus are significantly negatively related to the strength of corporate governance within the bidding bank. This suggests that bonus compensation is not consistent with the “optimal contracting hypothesis”. Salary changes, on the other hand, are not affected by corporate governance but are positively correlated with pre-post merger changes in the M/B ratio of the bidding banks, in line with “optimal contracting”. We also find that good governance is associated with more accretive deals for the bidder. Overall, our results are consistent with the notion that, unlike salary and long-term compensation, bonus compensation is not aligned with value creation and is more vulnerable to CEO manipulation in banks with poor corporate governance.

Keywords

corporate governance, bank mergers, executive compensation, bonus

JEL Classifications

G21, G28, G34

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1 Introduction

The level of CEO compensation and its relationship with performance have been controversial topics following the recent financial crisis. Views diverge on the efficacy of compensation contracts in maximizing firm value and containing risk taking. Compensation in the financial industry, especially the large bonus packages paid to CEOs of underperforming banks, has attracted mounting criticism. Since the beginning of 2014, the European Union has placed a cap on bankers' bonuses as a reaction to public outrage.¹ CEO compensation that engenders excessive risk taking and weak corporate governance more generally - has been cited as an important cause of the financial crisis by the OECD (Kirkpatrick 2009). Against this backdrop it is surprising that little academic research has looked at the link between CEO compensation and corporate governance in the banking industry. In this paper, we provide evidence of the effects of corporate governance on CEO compensation in the context of bank mergers. Mergers provide a suitable laboratory to study CEO compensation as they are often accompanied by significant changes in firm valuation, performance and risk. The academic literature has found evidence of significantly higher levels of CEO compensation after M&A deals.² In this study, we focus on the "optimal contracting hypothesis" in which CEO interests are assumed to be aligned with those of shareholders (see, for example, Core et al., 1999). Optimal contracting leads to CEO compensation that is positively and significantly related to firm value, and unrelated to the strength of corporate governance within the firm. This is because optimal contracting resolves the agency problem between CEO and shareholders and hence makes the heightened monitoring effected by good governance irrelevant.

Our work contributes to the literature in the following ways. First, as far as we are aware, this is the first paper that examines how corporate governance affects CEO compensation around bank mergers. While previous studies have looked at industry diversified samples (e.g. Grinstein and Hribar, 2004 and Harford and Li, 2007), we concentrate on banks because of the distortions that compensation policies can produce on bank behaviour and the resulting impact on financial stability. Indeed, bank regulators have agreed international compensation rules to constrain short termism and risk taking in banks following the 2007-2009 subprime crisis.³ Second, we

¹ The cap is 200% of salary. See Jill Treanor, *European banks to get new guidelines on bonus cap and 'allowances'*, 13 June 2014, The Guardian.

² See, for example, Bliss and Rosen (2001) and Anderson et al. (2004).

³ In 2009, the Financial Stability Board (FSB) introduced principles of sound compensation practices that are "aligned with long-term value creation and prudent risk-taking". The principles further state that "[f]or senior executives as well as other employees whose actions have a material impact on the risk exposure of the firm: (1) a substantial proportion of compensation should be variable ... (2) a substantial portion of variable compensation, such as 40 to 60 percent, should be payable under deferral

show that the optimal contracting hypothesis can be accepted or rejected depending on the components of CEO compensation it is tested on, namely, salary, bonus or long term compensation. We find that while salary satisfies optimal contracting, the bonus component is significantly reduced by the strength of corporate governance which provides evidence against the null. This suggests that bonus compensation is not necessarily related to firm value creation. On the other hand, changes in long term compensation around mergers have a distinct behaviour that differs from that of salary and bonus. Indeed, long term rewards do not appear to be explained in any meaningful way by governance or performance variables. Third, we introduce a new index (CGI) to measure the strength of corporate governance. The index is purpose-built with hand collected data from company filings and considers 11 key drivers of good governance including board composition, CEO power, antitakeover measures, ownership concentration and legal environment.⁴ Fourth, we provide evidence that the risk dimension is a crucial determinant of CEO compensation. Both changes in salary and bonus are negatively related to the risk taken by the bidding bank's CEO, measured as the bidder's stock price volatility around a merger. Moreover, when looking at banks that sought government support during the recent subprime crisis, we find that boards penalise higher risk taking by reducing CEO salary. However, though bonus changes were lower in banks that required government funding, banks' risk taking does not appear to have influenced bonus compensation.

In line with previous literature (Masulis et al. 2007; Hagendorff et al. 2007, 2010), we also find that corporate governance is an important value driver for bidder abnormal returns, after controlling for other firm and deal related characteristics. For example, our governance index alone can explain up to 6.8% of the variations in bidders' abnormal return around merger announcements. This suggests that good governance may lead to higher shareholder value.

arrangements over a period of years; (3) these proportions should increase significantly along with the level of seniority and/or responsibility. Further, "Subdued or negative financial performance of the firm should generally lead to a considerable contraction of the firm's total variable compensation, taking into account both current compensation and reductions in payouts of amounts previously earned, including through malus or clawback arrangements." The implementation of these principles has been undertaken by the Basel Committee on Banking Supervision (see BCBS (2010)), the International Association of Insurance Supervisors (IAIS) and the International Organization of Securities Commissions (IOSCO). Similar principles have been embedded in the Dodd-Frank Act that was signed into law in the United States in 2010.

⁴ Our approach is consistent with Jensen and Meckling (1976) and Shleifer and Vishny (1997), who see corporate governance as a way to mitigate agency problems which arise from the separation of ownership and control. We are aware of an even broader perspective of corporate governance which involves a greater spectrum of stakeholders, such as depositors, employees, suppliers, society as a whole, etc. However, for the purpose of this study, we focus on corporate governance as a means to solve the agency problems between shareholders and managers.

This paper proceeds as follows. In Section 2 we review relevant literature. We describe our data and the composition of the corporate governance index in Sections 3 and 4. In Section 5 we describe our regression model. Sections 6 and 7 summarise our main findings and robustness tests. Section 8 concludes the paper.

2 Literature review

Our research is related to a strand of the literature that examines the effects of corporate governance on CEO compensation. Hallock (1997) find that interlocking directorships significantly increase CEO compensation. Borokhovich et al (1997) look at the effect of antitakeover charter amendments (ATAs) on the level of CEO compensation, and find that ATA adopting firms pay their CEOs significantly higher levels of compensation after controlling for other board and CEO characteristics and economic factors. Core et al. (1999) find that companies with weaker monitoring from the board of directors and a lack of shareholder control generally pay higher CEO compensation. Cyert et al (2002) also find that internal governance mechanisms such as ownership by the board and the largest blockholder provide an effective control on CEO compensation, especially on equity-based compensation. Bebchuk and Fried (2005) measure CEO power within the firm and conclude that the more powerful the CEO, the higher, and less sensitive to performance, the compensation level. Focusing on pay-performance sensitivity, Bertrand and Mullainathan (2001) provide evidence supporting the “skimming model”, which contradicts the “optimal contracting hypothesis”. The authors find that CEOs are paid for luck, though this effect is reduced with strong corporate governance. Focusing on the banking industry, Sierra et al. (2006) observe that a strong board is associated with lower levels of compensation and slower increase in compensation. Also studying the banking industry but only focusing on privately held commercial banks, Cooper (2009) finds that board independence reduces both executive and director compensation. Moreover, directors receive higher pay in banks with better CAMELS (Capital, Asset, Management, Earnings, Liquidity, and Sensitivity) ratings.

Our study is also related to research studying CEO compensation and mergers. Grinstein and Hribar (2004) find that the M&A related bonus paid to the CEO of the bidding firm is not affected by deal performance or bidding firm’s return on assets. However, measures of effort and CEO power are both significantly associated with a higher merger related bonus. Harford and Li (2007) find evidence that M&As insulate pay-performance sensitivity. While CEOs gain after value-increasing deals, they do not lose after value-destroying deals. However, pay-performance sensitivity when performance is poor is improved with strong governance. Yim (2013) finds

significant increases in all major components of compensation following a merger. Also, while bonus increases subside 2 years after the acquisition, the increase in salary and equity based pay is more resilient. Therefore, the author predicts that younger CEOs are more likely to undertake acquisitions to reap long term compensation gains, and finds evidence that an increase in age of 20 years is associated with a 32% reduction in the probability that the CEO will undertake an acquisition. In the banking industry, Bliss and Rosen (2001) look at the largest bank holding companies in the US and find that CEO compensation increases significantly even for merger deals with negative stock price reactions. The authors conclude that the private benefit of increased compensation may motivate CEOs to engage in bank mergers. Anderson et al (2004) also find significant increases in cash and total compensation paid to acquiring firm CEOs. However, they ascribe the increase in compensation to combined value changes of the bidder and target banks. They argue that combined value changes of bidder and target indicate expected synergies from the merger, which need managerial efforts to be realized.

The third strand of relevant literature includes studies that link bank CEO compensation to risk taking. Chen et al. (2006) find that equity-based compensation has the effect of increasing bank risk. Hagendorff and Vallascas (2011) focus on merging banks, and show that higher pay-risk sensitivity induces greater risk-taking incentives in bank M&A deals⁵. However, to our best knowledge, there is little evidence on whether CEOs are rewarded or punished for risk-increasing M&A deals.

3 Data

We obtain our initial sample of 478 domestic US bank mergers from the Thomson One Banker dataset, after imposing the following criteria:

- 1) The deal is completed.
- 2) The deal is announced between 1 Jan 1995 and 31 Dec 2012⁶.
- 3) There is a change in control. Following Faccio et al (2006) and Golubov et al (2012), we require that the bidder owns less than 10% of the shares of the target bank before the merger announcement, and raises its shareholding to above 50% after deal completion.

⁵ Datta et al. (2001) also find that high pay-performance sensitivity is associated with increased stock return volatility post-merger in general industries.

⁶ The year of 1995 is selected as the beginning of the sample period because 1994 is the year from which Proxy Statements containing CEO compensation data and the corporate governance data are widely available on SEC Edgar website.

- 4) We select deals in the banking industry, with both bidder and target banks classified as “Commercial banks, or Bank Holding Companies” by Thomson One Banker’s “Industry Sector”⁷.
- 5) We choose only completed deals with acquirer market capitalization of at least \$100 million, measured 4 weeks before merger announcement, and at least 10% relative deal size, measured as the ratio between target’s and acquirer’s market capitalization⁸.
- 6) The bidding bank is public while the target bank can be public or private.
- 7) As in Alexandridis et al (2010), we exclude spin-offs, recapitalizations, self-tenders, exchange offers, and repurchases. From the sample, we further exclude liquidations, leveraged buyouts, reverse takeovers, privatizations, bankruptcy acquisitions and going private deals, as in Golubov et al (2012).
- 8) We include only non-overlapping deals. That is, we exclude cases where one acquirer makes multiple bids within two consecutive years. This is to avoid a compounding effect on CEO compensation (Harford and Li, 2007).
- 9) We then require that the bidder’s financial statements, stock prices and SEC Edgar filings are available for the years around the merger.

The above criteria reduce the sample size from 487 to 214. For the remaining transactions, we extract deal-related information from Thomson One Banker. We obtain financials from Datastream and stock data from CRSP. Summary statistics are reported in Table 1.

To examine the changes of CEO compensation around bank mergers we hand collect CEO salary, bonus, and long term compensation from Proxy Statements (DEF 14A file) which are available on the SEC Edgar website. The data prior to the merger are collected at the fiscal year-end before merger announcement, and the compensation level after the merger is collected at the fiscal year-end of merger completion⁹. Long term compensation is the sum of the dollar value of restricted stock, stock option grants (valued as reported by the company in the Proxy Statement), long term incentive plans (LTIPs), and other long-term compensation. In Table 2 we

⁷ This industry classification is based on the SIC code of the primary line of business, collected by Thomson One Banker. The SIC codes for the sample bidder and target banks fall into the following four categories: 6021(National Commercial Banks), 6022 (State Commercial Banks), 6029 (Commercial Banks, Not Elsewhere Classified), and 6712 (Bank Holding Companies).

⁸ We focus on larger deals relative to the size of the acquirer as they are more likely to have an impact on the compensation of the acquiring CEO.

⁹ For example, if a bank merger is announced on 16 May 2005 and completed on 2 Feb 2006. Assuming the fiscal year end is 31 December (which is the case for the 99% of our sample banks), then the CEO compensation data is collected for the fiscal year of 2004 and fiscal year 2006.

look at CEO compensation data for the subsamples with continuing CEOs (Panel A), new internally promoted CEOs (Panel B), and new externally promoted CEOs (Panel C). It can be seen that compensation significantly increases post-merger only for the subsample with continuing CEOs. As shown in Panel A, the mean (median) increase in salary is \$31,000 (\$30,000), and both figures are statistically different from zero at the 1% significance level. The average bonus increase is positive though not significant, but the median bonus increase of \$12,000 is significantly positive.¹⁰ The mean (median) increase in long-term compensation is \$310,000 (\$60,000), and both numbers are statistically significant. Although the average ratio of long-term compensation to annual cash compensation is 0.995 before merger, the proportional increase in long-term compensation is significantly larger post-merger, resulting in an average pay mix of 1.216 post merger with an increase of 22%. This is consistent with the finding of Anderson et al. (2004) who find long term compensation increases at a faster pace than annual cash compensation. Contrary to the findings in Panel A, Panel B shows that new internally promoted CEOs receive significantly reduced levels of salary, while changes in bonus and long term compensation are not statistically significant. Panel C looks at compensation changes for new CEOs who are hired externally. Here the sample is too small (7 observations) to draw any firm conclusions. Following Harford and Li (2007), for the purpose of examining the effects of firm-, deal-, and corporate governance factors on CEO compensation changes around M&A deals, we focus on the subsample of continuing CEOs.

4 Corporate Governance Index

Previous researchers have combined corporate governance characteristics into indices that were found to be strongly positively correlated with firm valuation and stock returns (Gompers et al. 2003; Bebchuk et al. 2009; Brown and Caylor 2006)¹¹. In this study we follow a similar approach. We use a selection of governance indicators drawing from existing theory, empirical evidence and data availability for the firms in our sample. The indicators cover 6 areas of corporate

¹⁰ Here we should clarify that the positive and significant median in the Table has been computed on the cross-section of bonus changes, not simply as the difference between pre- and post-merger medians. The latter approach does not take into account the distribution of the changes and hence it would not be an appropriate measure. For the average, on the other hand, this calculation issue does not apply as the average of the changes is the same as the difference between pre and post-merger averages.

¹¹ Bebchuk et al. (2009) select 6 most important factors from the G-index of Gompers et al. (2003) and build an "Entrenchment Index". The authors find that this parsimonious index has the same ability to explain the variations of firm value and abnormal returns as the G-Index. The other 18 factors are not important value or return drivers. Brown and Caylor (2006) utilize the ISS database with 51 factors covering a broad range of external and internal corporate governance characteristics, and find that better corporate governance, indicated by either the 51 full index (Gov-Score) or the parsimonious index (Gov-7), is significantly positively associated with firm value.

governance namely anti-takeover provisions, the intensity of board monitoring, strength of monitoring by external shareholders, CEO power on the board, the extent to which CEO interest is aligned with shareholder interest, and the state of incorporation (i.e. whether the bidding bank is incorporated in the state of Delaware). We hand collect the corporate governance data from two major sources: SEC Edgar website (for proxy statements DEF-14A, 10-Q and 10-K filings) and Thomson One Banker (for the Poison Pill data). Our index variables are 11 dummies that take the value 1 to indicate good corporate governance practice and 0 otherwise. Then the values of all the dummies for each bidding bank are added up to form the bank's Corporate Governance Index (CGI), which measures the overall strengths of corporate governance. We discuss the motivation behind each index component in detail below.

4.1 Anti-takeover provisions

Firstly, we look at two types of anti-takeover measures, i.e. the presence of a “staggered board” and the inclusion of “poison pills” in the bank's bylaws. Both variables appear in the 24-provision G-index of Gompers et al. (2003), the 6-provision E-index of Bebchuk et al. (2009), and the 3-provision external ATI-index of Cremers and Nair (2005). All these authors find that the two variables are associated with significantly lower firm value and stock returns. The “Staggered Board” and “Poison Pill” dummies are given a value of 1 if, before the merger announcement, the firm does *not* have a staggered board and a poison pill respectively, and 0 otherwise. We then add these two variables together to form a sub-index, “*Sub_ATP*”, to measure the ability of the bank to repel a takeover. A *higher* score indicates *lower* anti-takeover ability, i.e. *better* corporate governance indirectly obtained through the disciplining effect of potential takeovers.

4.2 Board monitoring

Larger boards are less effective in communication, are more prone to free-riding problems, have less incentive to obtain information, and are more subject to CEO influence (Jensen 1993). Yermack (1996) finds that board size is significantly negatively related to firm valuation. On the other hand, the number of independent board members is found to have a positive impact on firm value, because outside directors have objectives that are better aligned with those of shareholders (Brickley and James 1987; Rosenstein and Wyatt 1990). For the board size dummy, we give a score of 1 to a firm with board size smaller than our sample median, and 0 otherwise. For the board independence dummy, we assign a score of 1 to a firm with higher than median

percentage of non-executive directors¹². We then add the two variables together to obtain the “**Sub_Board**” sub-index that measures the strengths of board monitoring.

4.3 Shareholder monitoring

Shleifer and Vishny (1986) stress the importance of monitoring by large shareholders. There is also evidence that the existence of large external shareholders is associated with greater control of CEO compensation (Cyert et al. 2002; Bertrand and Mullainathan 2003; Hartzell and Starks 2003). Here we focus on the monitoring effect of large outside blockholders, who are not employees of the bank and hold more than 5% of common equity of the bidding bank (Core et al. 1999). We expect that the existence of a large external blockholder provides efficient monitoring and reduces CEO entrenchment¹³. We assign a score of 1 if the bidding bank has existing external blockholders, and 0 otherwise. This score is called “**Sub_Blockholder**”.

4.4 CEO Power

To measure the extent to which the CEO can influence board decisions we look at CEO duality, that is whether the CEO is also the Chairman of the board, and if he or she sits on the nomination or compensation committees (Bebchuk et al. 2002; Bebchuk and Fried 2003; Grinstein and Hribar 2004). Having an independent compensation committee is among the measures recommended by the Dodd-Frank Act (Carpenter et al. 2010). Core et al. (1999) and Cyert et al. (2002) both find that CEOs who are also board chairmen receive compensation 20% to 40% higher than others. A CEO sitting on the nomination committee or compensation committee signals the lack of independence of the committees and the significant power the CEO has on selecting board nominees¹⁴ and their compensation levels. Grinstein and Hribar (2004) find that CEO duality and presence in the Nomination Committee lead to higher M&A related bonus for the CEO. We assign a score of 1 to the following three distinct CEO power dummies when the CEO is not the Chairman of the board, does not sit on the nomination committee, and does not sit on the compensation committee. If a CEO has too much power on a board, he is less likely to protect shareholder interest and more likely to extract a rent to his own benefit. We also

¹² We do not have data on “independence” of directors, therefore we use the ratio of “non-executive director” to proxy for board independence.

¹³ We do not consider the existence of internal blockholders who are employees of the bidding bank. The reason is that after examining our sample, the majority of internal blockholders are CEOs (there are only 2 cases where the internal blockholder is not the CEO). Thus, we exclude internal blockholders to avoid double-counting the effect of CEO ownership.

¹⁴ Sometimes, the bidding bank does not have an existing nomination committee, and the nomination and selection of board members are performed by the board of directors as a whole. In this cases, we treat them as if CEO sits on the committee because effectively the CEO will have greater power on board member selection.

combine these three indicators and add their scores to obtain a sub-index called “**Sub_CEO_Power**”.

4.5 CEO-shareholder alignment

The two variables used to indicate alignment of managerial and shareholder interests are CEO shareholding and CEO tenure. Managerial equity ownership is one of several important solutions to the agency problem resulting from the separation of ownership and control. Indeed, it is found to be positively related to firm performance and valuation (Agrawal and Knoeber 1996; Amihud et al. 1990). Consistent with the argument that CEO shareholding aligns CEO interest with shareholder interests, Core et al (1999) and Cyert et al. (2002) both find that the level of CEO compensation is significantly negatively related to the percentage of CEO shareholding. On the other hand, there are different interpretations of the relationship between CEO tenure and the strength of corporate governance. High CEO tenure can indicate high CEO power and entrenchment¹⁵. In contrast, CEO tenure can also be an indicator of the quality of CEO, insofar as CEOs who have done a good job at protecting shareholder value are more likely to remain in office longer. Also long standing CEOs are more likely to have accumulated the firm specific skills and knowledge that enable them to perform better on the job. We support this latter interpretation and consider tenure an positive indicator of CEO-shareholder alignment. We measure CEO tenure as the number of years the CEO has been serving on the board of directors¹⁶. The two dummies that capture CEO shareholding and tenure are given a value of 1 to indicate high level of alignment with shareholder interest, i.e. when the CEO has above median percentage of share ownership and above median tenure relative to other CEOs in the sample. The sum of these two variables, “**Sub_CEO_Shareholder**”, indicates the extent to which the CEO attends to shareholder interest.

4.6 Delaware

The last aspect of corporate governance we include in our corporate governance index relates to the State of incorporation. We look at whether the bidding bank is incorporated in Delaware whose corporate legislation is more “pro management” than other states (Cary 1974). Danielson and Karpoff (1998) find that Delaware firms have more anti-takeover provisions compared to

¹⁵ With longer board tenure, the CEO may have more influence over the board members who are selected by the CEO (Baker and Gompers 2003) and there is also evidence that longer CEO tenure is associated with less equity-based pay and higher levels of annual cash compensation (Fahlenbrach 2009).

¹⁶ We couldn't obtain data on the years the CEO has held the title of CEO as not all firms report this data in the proxy statement. Our measurement of CEO tenure using the years of the CEO being on the board of directors is consistent with Fahlenbrach (2009).

non-Delaware firms, and the difference is statistically significant. We assign a score of 1 to bidding banks which are not incorporated in Delaware, to indicate stronger corporate governance, and 0 otherwise. This variable is named “*Sub_Delaware*”.

In Table 3 we present summary statistics for our governance indicators (Panel A) and the distribution of the Corporate Governance Index (Panel B and Figure 1). Interestingly, Figure 1 shows that the CGI gradually increases during the 18 years of our sample. If we compare the CGI of the second half of the sample period (2004 to 2012) to the first half (1995 to 2003), we see a statistically significant difference between the means (5.91 to 7.02) and medians (6 increases to 7). The break point of our two sample periods (year-end 2003) coincides with the time surrounding the passage of the Sarbanes-Oxley Act (2002) and the changes in subsequent listing requirements on the major US exchanges. Our findings suggest that such measures may have been effective in increasing the strength of corporate governance, at least in the banking industry.

5 Model

In our study we test the “optimal contracting hypothesis” by employing CEO compensation changes around bank mergers. CEO compensation satisfies optimal contracting when it is designed to maximize firm value. The level of compensation is the result of supply and demand in the executive recruitment market, and the effort level that the CEO exerts in managing the firm. In the “hidden action” model by Holmstrom (1979), performance measures (such as accounting profitability or stock returns) and firm value measures (such as M/B ratio) are used to proxy for the effort exerted by the CEO. If CEO contracting is optimal, then there is no role for corporate governance as the CEO will not be able to extract rent even when corporate governance is poor. Moreover, bank CEO compensation should not encourage excessive risk taking which, as the subprime crisis has amply demonstrated, could have a detrimental impact on the stability of the financial system. We formalise our null hypothesis as follows,

H0: CEO compensation is optimally set when changes in compensation (1) are positively related with changes in firm valuation or performance and (2) are not affected by corporate governance.

The model we use to test the above is:

$$\Delta Compensation_i = \alpha_i + \beta_1 FIRM + \beta_2 DEAL + \beta_3 CG + \beta_4 [YEAR DUMMIES] + \varepsilon_i \quad (1)$$

where the dependent variable $\Delta Compensation_i$ is the changes in natural log of different forms of CEO compensation from the fiscal year before the merger announcement to the fiscal year of the deal completion, similar to Anderson et al. (2004) and Avery et al. (1998). The individual dependent variables are calculated using the following formulas:

$$\Delta Salary_i = \text{LN}(\text{Post-merger salary}) - \text{LN}(\text{Pre-merger salary})$$

$$\Delta Bonus_i = \text{LN}(\text{Post-merger bonus} + \text{Pre-merger salary}) - \text{LN}(\text{Pre-merger bonus} + \text{Pre-merger salary})$$

$$\Delta Long\ Term\ Compensation_i = \text{LN}(\text{Post-merger long term compensation} + \text{Pre-merger salary}) - \text{LN}(\text{Pre-merger long term compensation} + \text{Pre-merger salary})$$

FIRM is a vector of firm-specific financial characteristics which are related to compensation, DEAL is a vector of deal-related factors, and CG is our corporate governance measures.

6 Results

We start our analysis of CEO compensation by looking at its salary component. As we can see from Table 4 Panel A, variations in CEO salary and changes in the M/B ratio are positively and statistically significantly related. This suggests that the post-merger salary of the bidding bank's CEO may factor in his effort to increase growth opportunity through the merger. The finding is in line with the optimal contracting hypothesis and with previous literature where firm growth potential is proxied by the M/B ratio (Core et al. 1999; Harford and Li 2007) or Tobin's Q (Hartzell and Starks 2003; Ozkan 2012). Further, both changes in leverage and changes in firm risk, measured as the bidder's daily stock return volatility over the fiscal years around the merger, significantly reduce CEO salary post-merger. The negative coefficient on leverage may be explained in two ways. Firstly, since high financial leverage is normally associated with a higher level of default risk, our results provide evidence that CEOs are penalised if the merger increases the likelihood of insolvency. Secondly, higher debt is known to have a disciplinary effect on CEOs because higher debt servicing costs restrict opportunities for rent extraction through, for example, additional salary disbursements. Debtholders' monitoring may also produce similar effects thus compressing CEO salary or reducing its expansion in bidders that resort to higher leverage to complete the acquisition. Interestingly, deal-related characteristics are not found to affect salary changes. Specifically, a popular measure of deal quality, the cumulative adjusted

return (CAR3), does not have a statistically significant coefficient. This suggests that CEOs are not penalised when they complete bad deals. The result contrasts with Anderson et al (2004) who find that changes in compensation are positively associated with bidder's stock return around a merger. Turning to the focus of this study, our corporate governance index (CGI) is negatively related to salary changes, but its coefficient is not statistically significant. When we replace our CGI index with its constituent sub-indices in Panel B, we obtain qualitatively similar results. Again, this is confirmation of optimal contracting as far as CEO salary is concerned. Lastly, we find that the bidder size before the merger is strongly negatively related to CEO salary changes. Although CEO compensation is commonly found to increase with firm size, this finding is not surprising as we look at compensation *changes* instead of *levels*. Since CEOs of larger banks will normally have larger pre-merger salaries than smaller banks, their increase following a merger may be relatively lower than for smaller banks.

We then look at the determinants of bonus changes in Table 5. We find that, in the full model in columns (vi), the changes in M/B ratio are negatively and significantly related to changes in CEO cash bonus. This suggests that companies experiencing higher growth through M&As tend to have relatively lower cash bonus increases. A plausible explanation is that high growth bidders and their CEOs prefer the variable components of compensation to be based more on stock options rather than cash. This is because stock options give the owner a superior way to capture the upside potential of a fast growing business while at the same time bringing into line CEO's and shareholders' interests. Stock options are typically included in the long term component of the CEO compensation package. Indeed, as we shall see later, the M/B ratio is positively and significantly related to long term compensation. Consistent with Grinstein and Hribar (2004), we find that bidder announcement returns do not significantly improve bonus-related payments post-merger, and this is in line with results in Table 4. Contrary to Grinstein and Hribar (2004), however, measures of effort such as deal relative size, geographical diversification, and time to complete the deal do not significantly affect the changes in bonus payment.

The negative and significant coefficient of CGI in Table 5 (column vi) suggests that as the strength of corporate governance increases, changes in bonus around bank mergers decline. The implication is that bonus does not satisfy the optimal contracting hypothesis as the terms of the contract are not solely driven by CEO performance. The size of the CGI coefficient indicates that, following an increase of 1 point in the CGI (i.e. by changing 1 of the 11 corporate governance measures from "bad" to "good"), CEO bonus declines by 4.4% relative to the pre-merger salary level. Panel B of Table 5 shows that the significance of the CGI coefficient is mainly due to the CEO power sub-index. This result is consistent with Grinstein and Hribar (2004) who also focus

on the power of the CEO in increasing merger-related bonus payment. Finally, we find evidence that CEOs receive lower bonus post-merger if bank risk is increased due to the merger. This result is in line with Table 4 for salary.

Table 6 shows the determinants of changes in long-term compensation. The only consistent finding across all the specifications is the positive coefficient on changes in M/B ratio which, as discussed above, may indicate a preference for stock options when the bidding firm expects comparatively higher growth through M&As. CGI and its sub-indices in general do not appear to affect long term compensation changes. R-squares across specifications are very low. Such results provide limited evidence of “optimal contracting”.

One may wonder if the stronger alignment between shareholders’ and CEO’s interests brought about by stronger corporate governance actually translates into higher shareholder returns around mergers. We examine the relationship between CGI and bidder announcement return measured over several event windows. We firstly run the regression with CGI (and a constant term) only. Results are shown in Panel A in Table 7. Across event windows between 1 to 21 days, CGI has consistently positive and statistically significant coefficients. We then include control variables (Panel B). Following Masulis et al. (2007), we add bidder size, leverage, M/B ratio of assets, pre-merger stock return as firm financial characteristics, and relative deal size, public target dummy variable, method of payment, and geographic diversification as deal-related characteristics. The significantly positive coefficient of CGI on bidder abnormal return persists across regressions. The size of the CGI coefficients indicates that the stock price of the bidder increases by up to 0.97% abnormal return for a point increase in the corporate governance index¹⁷. Other control variables have signs largely consistent with evidence in the M&A literature: better performing bidders have better announcement returns; deals leading to geographical diversification have lower bidder returns; private and subsidiary targets and payment in cash are associated with higher bidder returns.

7 Robustness

We undertake a number of robustness tests. Firstly, we consider whether executive compensation restrictions imposed on banks that requested government support during the recent subprime crisis would affect the influence of the corporate governance index on CEO compensation. TARP (Troubled Asset Relief Program) is a program whose aim was to assist troubled institutions during the financial crisis from 2008 onwards. All recipients of TARP are

¹⁷ The results remain qualitatively unchanged after we include year dummies.

subject to executive compensation restrictions for as long as they have not repaid the funding received from the Treasury¹⁸. We obtain the status of bidding bank as a TARP recipient from Propublica¹⁹, which provides information on the dates and value of the initiation of the relief program and the following repayments made by the recipient. If the bidding bank receives TARP assistance and undertakes a merger during the assistance period, we assign a TARP RECIPIENT dummy a value of 1, and 0 otherwise. In addition, we interact the Δ RISK variable with TARP RECIPIENT to examine whether being a TARP recipient and making a merger deal during the time of TARP assistance would lead the bidding bank to have a different attitude towards merger-related risk. TARP was intended to stabilize the financial sector through capital injections and asset purchases but at the same time encouraged additional loans which might increase risk taking. As found by Black and Hazelwood (2013), loan origination risk increased in large TARP banks but fell in small TARP banks. Results in Table 8 show that our main findings do not change. Interestingly, while TARP banks generally pay lower salaries and bonuses post-merger compared to non-TARP banks, TARP banks punish risk-increasing CEOs by reducing salary rather than bonus. In terms of using lowering compensation to control additional risk-taking through bank mergers, TARP has a better control of salary payment compared to bonus.

In unreported results, we also changed the form of dependent variable to the dollar value of compensation changes (instead of using the changes in natural log of compensation levels) and obtain qualitatively the same coefficients for CGI. Furthermore, we control for CEO's age in the regressions to account for the possibility that younger CEOs are more likely to undertake acquisitions in order to benefit from the increased compensation after acquisitions (Yim 2013). The inclusion of CEO age does not qualitatively change our results for CGI.

8 Conclusion

Using a sample of US bank mergers from 1995 to 2012, we find that CEO salary changes around bank mergers reflect the performance of the bidding bank but are not influenced by the strength of its corporate governance. This suggests that CEO salary is typically set to align CEO's interests with those of shareholders, a condition that satisfies the "optimal contracting hypothesis". However, cash bonus changes are negatively related to firm performance and are clearly influenced by the quality of corporate governance. The implication is that the cash bonus is not set to maximise shareholder value. We also find that the strength of corporate governance is

¹⁸For details of TARP on compensation, please refer to <http://www.treasury.gov/initiatives/financial-stability/TARP-Programs/executive-comp/Pages/overview.aspx>

¹⁹<http://projects.propublica.org/bailout/list>

significantly positively associated with bidder announcement returns. So, poorly governed banks appear to undertake acquisitions that are detrimental to shareholders, but reward their CEOs with higher post-merger bonuses. Our results support the recent move by bank regulators to favour compensation packages for senior executives that are mostly variable and deferred over a number of years. Unlike cash bonuses, such deferral arrangements allow for reductions in payouts of amounts previously earned through clawbacks and malus, which are designed to bring into line CEO objectives with those of the firm (FSB 2009).

The fact that regulators are becoming so much more involved in compensation arrangements suggests that internal mechanisms need improvement. The growing literature on the work of compensation consultants and their relationships with directors is interesting and valuable in this respect, but tends to focus on total remuneration (Renneboog and Zhao, 2011). Our results show that different forces are at work in the setting of salaries, bonuses and long-term incentives. Future research should consider the individual components of compensation with the objective of ensuring that there are no perverse incentives within the package.

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Table 1**Descriptive statistics of M&A deals and bidding banks**

The sample includes 214 M&A deals in the US banking industry from 1995 to 2012. **Panel A** shows deal related characteristics: AMV is the acquirer's market capitalization 4 weeks before announcement, VALUE is the deal value as reported by Thomson One Banker, RELATIVESIZE is the ratio between VALUE and AMV. PAY_CASH is the proportion of the acquisition payment made in cash. TIME equals to the number of days between the announcement date and the completion date divided by 365. CAR3 is the 3-day bidder announcement return over the (-1, +1) event window, measured using the market model with parameters estimated from 200 days to 29 days before the merger announcement. CRSP value-weighted index is used as the market benchmark. GDIV is a dummy variable that equals one if the bidder and target have headquarters in different states. PUBLICTARGET is a dummy variable that equals one if the target is publically traded, and 0 otherwise. SAMECEO is a dummy variable that equals one if the CEO remains until the end of the completion year. INTERNAL (EXTERNAL) is a dummy variable that indicates whether the pre-merger CEO is replaced by an internally (externally) hired CEO after the merger. In **Panel B**, we compare the financial characteristics of bidding banks before and after the acquisition. The data are obtained for the fiscal year before merger announcement and the fiscal year of merger completion. EQUITY is the book value of common equity, ASSET is the book value of total assets, M/B is calculated as the market value of total assets, ROA is calculated using net income divided by book value of total assets, RETURN is the annual stock return for the whole fiscal year. LEVERAGE is defined as the book value of total assets divided by book value of equity. RISK is the standard deviation of daily stock returns over the whole fiscal year. *, **, and *** indicate significance at 10%, 5% and 1%, respectively.

Panel A. Deal Characteristics

	Mean	Std. Dev.	5%	Median	95%
AMV (\$m)	3,453	12,651	115	397	17,186
VALUE (\$m)	1,096	4,648	24	97	5,866
RELATIVESIZE	0.307	0.235	0.109	0.223	0.796
PAY_CASH	0.227	0.363	0	0	1
TIME	0.449	0.153	0.253	0.433	0.689
CAR3	-1.65%	6.12%	-9.74%	-1.03%	4.97%
GDIV	0.341				
PUBLICTARGET	0.696				
SAMECEO	0.846				
INTERNAL	0.121				
EXTERNAL	0.033				

Panel B. Bidding Bank Financial Characteristics**B.1 Fiscal Year Prior to Merger Announcement**

	Mean	Std. Dev.	5%	Median	95%
EQUITY (\$m)	1,652	5,721	57	230	8,908
ASSET (\$m)	20,804	77,959	593	2,433	91,644
M/B	1.087	0.061	1.004	1.091	1.177
ROA	0.011	0.004	0.006	0.011	0.016
RETURN	0.112	0.242	-0.262	0.119	0.506
LEVERAGE	11.414	2.448	7.595	11.273	15.554
RISK	0.02	0.008	0.010	0.018	0.034

Table 1 – cont'd

B.2 Fiscal Year of Merger Completion					
	Mean	Std. Dev.	5%	Median	95%
EQUITY (\$m)	2,592	9,934	78	333	13,529
ASSET (\$m)	31,570	131,000	855	3,386	140,916
MB	1.075	0.065	0.984	1.068	1.184
ROA	0.009	0.004	0.003	0.01	0.015
RETURN	0.036	0.295	-0.538	0.043	0.483
LEVERAGE	11.105	2.31	7.753	10.821	15.047
RISK	0.022	0.02	0.010	0.018	0.043

B.3 Change around M&A Deals				
	Mean	t-stat	Median	Wilxon Stat
EQUITY (\$m)	940***	2.95	84***	12.50
ASSET (\$m)	10,768***	2.70	863***	12.50
MB	-0.012***	-2.69	-0.012***	3.00
ROA	-0.002***	-7.53	-0.001***	7.35
RETURN	-0.076***	-2.99	-0.061***	2.70
LEVERAGE	-0.309**	-2.38	-0.129**	2.20
RISK	0.002	1.48	0.001	1.03

Table 2**CEO Compensation around Bank M&As**

This table shows the levels and changes of CEO compensation of bidding banks in our M&A sample. Sample period is 1995-2012. The “Pre-merger” data is collected for the fiscal year before merger announcement; and the “Post-merger” data is collected for the fiscal year after merger completion. Bonus is the cash component of the bonus payment, and long-term compensation includes the value of restricted stock, stock options, long term incentive plan, and other long-term elements. “Pay Mix” is calculated as the ratio of “long term” compensation over the sum of salary and bonus. Panels A, B, and C show CEO compensation data for the subsamples with continuing CEOs, internally promoted CEOs, and externally hired CEOs, respectively. All dollar values are measured in thousands. *, **, and *** indicate significance at 10%, 5% and 1%, respectively.

	Pre-merger		Post-merger		Change (Dollar Value)			
	Mean	Median	Mean	Median	Mean	t-stat.	Median	Wilxon
Panel A. Continuing CEOs (\$ thousands) – N=181								
Salary	439	364	470	400	31***	2.96	30***	9.80
Bonus	325	136	370	117	45	1.41	12**	2.20
Long Term	1,006	246	1,316	338	310**	2.10	60***	4.85
Pay Mix	0.995	0.490	1.216	0.623	0.221*	1.86	0.027***	2.94
Panel B. New CEO – Internally promoted (\$ thousands) – N=26								
Salary	462	368	403	364	-59***	-2.89	-45**	2.53
Bonus	375	77	302	75	-73	-1.08	-10	1.52
Long Term	1,162	226	845	421	-317	-0.74	1	0.41
Pay Mix	0.741	0.458	0.966	0.681	0.225	1.04	0.08	1.24
Panel C. New CEO – Externally hired (\$ thousands) – N=7								
Salary	364	226	403	255	39	0.71	41	1.10
Bonus	350	110	149	59	-201	-0.99	18	0
Long Term	875	98	3,345	439	2,471	1.49	160*	1.77
Pay Mix	0.658	0.395	3.716	1.723	3.059	1.51	0.996*	1.77

Table 3**Corporate Governance Data**

This table shows descriptive statistics for corporate governance indicators (Panel A) and the distribution of our Corporate Governance Index (Panel B). STAG is a dummy variable that equals 1 if the firm has a staggered board. PP is a dummy variable that equals 1 if the firm has a poison pill in its bylaws in the year before merger announcement. BSIZE is the number of directors on the board. BINDEP is the percentage of directors who are not employees of the firm. DUALITY is a dummy variable that equals 1 if the CEO is also the Chairman of the board. NOMIN (COMPEN) is a dummy variable that equals 1 if the CEO also sits on the nomination (compensation) committee or there is no separate nomination (compensation) committee. TENURE is the number of years the CEO has been serving on the board as a director. HOLDING is the percentage of common shares held by the CEO. BLOCK is a dummy variable that equals 1 if the bidding bank has a large external blockholder who holds at least 5% of the common shares outstanding. DELA is a dummy variable that equals 1 if the bidding bank is incorporated in the state of Delaware. The Corporate Governance Index (CGI) combines all the above measures.

Panel A. Descriptive statistics for corporate governance variables

	STAG	PP	BSIZE	BINDEP	DUALITY	NOMIN
Mean	0.724	0.206	13	0.878	0.533	0.402
Median	1	0	12	0.900	1	0
	COMPEN	TENURE	HOLDING	BLOCK	DELA	
Mean	0.098	12	2.081	0.523	0.150	
Median	0	12	0.425	1	0	

Panel B. Distribution of CGI

Value	Count	Percent	Cum.Count	Cum.Percent
2	1	0.5	1	0.5
3	5	2.3	6	2.8
4	26	12.2	32	15.0
5	28	13.1	60	28.0
6	57	26.6	117	54.7
7	36	16.8	153	71.5
8	35	16.4	188	87.9
9	20	9.4	208	97.2
10	6	2.8	214	100.0
Total	214	100.0	214	100.0

Table 4**Determinants of CEO salary changes**

This table shows the determinants of changes in CEO salary for our 1995-2012 sample of bank mergers. Continuing CEOs only are considered. The dependent variable is the natural log of salary for the fiscal year of merger completion minus the natural log of salary for the fiscal year before merger announcement. *LNAMV* is the natural log of bidder market capitalization 4 weeks before merger announcement. Relative Size is the ratio of deal value as reported by Thomson One Banker divided by the acquirer market value. *M/B* is the market value of assets. *ROA* is the return on assets, calculated as net income divided by book value of total assets at the end of the fiscal year. *RETURN* is the annual stock return for the fiscal year. *LEVERAGE* measures financial leverage, calculated as book value of total assets divided by book value of equity. *RISK* is the daily stock return volatility over one fiscal year. All these financial variables are measured for the fiscal year before merger announcement and for the fiscal year of merger completion. *CAR3* is the bidder's cumulative abnormal returns (*CAR*) measured over the 3-day announcement window (-1, +1), with parameters estimated over (-229, -29) days relative to merger announcement, using the market model and the value-weighted CRSP index as the benchmark. *PAY_CASH* is the ratio of payment made in cash. *TIME* measures the number of days between announcement date and completion date divided by 365. *PUBLICITARGET* is a dummy variable that equals 1 if the target bank is publicly traded. *GDIV* is a dummy variable that equals 1 if the headquarters of the bidder and target are not in the same State. *SUB_ATP*, *SUB_BOARD*, *SUB_BLOCKHOLDER*, *SUB_CEO_POWER*, *SUB_CEO_SHAREHOLDER*, and *SUB_DELAWARE* are corporate governance sub-indices as defined in the paper. *CGI* is the overall corporate governance index, which is the sum of the sub-indices added together. We use White heteroskedasticity-consistent standard errors & covariances. *, **, and *** indicate significance at 10%, 5% and 1%, respectively.

Panel A. Changes in Salary - CGI

	(i)	(ii)	(iii)	(iv)	(v)	(vi)
C	0.339	0.333***	0.315***	0.372***	0.287**	0.508
LNAMV	-0.034***	-0.030***	-0.03**	-0.037***	-0.027***	-0.036***
RELATIVESIZE	0.047	0.032	0.022	-0.013	0.039	0.040
M/B ₋₁	-0.004					-0.255
ΔM/B	0.968***					1.076**
ROA ₋₁		-1.596				5.068
ΔROA		4.188				-0.916
RETURN ₋₁			0.214			0.037
ΔRETURN			0.110*			-0.070
LEVERAGE ₋₁				0.005		0.011
ΔLEVERAGE				-0.025**		-0.018*
RISK ₋₁					-0.996	-0.381
ΔRISK					-3.257***	-3.071***
CAR3	0.060	-0.076	0.128	0.278	0.104	0.301
PAY_CASH	-0.107*	-0.096*	-0.082*	-0.058	-0.048	-0.027
TIME	0.075	0.068	0.038	0.035	0.072	0.078
PUBLICITARGET	-0.013	-0.096	-0.012	-0.021	-0.032	-0.021
GDIV	0.038	0.036	0.035	0.042	0.036	0.046
CGI	-0.014	-0.014	-0.015	-0.018	-0.014	-0.020
Adj. R-squared	0.112	0.084	0.094	0.119	0.173	0.196
No. of obs.	165	165	163	165	163	163
Year dummies	Included	Included	Included	Included	Included	Included

Table 4 – Cont'd

	(i)	(ii)	(iii)	(iv)	(v)	(vi)
C	0.203	0.276*	0.274*	0.302*	0.209*	0.350
LNAMV	-0.038***	-0.034***	-0.033**	-0.040***	-0.029***	-0.039***
RELATIVESIZE	0.051	0.039	0.018	-0.003	0.040	0.051
M/B ₋₁	0.086					-0.219
ΔM/B	0.902***					1.186**
ROA ₋₁		0.127				6.825
ΔROA		3.645				-1.263
RETURN ₋₁			0.214			0.006
ΔRETURN			0.080			-0.100
LEVERAGE ₋₁				0.007		0.014
ΔLEVERAGE				-0.023*		-0.018*
RISK ₋₁					-0.914	-0.160
ΔRISK					-3.126***	-2.997***
CAR3	0.100	0.126	0.201	0.302	0.156	0.352
PAY_CASH	-0.098*	-0.088	-0.074	-0.053	-0.042	-0.017
TIME	0.062	0.056	0.040	0.019	0.072	0.064
PUBLICTARGET	-0.019	-0.030	-0.020	-0.027	-0.035	-0.025
GDIV	0.045	0.042	0.043	0.050	0.042	0.054
SUB_ATP	0.004	0.009	0.000	0.004	-0.015	-0.023
SUB_BOARD	-0.043	-0.043	-0.053	-0.046	-0.032	-0.045
SUB_BLOCK	0.009	0.004	-0.005	-0.001	0.007	0.005
SUB_CEO_POWER	0.009	0.015	0.017	0.004	0.014	0.002
SUB_CEO_SHAREH OLDER	-0.036	-0.039	-0.030	-0.044	-0.032	-0.037
SUB_DELAWARE	0.013	0.003	0.006	0.024	0.019	0.045
Adj. R-squared	0.105	0.105	0.081	0.119	0.163	0.193
No. of obs.	165	165	163	165	163	163
Year dummies	Included	Included	Included	Included	Included	Included

Table 5**Determinants of CEO bonus changes**

This table shows the determinants of changes in CEO cash bonus for our 1995-2012 sample of bank mergers. Continuing CEOs only are considered. The dependent variable is the natural log of cash bonus for the fiscal year of merger completion minus the natural log of cash bonus for the fiscal year before merger announcement. *LNAMV* is the natural log of bidder market capitalization 4 weeks before merger announcement. Relative Size is the ratio of deal value as reported by Thomson One Banker divided by the acquirer market value. *M/B* is the market value of assets. *ROA* is the return on assets, calculated as net income divided by book value of total assets at the end of the fiscal year. *RETURN* is the annual stock return for the fiscal year. *LEVERAGE* measures financial leverage, calculated as book value of total assets divided by book value of equity. *RISK* is the daily stock return volatility over one fiscal year. All these financial variables are measured for the fiscal year before merger announcement and for the fiscal year of merger completion. *CAR3* is the bidder's cumulative abnormal returns (CAR) measured over the 3-day announcement window (-1, +1), with parameters estimated over (-229, -29) days relative to merger announcement, using the market model and the value-weighted CRSP index as the benchmark. *PAY_CASH* is the ratio of payment made in cash. *TIME* measures the number of days between announcement date and completion date divided by 365. *PUBLICITARGET* is a dummy variable that equals 1 if the target bank is publicly traded. *GDIV* is a dummy variable that equals 1 if the headquarters of the bidder and target are not in the same State. *SUB_ATP*, *SUB_BOARD*, *SUB_BLOCKHOLDER*, *SUB_CEO_POWER*, *SUB_CEO_SHAREHOLDER*, and *SUB_DELAWARE* are corporate governance sub-indices as defined in the paper. *CGI* is the overall corporate governance index, which is the sum of the sub-indices added together. We use White heteroskedasticity-consistent standard errors & covariances. *, **, and *** indicate significance at 10%, 5% and 1%, respectively.

Panel A. Changes in Bonus - CGI

	(i)	(ii)	(iii)	(iv)	(v)	(vi)
C	1.081	0.629	0.520	0.416	0.357	0.557
LNAMV	0.010	0.006	0.004	0.003	0.013	0.013
RELATIVESIZE	-0.140	-0.153	-0.128	-0.124	-0.131	-0.156
M/B ₋₁	-0.576					-0.157
ΔM/B	-0.354					-1.450**
ROA ₋₁		-16.074*				-16.076
ΔROA		5.246				10.707
RETURN ₋₁			-0.090			0.042
ΔRETURN			0.026			0.150
LEVERAGE ₋₁				0.014		0.006
ΔLEVERAGE				0.008		0.018
RISK ₋₁					4.563	2.564
ΔRISK					-0.903*	-1.363**
CAR3	0.302	0.299	0.247	0.315	0.261	0.129
PAY_CASH	-0.065	-0.067	-0.070	-0.073	-0.039	-0.085
TIME	-0.122	-0.050	-0.119	-0.102	-0.126	-0.062
PUBLICITARGET	0.019	0.031	0.021	0.022	0.018	0.016
GDIV	-0.084*	-0.069	-0.080	-0.080	-0.076	-0.070
CGI	-0.047***	-0.048***	-0.047**	-0.047**	-0.049***	-0.044**
Adjusted R-squared	0.093	0.127	0.089	0.095	0.097	0.109
No. of Obs.	165	165	163	165	163	163
Year dummies	Included	Included	Included	Included	Included	Included

Table 5 – Cont'd

Panel B. Changes in Bonus – Sub-indices						
	(i)	(ii)	(iii)	(iv)	(v)	(vi)
C	1.219	0.738	0.615	0.500	0.438	0.907
LNAMV	0.008	0.005	0.002	0.000	0.011	0.015
RELATIVESIZE	-0.123	-0.135	-0.107	-0.108	-0.112	-0.144
M/B ₋₁	-0.621					-0.419
ΔM/B	-0.336					-1.643**
ROA ₋₁		-17.159*				-17.331*
ΔROA		5.895				10.589
RETURN ₋₁			-0.082			0.111
ΔRETURN			0.037			0.210
LEVERAGE ₋₁				0.015		0.006
ΔLEVERAGE				0.007		0.017
RISK ₋₁					5.175	3.160
ΔRISK					-0.739	-1.456**
CAR3	0.216	0.189	0.142	0.244	0.161	-0.042
PAY_CASH	-0.070	-0.072	-0.075	-0.073	-0.045	-0.090
TIME	-0.156	-0.090	-0.163	-0.143	-0.170	-0.138
PUBLICTARGET	0.021	0.035	0.024	0.023	0.022	0.022
GDIV	-0.084	-0.069	-0.082	-0.078	-0.077	-0.074
SUB_ATP	-0.009	-0.015	-0.008	-0.008	-0.009	-0.012
SUB_BOARD	-0.053	-0.052	-0.049	-0.058	-0.057	-0.031
SUB_BLOCK	-0.044	-0.046	-0.038	-0.049	-0.040	-0.052
SUB_CEO_POWER	-0.083**	-0.095**	-0.087**	-0.082**	-0.089**	-0.108**
SUB_CEO_SHAREHOL DER	-0.052*	-0.048*	-0.055*	-0.055*	-0.055*	-0.046
SUB_DELAWARE	-0.051	-0.039	-0.051	-0.040	-0.053	-0.011
Adjusted R-squared	0.073	0.112	0.070	0.076	0.078	0.101
No. of Obs.	165	165	163	165	163	163
Year dummies	Included	Included	Included	Included	Included	Included

Table 6**Determinants of long-term compensation changes**

This table shows the determinants of changes in CEO long term compensation for our 1995-2012 sample of bank mergers. Continuing CEOs only are considered. The dependent variable is the natural log of long term compensation for the fiscal year of merger completion minus the natural log of long term compensation for the fiscal year before merger announcement. *LNAMV* is the natural log of bidder market capitalization 4 weeks before merger announcement. Relative Size is the ratio of deal value as reported by Thomson One Banker divided by the acquirer market value. *M/B* is the market value of assets. *ROA* is the return on assets, calculated as net income divided by book value of total assets at the end of the fiscal year. *RETURN* is the annual stock return for the fiscal year. *LEVERAGE* measures financial leverage, calculated as book value of total assets divided by book value of equity. *RISK* is the daily stock return volatility over one fiscal year. All these financial variables are measured for the fiscal year before merger announcement and for the fiscal year of merger completion. *CAR3* is the bidder's cumulative abnormal returns (*CAR*) measured over the 3-day announcement window (-1, +1), with parameters estimated over (-229, -29) days relative to merger announcement, using the market model and the value-weighted CRSP index as the benchmark. *PAY_CASH* is the ratio of payment made in cash. *TIME* measures the number of days between announcement date and completion date divided by 365. *PUBLICITARGET* is a dummy variable that equals 1 if the target bank is publicly traded. *GDIV* is a dummy variable that equals 1 if the headquarters of the bidder and target are not in the same State. *SUB_ATP*, *SUB_BOARD*, *SUB_BLOCKHOLDER*, *SUB_CEO_POWER*, *SUB_CEO_SHAREHOLDER*, and *SUB_DELAWARE* are corporate governance sub-indices as defined in the paper. *CGI* is the overall corporate governance index, which is the sum of the sub-indices added together. We use White heteroskedasticity-consistent standard errors & covariances. *, **, and *** indicate significance at 10%, 5% and 1%, respectively.

Panel A. Changes in long term compensation - Index

	(i)	(ii)	(iii)	(iv)	(v)	(vi)
C	-2.308	-0.111	0.043	-0.245	-0.073	-2.379
LNAMV	-0.007	0.010	0.012	-0.003	0.015	-0.023
RELATIVESIZE	0.350	0.397	0.241	0.248	0.264	0.482*
M/B ₋₁	2.459**					1.700
ΔM/B	3.362***					3.271*
ROA ₋₁		25.953				35.905
ΔROA		25.263				12.347
RETURN ₋₁			0.607			0.029
ΔRETURN			0.360			-0.073
LEVERAGE ₋₁				0.044*		0.059*
ΔLEVERAGE				0.016		0.019
RISK ₋₁					3.443	5.233
ΔRISK					0.616	1.147
CAR3	-1.217	-1.228	-1.164	-1.070	-1.161	-0.975
PAY_CASH	-0.123	-0.126	-0.137	-0.195	-0.147	-0.148
TIME	0.012	-0.070	-0.104	0.024	-0.049	-0.016
PUBLICITARGET	-0.019	-0.061	-0.027	-0.054	-0.044	-0.009
GDIV	0.055	0.034	0.033	0.048	0.043	0.068
CGI	-0.007	-0.002	-0.002	0.001	0.003	-0.005
Adjusted R-squared	0.031	-0.009	-0.003	-0.003	-0.025	0.014
No. of Obs.	165	165	163	165	163	163
Year dummies	Included	Included	Included	Included	Included	Included

Table 6 – Cont'd

Panel B. Changes in long term compensation – Sub-indices						
	(i)	(ii)	(iii)	(iv)	(v)	(vi)
C	-2.747	-0.311	-0.116	-0.359	-0.258	-3.217
LNAMV	-0.009	0.010	0.014	0.005	0.017	-0.027
RELATIVESIZE	0.317	0.379	0.212	0.223	0.240	0.500*
M/B ₋₁	2.740**					2.394
ΔM/B	3.572***					4.041*
ROA ₋₁		31.149*				37.905
ΔROA		27.415				14.062
RETURN ₋₁			0.521			-0.260
ΔRETURN			0.336			-0.243
LEVERAGE ₋₁				0.032		0.050
ΔLEVERAGE				0.014		0.015
RISK ₋₁					3.149	4.336
ΔRISK					0.077	0.909
CAR3	-0.980	-0.978	-0.963	-0.910	-0.908	-0.670
PAY_CASH	-0.159	-0.157	-0.174	-0.209	-0.166	-0.152
TIME	0.187	0.097	0.058	0.155	0.126	0.195
PUBLICITARGET	0.003	-0.045	-0.003	-0.039	-0.022	0.008
GDIV	0.035	0.011	0.017	0.026	0.025	0.059
SUB_ATP	-0.130*	-0.110	-0.128*	-0.108	-0.112	-0.118
SUB_BOARD	0.002	0.018	0.020	0.031	0.036	0.000
SUB_BLOCK	0.158	0.154	0.134	0.134	0.159	0.177
SUB_CEO_POWER	0.064	0.078	0.050	0.066	0.070	0.094
SUB_CEO_SHAREH'R	0.033	0.023	0.049	0.020	0.025	0.007
SUB_DELAWARE	-0.175	-0.192	-0.132	-0.122	-0.163	-0.163
Adjusted R-squared	0.057	0.012	0.009	0.002	-0.007	0.036
No. of Obs.	165	165	163	165	163	163
Year dummies	Included	Included	Included	Included	Included	Included

Table 7**CGI and Bidder Returns**

This table shows the OLS regression results with bidder announcement returns over different event windows as dependent variable, and CGI as a key independent variable. We control for bidding bank characteristics and deal characteristics. Our sample includes 214 bank mergers (including deals with continuing CEOs and different CEOs). CAR1, CAR3, CAR5, CAR7, CAR11, CAR21 indicates bidder cumulative abnormal return over 1-day (day 0), 3-day (-1, +), 5-day (-2, +2), 7-day (-3, +3), 11-day (-5, +5), 21-day (-10, +10) event windows. We scale up the dependent variable by 100. CGI is our corporate governance index. LNAMV is the natural log of bidder market value 4 weeks before merger announcement, as reported by Thomson One Banker. LEVERAGE₋₁ is the financial leverage at the end of the fiscal year before merger announcement, calculated as book value of total asset divided by book value of total equity. M/B₋₁ is the market-to-book ratio of assets at the end of the fiscal year before merger announcement. RETURN₋₁ is the stock return for the bidding banks over the whole fiscal year before merger announcement. RELATIVESIZE is the relative size of the deal, calculated as deal value, as reported by Thomson One Banker, divided by bidder market value. GDIV is a dummy variable that equals 1 if the bidder and target have headquarters in different States. PUBLICTARGET is a dummy variable that equals 1 if the target bank is publicly listed. CASH is the ratio of payment made in cash. We use White heteroskedasticity-consistent standard errors & covariances. *, **, and *** indicate significance at 10%, 5% and 1%, respectively.

Panel A

	(i)	(ii)	(iii)	(iv)	(v)	(vi)
C	-5.020***	-7.227***	-7.224***	-8.814***	-8.942***	-9.554***
CGI	0.555***	0.866***	0.846***	1.086***	1.077***	1.070***
Adj. R-squared	0.057	0.053	0.048	0.068	0.052	0.033
No. of obs.	207	207	207	207	207	207

Panel B

	(i)	(ii)	(iii)	(iv)	(v)	(vi)
C	5.335	12.016	11.988	7.570	5.230	6.402
CGI	0.290**	0.585***	0.606**	0.865***	0.970*	0.926**
LNAMV	-0.044	0.266	0.203	0.389	0.537	0.336
LEVERAGE ₋₁	-0.021	-0.246	-0.276	-0.175	-0.196	-0.041
M/B ₋₁	-6.102	-14.219	-13.238	-12.245	-12.068	-13.774
RETURN ₋₁	2.046*	0.671	-0.827	-1.462	-0.442	-3.375
RELATIVESIZE	-2.461	-0.947	-1.182	-0.100	-0.883	1.244
GDIV	-1.026*	-1.425*	-1.509*	-1.044	-0.890	0.751
PUBLICTARGET	-1.363**	-1.367	-1.373	-2.729**	-1.772	-3.004*
PAY_CASH	0.011*	0.026	0.017	0.010	0.009	0.003
Adj. R-squared	0.137	0.096	0.088	0.097	0.053	0.036
No. of obs.	196	196	196	196	196	196

Table 8**Robustness Tests**

This table shows the determinants of CEO compensation when considering the effect of government support during the subprime crisis. *TARP RECIPIENT* is a dummy variable that equals to 1 if the bidding bank was a recipient of government TARP funding and the TARP assistance overlaps the period between the announcement and completion of the merger. $\Delta \text{LNSALARY}$ is the natural log of salary for the fiscal year of merger completion minus the natural log of salary for the fiscal year before merger announcement. $\Delta \text{LN BONUS}$ is the natural log of the sum of bonus post-merger and salary pre-merger minus the natural log of the sum of bonus pre-merger and salary pre-merger. ΔLNLT is the natural log of the sum of long term compensation post-merger and salary pre-merger minus the natural log of the sum of long term compensation pre-merger and salary pre-merger. *LNAMV* is the natural log of bidder market capitalization 4 weeks before merger announcement. Relative Size is the ratio of deal value as reported by Thomson One Banker divided by the acquirer market value. All the following financial variables are measured for the fiscal year before merger announcement and for the fiscal year of merger completion. *M/B* is the market value of assets. *ROA* is return on assets, calculated as net income divided by book value of total assets at the end of the fiscal year. *RETURN* is the annual stock return for the fiscal year. *LEVERAGE* measures financial leverage, calculated as book value of total assets divided by book value of equity. *RISK* is the daily stock return volatility over one fiscal year. *CAR3* is the bidder's cumulative abnormal returns (*CAR*) measured over the 3-day announcement window (-1, +1), using the market model and the value-weighted CRSP index as the benchmark. *PAY_CASH* is the ratio of payment made in cash. *TIME* measures the number of days between announcement date and completion date divided by 365. *PUBLICTARGET* is a dummy variable that equals 1 if the target bank is publicly traded. *GDIV* is a dummy variable that equals 1 if the headquarters of the bidder and target are not in the same State. *CGI* is our corporate governance index. We use White heteroskedasticity-consistent standard errors & covariance. *, **, and *** indicate significance at 10%, 5% and 1%, respectively.

	$\Delta \text{LNSALARY}$	$\Delta \text{LN BONUS}$	ΔLNLT
C	0.476	0.526	-2.394
LNAMV	-0.019*	0.020	-0.024
RELATIVESIZE	0.058	-0.155	0.474*
M/B-1	-0.346	-0.170	1.728
$\Delta \text{M/B}$	0.872*	-1.589**	3.227*
ROA-1	2.345	-19.400*	33.905
ΔROA	-1.305	10.633	12.450
RETURN-1	0.070	0.056	0.028
ΔRETURN	-0.063	0.176	-0.051
LEVERAGE-1	0.012	0.007	0.059*
$\Delta \text{LEVERAGE}$	-0.005	0.022	0.018
RISK-1	1.695	4.125	5.814
ΔRISK	-2.956***	-1.417**	1.044
CAR3	0.646	0.260	-1.004
PAY_CASH	-0.047	-0.085	-0.139
TIME	-0.012	-0.092	-0.004
PUBLICTARGET	-0.018	0.012	-0.015
GDIV	0.034	-0.079	0.066
CGI	-0.019	-0.046**	-0.007
TARP_RECIPIENT	-0.427***	-0.284**	-0.083
TARP_RECIPIENT* ΔRISK	-9.841***	3.295	7.628
Adjusted R-squared	0.264	0.111	0.000
No. of Observations	165	165	163
Year dummies	Included	Included	Included

