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Pay for Performance?
CEO Compensation and Acquirer Returns in BHCs

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Kristina Minnick

Bentley College

Haluk Unal

University of Maryland and Center for Financial Research, FDIC*

Liu Yang

Anderson School of Management, UCLA

Abstract

We examine the impact of managerial incentives on acquisitions in the banking industry. We find that banks whose CEOs have higher pay-for-performance sensitivity (PPS) are less likely to engage in value-reducing acquisitions. Conditional on engaging in acquisitions, those higher-PPS banks have significantly better announcement returns: on average these banks outperform the acquires in the lower-PPS group by 1.2% in a three-day window around the announcement. The positive market reaction can be rationalized by long-term performance. Following acquisitions, banks with high PPS experience greater improvement in their operating performance as measured by ROA.

Keywords: Pay-for-Performance Sensitivity, CEO Compensation, Acquirer Returns, Bank Mergers

JEL Classification: G34, G21

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1 Introduction

Top executive pay has increased substantially over the past three decades: the average total remuneration for CEOs in S&P 500 firms (in 2002 constant dollars) increased from $850,000 in 1970 to over $14 million in 2000. During the same period, the average value of options soared from near zero to over $7 million (Jensen, Murphy, and Wruck, 2004).

Despite the public's long-standing general belief, particularly among disenchanted stockholders, that chief executives make too much money, economic theories recognize that performance based compensation can better align managers' interests with shareholders', and as a result, can create value through more efficient investment decisions (e.g., Morck, Shleifer, and Vishny, 1988; McConnell and Servaes, 1990; Jensen and Murphy, 1990). However, at best, the empirical support for this "corporate governance" role of performance-based compensation is mixed. For example, Datta, Iskandar-Datta, and Raman (2001) show that when managers have high equity-based compensation, companies achieve better stock returns around acquisitions. In contrast, Harford and Li (2007) provide evidence that executive compensation can be the cause rather than the cure for growing agency problems. They show that the adverse effect of the post-merger poor stock-price performance on the executives' wealth is offset by the generous stock and option grants these executives receive after acquisitions and that these grants increase the likelihood of value-destroying acquisition decisions.

In this paper, we examine the relation between executive compensation and shareholder interests in bank mergers. The central hypothesis of our paper is that higher managerial incentives lead to value-enhancing acquisition decisions. We test this hypothesis at three levels. First, we study how managerial incentives affect acquisition decisions for banks. Second, we examine returns for shareholders around the merger announcement. Third, to capture the "real" effect, we analyze the relation between changes in operating performance around acquisitions and executive compensation at the time of the acquisition.

For a number of reasons, banks provide a natural experiment for assessing the role of compensation in the acquisition decisions. First, since the late 1980s, the banking industry has gone through rapid consolidation, which makes it possible for us to observe a large number of cross-sectional relationships. Second, because the industry is homogeneous and since most banks operate only in the financial industry, acquisitions are not driven by the need for rebalancing between different industries. Finally, focusing on a single homogeneous industry alleviates the challenges that multi-industry studies face in having to use fixed-effect controls that may not be broad or detailed enough in terms of industry definitions.

Our sample consists of 178 bank mergers in the 1991–2005 period. As our proxy for managerial incentive we use pay-for-performance sensitivity (PPS), which we define as the change of a CEO's compensation given a 1% increase in stock price. We find that controlling for other characteristics, banks whose CEOs have higher incentive-based compensation are less likely than others to engage in acquisitions. However, when these banks do acquire, the announcement returns are significantly higher. Moreover, by segmenting acquisitions on announcement returns, we

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find that the negative relation between managerial incentive and the probability that a bank will acquire is mainly driven by the lower probability of making value-reducing acquisitions among banks with high pay-for-performance sensitivity. The positive market reaction to an acquisition announcement by banks with greater managerial incentives can also be justified by the long-run performance. We find that, measured by return on assets, acquirers with higher pay-for-performance sensitivity prior to the acquisition also experience greater improvements.

Our results also uncover an important coordinated management of internal and external governance schemes. We find that managers, who are protected by more anti-takeover provisions (ATP) make value-destroying acquisitions. Furthermore, the acquiring banks' performance decline as the market for corporate control for them worsens. Hence, PPS emerges as an efficient tool that shareholders use to mitigate the undesired consequences of reduced external governance mechanisms, such as the market for corporate control.

Our paper augments the corporate governance literature in three ways. First, we add to Bliss and Rosen (2001), who study the effect of CEO compensation on merger decisions in bank holding companies (BHCs) from 1986 to 1995. They find that CEOs with high performance-based compensation are less likely to make acquisitions. They argue that this finding is plausible because after an acquisition, the cash-based compensation generally increases due to the size effect but the performance-based compensation suffers because of the decline in stock prices. Our paper extends their study by exploring the possibility that performance-based compensation can also make value-enhancing acquisitions more worthwhile for managers. Managerial incentive can serve dual roles: not only does it discourage value-destroying acquisitions, but it also motivates CEOs to make value-enhancing acquisitions.

Second, we add to the findings in the area of bank corporate governance. Banks are regulated to a higher degree than are non-financial firms, but it remains unclear whether the governance issues identified as significant in non-financial firms are significant in banks (Adams and Mehran, 2003; Barth, Capiro, and Levine, 2004). Regulatory supervision that ensures that banks comply with regulatory requirements can play a general monitoring role that can either substitute for or complement other monitoring mechanisms.

The empirical evidence on the interaction of regulation and corporate governance and that interaction's effect on value is not conclusive. For example, Mehran (1995) finds that bank performance improves when managers receive stock-based compensation. On the other hand, John and Qian (2003) argue that since banks are regulated and highly levered, they should have lower pay-for-performance sensitivity. Furthermore, John, Mehran, and Qian (2006) find that when regulatory scrutiny is high, perk consumption becomes a larger driver than risk shifting. Adams and Mehran (2002) show that, unlike manufacturing firms, banks with larger boards tend to have higher value, as measured by Tobin's Q. Our paper provides new evidence that managerial incentives can serve as an effective mechanism in corporate governance for regulated institutions such as banks.

Third, we extend the studies that explore the channel through which corporate governance affects firm performance. Specifically, our findings corroborate those of Masulis, Wang, and Xie (2007), who show that among

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non-financial firms, acquirers with strong shareholder rights, measured by the anti-takeover provision (ATP) index, have higher abnormal announcement returns in mergers. We find joint significance of performance based compensation and market for corporate control; companies with higher pay-performance sensitivity and stronger shareholder rights have higher merger returns

The paper proceeds as follows: In Section 2 we describe our data and compare governance measures between merging and non-merging banks. In Section 3 we present the model we use to estimate the probability of an acquisition and the impact of governance variables on this decision. In Section 4 we study the market reaction to the acquisition announcement and in Section 5 we examine the relationship between governance and performance as measured by changes in ROA. Section 6 concludes the analysis.

2 Data

2.1 Sample Selection and Characteristics

We construct our acquisition sample from the information contained in Thompson Financial's SDC Platinum Mergers and Acquisitions database (SDC). We use acquisitions made between January 1991 and December 2005 in the banking industry that meet the following criteria:

- The acquisition is completed.

- The deal value disclosed in SDC is greater than $25 million.

- The acquirer is classified as a national commercial bank with an SIC code of 6021.

- The target is a publicly traded bank.

- The acquirer has annual financial information available on Compustat Bank or the Call Report from the FDIC, as well as stock return data from CRSP for at least a year prior to the acquisition.

- Managerial compensation data is available for the acquirer from Compustat's Execucomp database or from proxy statements a year prior to the acquisition.

Our full sample comprises 178 acquisitions made by 65 bank holding companies, with some acquirers having multiple acquisitions. Table I shows the number of transactions, acquirers' market capitalization, and the number of acquisitions accomplished by acquirers. Consistent with the reported merger activity of non-financial firms in Masulis, Wang, and Xie (2007), more bank acquisitions occurred in 1997–2000 than at other times. Panel A shows that, in our sample, the average market capitalization of an acquirer is about $10.4 billion, increasing from $3.6 billion in 1991 to $26 billion in 2005.

Compared to non-financial mergers, acquirers in bank mergers are much bigger. The average acquirer listed in Masulis, Wang, and Xie (2007) has a market capitalization of $5.59 billion, which is roughly half of the average size

of the banks in our sample. On the other hand, on average, the amount the acquirer paid to the target (deal value) is about 17% of the acquirer's pre-acquisition market capitalization (SIZE_RATIO) (compared with 16% in Masulis, Wang, and Xie's sample), and the average target is about 12% of the size of the acquirer prior to the acquisition. Panel B shows that among the 65 acquirers in our sample, 29 banks (45%) undertake only one acquisition, and ten banks (15%) make at least five acquisitions.

[INSERT TABLE I HERE]

Table II presents summary statistics for variables in our regressions that capture the deal and acquirer characteristics. The Deal Value is close to $1.6 billion, and PCT_ACQ shows that almost all acquisitions involve a full ownership transfer. We find a remarkable difference in financing between bank acquisitions and acquisitions involving non-financial firms. Masulis, Wang, and Xie (2007) report that 46% of the non-financial acquisitions were fully financed by cash. In contrast, only 5.78% of the acquisitions in our sample are fully financed with cash and 78.6% of the acquisitions are financed exclusively with stock. For acquisitions that are financed by both stock and cash, stock accounted for 65% of the deal. We use the indicator variable D_STOCK to represent deals that are mainly financed through stock. It takes the value of one if the acquisition is more than 75% financed by equity and the value of zero otherwise. Our results are robust when we use a value of one for D_STOCK for deals that are 100% financed by stock and a value of zero otherwise.

We also use the asset ratio between the target bank and the acquirer bank prior to the merger (REL_SIZE) as an alternative measure for relative size. On average, the target bank's assets are about 12% of the size of the acquirer bank's assets. Also, 72% of the acquisitions in our sample involve banks that have headquarters in a different state. We define a binary variable, OUTOFSTATE, which takes the value of one if the acquisition involves an out-of-state bank and zero otherwise.

Finally, note that we lose five acquisitions because of missing values for the financing variables. When we include the Relative Size ratio in our analysis the loss of observations become larger because of missing values for the target size.

[INSERT TABLE II HERE]

To compare acquiring banks with their non-merging counterparts, we construct a benchmark sample using bank-years during which there are no acquisitions, i.e., years in which the bank is neither an acquirer nor a target. The benchmark sample period starts in 1992 because Execucomp does not have data prior to 1992. This restriction causes us to lose eight acquirers from 1991-1992 in regressions that use the benchmark sample. These regressions primarily use bank characteristics as the control variables. Data availability in these control variables causes us to lose at least

three more acquisitions bringing the sample to 165 acquisitions made by 63 bank holding companies. Once we make the restriction that a bank that has made multiple acquisitions in the same year is counted only once, Panel B shows that our sample comprises 155 bank years. We match these sample acquisitions with 635 benchmark bank-years in the period of 1992 - 2005.

Only 25% of our acquirer banks are also in our benchmark sample at some point during the sample period. For a robustness check, we also use an alternative benchmark sample that consists of only banks that have never participated in acquisitions. The results are qualitatively the same.

Panel B of Table II compares the characteristics of banks in the acquirer sample with banks in the benchmark sample. In many respects the two samples are very similar, with comparable total assets (TA), market capitalization (MVE), stock returns (RET), stock return volatility (RET_VOL), loan loss provisions, and return on assets (ROA). Acquirers tend to hold a slightly lower portion of their assets in cash (CASH): 3.96% versus 4.70%.

2.2 CEO Compensation

For CEO compensation, we collect information such as annual salary, bonus, new grants of restricted stocks and options, and stocks and options from previous grants from the Execucomp database. For acquirers in deals before 1992, we obtain the information from the proxy statements whenever it is available. Following Core and Guay (1999), we use pay-for-performance sensitivity (PPS) to measure the connection between the CEO's incentive and shareholders'value. PPS reflects the change of a CEO's wealth (in thousands of dollars) from her stock and option holdings, given a 1% increase in stock price. Similar to Core and Guay (1999), we use the Black and Scholes (1973) formula to value the options, assuming a ten-year maturity on options and a return volatility based on the monthly stock returns in the past 12 months. To capture the overall wealth effect, we include grants from the past as well as the newly awarded grants.

In addition to the total PPS, we also calculate PPS based on individual components, such as stock holdings (SPPS) and option holdings (OPPS). Since PPS measures are heavily skewed to the right, we use the natural logarithm of PPS instead of the raw value. We use log(PPS+1) to eliminate the extreme outliers when bank-years have no incentive-based compensation.

In Table III, Panel A first compares the CEO compensation between the acquirer sample and the benchmark sample. The cash compensation (Cash Comp) includes payment in salary and bonus, and the total compensation (Total Comp) includes both the cash compensation and incentive-based compensation such as stock or option grants. The median acquirer CEO received a cash compensation of $1.15 million, which is 53% of her total compensation. Although similar in dollar terms, the median cash compensation for the benchmark sample is lower in percentage terms (47% of the total compensation). Acquirer CEOs also have a lower median Total PPS, $191,000 as compared to $249,000 for CEOs who are not involved in acquisitions. The difference in Total PPS between the acquirer CEOs

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and the benchmark CEOs is significant marginally at the 10% level. However, this difference comes mainly from the difference in Stock PPS, which is significant at the 5% level.

In terms of sample size we have full compensation data for our 165 acquisitions (155 bank years). However, as we expand the coverage of the governance attributes we lose about one-third of our sample.

[INSERT TABLE III HERE]

Figure 1 presents the cash compensation, total compensation, and PPS for bank CEOs for both the acquirer and benchmark samples. Over 13 years, we see that the average total compensation for bank CEO's increases 81%, from $2.7 million in 1992 to $4.9 million in 2004. The PPS also increases dramatically. In 2004, for every 1% increase in share price, a median CEO gains about $577,000 in her personal wealth, more than five times as much as she would have in 1992.

[INSERT FIGURE 1 HERE]

2.3   Other Corporate Governance Variables

To control for other internal and external governance mechanisms, we also collect information on the CEO's characteristics, structure of the board of directors, the strength of shareholder rights, and the level of institutional ownership.

CEO Characteristics   Since PPS may increase with a CEO's tenure, we use Execucomp to collect data on the age of the bank CEOs and her tenure at the current position. We find that the CEO of an acquiring bank does not differ significantly in her age or tenure from CEOs in the benchmark sample. Similar to Bliss and Rosen, we create a dummy variable D_AGE to indicate whether the CEO is greater than 60 years old. [1]

Board Structure   Many studies document that the size and composition of a board of directors can influence the effectiveness of internal monitoring. Therefore, we obtain information on board size (BSIZE), the percentage of independent directors (BINDEP), and whether the CEO is also the chairman of the board (D_CEO) from the Investors' Responsibility Research Center's (IRRC) Director database. Since IRRC data started in 1996, for acquisitions that occurred earlier, we obtain information from proxy reports whenever it is available.

The acquirers in our sample have significantly more directors than the banks in our benchmark sample: acquirer banks have a median of 17 directors, compared to 15 directors in the benchmark sample. In both samples, more

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[1]Bliss and Rosen use a cut-off of 50. However, in our sample only 8% of the sample is under 50 years of age, versus 32 percent of the sample that is under 60 years of age. Our results are similar if we use the 50 age cutoff.

than half of the directors are independent (the median for BINDEP is 70% for the benchmark sample and 71% for acquirer banks). In the majority of the banks, the CEO also serves as the chairman of the board (D_CEO is 93% for the benchmark sample and 89% for acquirer banks).

Anti-takeover Provisions   A number of recent papers confirm the governance role of the market for corporate control (Gompers, Ishii, and Metrick, 2003; Bebchuk, Cohen, and Ferrell, 2004; Bebchuk and Cohen, 2005). They show that firms with more anti-takeover provisions (ATPs) or weaker shareholder rights have lower value. To explore the channel through which ATPs destroy value, Masulis, Wang, and Xie (2007) find that acquirers with more ATPs also have lower merger announcement returns.

These studies measure the level of shareholder rights in a number of ways. Gompers, Ishii, and Metrick (2003) construct a governance index (GINDEX) using 24 ATPs collected by IRRC. Bebchuk, Cohen, and Ferrell (2004) construct an entrenchment index (EINDEX) based on six out of the 24 ATPs used in the GINDEX, including staggered boards, limits to shareholder by–law amendments, super–majority requirement for mergers, super–majority requirement for charter amendments, poison pills and golden parachutes. Lower values of GINDEX and EINDEX indicate higher levels of market discipline and stronger shareholder rights. Bebchuk and Cohen (2005), on the other hand, use a binary variable based on whether a firm has a staggered board (CBOARD), which captures weakened market discipline. We report results based on EINDEX for all of our tables, but results are robust when GINDEX or CBOARD are used.

Table III findings show that the average GINDEX for banks (based on both the benchmark sample and the acquirer sample) is 10.19, higher than the average GINDEX of 9.15 reported in Gompers, Ishii, and Metrick (2003) for non-financial firms. Moreover, acquirers in the banking industry also have more ATPs in place than non-financial acquirers. The average GINDEX and EINDEX for our acquirer banks are 10.04 and 2.69, respectively, as compared to 9.45 and 2.24 for non-financial acquirers reported in Masulis, Wang, and Xie (2007). Further, 73% of the acquirer banks in our sample have staggered boards, compared to 61% for non-financial acquirers, as shown in Masulis, Wang, and Xie (2007).

These observations bring up an important issue. Most mergers in the banking industry are friendly rather than hostile. This behavior is often attributed to the process of regulatory approval of bank mergers, which would make hostile takeovers less likely. However, our finding shows that banks adopt more ATPs than the non-financial firms. Hence, existence of such a high number of anti takeover provisions also contributes to the frequency of the friendly mergers.

Panel B of Table III presents the correlation matrix among various governance measures. Banks with higher PPS also tend to have weaker boards (are more likely to have their CEO be chairman of the board), but stronger market discipline (lower GINDEX and EINDEX) and as well as CEOs who are older and have a longer tenure. Since different

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governance mechanisms can be used as complements or substitutes, we control for other governance mechanisms that are in place when we investigate the effect of PPS.

Finally, to control for macro-economic conditions that might influence banks'decisions to acquire, we include a year fixed effect in all of our specifications. All independent variables are measured one year prior to the acquisition announcement.

3 Probability of Acquiring

Bliss and Rosen (2001) argue that acquisitions have two effects on CEO compensation: a higher cash compensation due to size effect, but lower value in stock and option grants as a result of declining stock prices. Therefore, CEOs with more incentive-based compensation are less likely to engage in acquisitions. Bliss and Rosen (2001) provide evidence in support of this expectation.

To reconcile our sample with their sample, we first estimate a logit model, where the dependent variable is an indicator variable that equals one if a bank makes an acquisition in the next year and equals zero otherwise. We use similar governance variables used by Bliss and Rosen (2001) such as PPS, board size (BSIZE), percentage of independent directors (BINDEP), and CEO age. However, we also add EINDEX as a regressor. The market for corporate control can affect the acquisition decision because if there is lack of market control (weaker shareholder protection), then the CEO may make decisions based on personal interest rather than the interests of shareholders. We study a bank's decision to acquire in the next year based on its CEO's compensation and other governance variables in the current year.

In contrast to our use of PPS as a proxy for incentive based compensation, Bliss and Rosen consider only the percentage of equity based compensation from the current year. We include equity holdings from current grants as well as shares or options owned by the CEO from previous grants to capture the total wealth effect of stock price on CEO's wealth. Over our sample, the PPS based on new grants accounts for $9-15\%$ of the total PPS.

We augment the Bliss and Rosen specification with acquirer characteristics to account for other potential factors. Neoclassical theory suggests that acquisitions help to reallocate resources to their best use (Jovanovic and Rousseau, 2002). Meanwhile, agency theory such as Jensen (1986) presents that when there is free cash flow, managers have incentives to overinvest for their private benefit. Taking both arguments into account, we control for the acquirer's operating performance using return on assets (ROA) and the banks' cash holdings, adjusted by total assets (CASH). In addition, we include a proxy for firm size (SIZE) using the logarithm of total assets.

Banks may also engage in acquisitions to take advantage of the recent increase in stock price or high volatility in market valuation (Rhodes-Kropf, Robinson, and Viswanathan, 2005). To control for the motivation due to market valuation we use the average stock return (RET) and the volatility of return (RET_VOL) one year prior to the

acquisition announcement. We use the ratio of loan loss provision (PRV) over the total amount of loans outstanding as our proxy for the portfolio risk. Banks with riskier assets expect to have higher default rates in the future, so they may choose to put more money into a loan loss provision account to meet future needs. Mergers may be positively or negatively auto-correlated, depending on whether the bank follows a merger strategy. To control for past merger activity, we add an indicator variable that denotes whether the bank has participated in acquisitions in previous years (D_PMERGER).

[INSERT TABLE IV HERE]

Table IV presents our findings. In our logit estimation, we require that the sample has full compensation and firm characteristic data. This requirement reduces our sample to 415 benchmark years and 100 acquirer bank-years. Out of the 415 benchmark years, in 88 cases benchmark banks did not grant options, but did grant stock data. For these 88 banks, we are able to calculate Stock PPS, and Total PPS, but not Option PPS, resulting in fewer observations for specification (3). Additionally, we do not have full data for board compensation or EINDEX. Our sample is reduced to 394 observations when we add board data (79 acquirer bank years and 315 benchmark years). Including EINDEX in the specification further reduces the sample to 323 observations (79 acquirer bank years and 244 benchmark years).

Results show that, similar to Bliss and Rosen (2001), higher incentive-based compensation leads to a lower probability of acquisitions. On average, a one unit increase in PPS decreases the odds of making an acquisition by 21 percent.[2] Our results are robust using stock PPS, option PPS, or total PPS, with or without controlling for other governance measures, suggesting that higher PPS reduces the incentive to engage in merger activity.

Panel B shows the predicted likelihood of acquiring based on PPS levels. Moving from the 1st quartile to the last quartile in total PPS lowers the probability to acquire by 27 percent and banks with CEO's PPS at one standard deviation above the mean are 40% less likely to engage in acquisition than banks with PPS at one standard deviation below the mean.

Specification (4) shows the estimation when we control for board size (BSIZE), board independence (BINDEP), and CEO age (D_AGE). Overall, although the age of a CEO tends to relate negatively to the probability to acquire, the effect is far from being significant. Likewise, board size and independence are not significantly related to the likelihood of a merger. Specification (5) includes EINDEX, to control for managerial entrenchment. EINDEX is positive but insignificant, which implies that weaker shareholder rights increase acquisition probability but this factor has a negligible effect on the acquisition decision.

In terms of control variables our findings are quite plausible. We observe that bank size has an important positive impact on acquisition probability. An acquisition is more likely for banks that hold less cash, which is consistent with our previous finding that bank acquirers finance acquisitions mainly by stock and rarely use cash. Positive past

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[2]We translate the coefficient of PPS (-0.235) into the odds ratio as $\exp(-0.235) = 89\%$.

stock returns also lead to a probability to acquire, and banks with previous acquisition experience are more likely to acquire than banks that have never participated in an acquisition.

4   PPS and Announcement Stock Returns

In this section, we examine the returns around the acquisition announcement using an event study method to investigate whether banks with better-aligned managerial incentives realize better announcement returns.

4.1   Univariate Analysis

We measure acquirer announcement returns using the market-adjusted model. We obtain announcement dates from Thompson Financial's SDC Mergers and Acquisition Database. We compute the cumulative abnormal returns (CARs) in three-day and five-day windows, (-1, +1) and (-2, +2), where event day zero is the announcement date. We use CRSP value-weighted returns as the benchmark market return to calculate the abnormal returns.

Panel A of Table V shows that the three-day and five-day acquirer CARs are widely dispersed, ranging from -8.78% to 8.82% and from -10.65% to 12.40%, respectively. Neither the mean nor the median is significantly different from zero. Figure 2 presents the histogram of returns.

[INSERT TABLE V AND FIGURE 2]

We take special note of two results. First, the acquisitions in our sample do not in general "lead to a decline in acquirer stock prices," as noted by Bliss and Rosen. In fact, acquirers have positive announcement returns in more than half of the acquisitions (54%) and the three-day CAR for those acquirers averaging around 1.72%. Second, although a value-destroying acquisition can lead to loss of value in the CEO's personal portfolio, the reverse can also occur. That is, the CEO can gain a significant amount of wealth when the acquisition is value-enhancing. For example, for over half the acquirers that experienced a positive three-day CAR, the increase in stock price translates to a wealth increase of $777,000 to the CEO, which is about half of the CEO's annual cash compensation.[3] Therefore, in the context of acquisitions, managerial incentives can work as a double-edged sword. Our hypothesis is that high PPS can curb the CEO's desire to make private benefit driven acquisitions that are at the expense of shareholders, but at the same time high PPS can promote acquisitions that may create value for both parties.

We test this hypothesis first at the univariate level. Using both the benchmark and the acquirer samples, we divide all banks into high-, medium-, and low-PPS groups. The low-PPS group has the bottom third and the high-PPS group has the top third of the observations based on total PPS. We include the benchmark sample for cutoff

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[3]The average PPS of the acquirer CEOs is $452,000 in our sample.

points on PPS because using only the acquirer sample may bias the classification since PPS is shown to affect the probability that a bank will acquire.

Among 178 acquisitions, there are 52 acquirers in the low-PPS group and 59 in the high-PPS group, with the remaining 62 acquirers in the Medium-PPS group. Table V Panel B shows the mean and median PPS for each group. For every one percent change in stock price, the median CEO in the low-PPS group has an average wealth increase of $55,000$, compared to an increase of $976,000$ for the median CEO in the high-PPS group.

Comparing the announcement returns (both three-day and five-day) across different groups, we find a positive relation between PPS and returns. Panel C shows that the low-PPS acquirers have an average (median) CAR of -0.18% (-0.38%), while the high-PPS acquirers have an average (median) CAR of 0.64% (0.77%) around acquisition announcement. The difference is significant at the 7% and 3% level based on t-test and signed-rank test, respectively. Figure 3 shows the comparison in a box plot.

[INSERT FIGURE 3 HERE]

4.2   Multivariate Analysis

To further test our hypothesis that incentive-based compensation promotes better acquisition decisions, we also perform our analysis in a multivariate setting. We estimate a model of acquirer returns. The dependent variable is the abnormal stock return for the acquirer, and the key explanatory variable is the pay-for-performance sensitivity (PPS). We also control for other governance measures such as board structure (BSIZE, BINDEP), managerial entrenchment (EINDEX), and CEO age (D_AGE).

The other explanatory variables are for acquirer characteristics, such as log of total assets (SIZE), return on capital (ROA), cash holdings (CASH), and previous merger activity (D_PMERGER). Moeller, Schlingemann, and Stulz (2004) find evidence that acquirer returns are negatively related to bidder size, regardless of the method of payment or whether the target is public or private. In addition, when they examine returns around acquisitions, Penas and Unal (2003) document a significant too-big-to-fail (TBTF) factor. They show that bond- and stockholders of medium-sized banks realize the highest returns when the acquiring banks push the combined bank's asset size above the TBTF threshold.

For deal characteristics, we control for the relative size ratio, the method of payment, and geographic diversification. Asquith, Bruner, and Mullins (1983) show that acquirer announcement returns are positively related to relative deal size, but Moeller, Schlingemann, and Stulz (2004) find that the reverse is true for large acquirers. Our sample is more similar to Moeller, Schlingemann, and Stulz's large-acquirer sample: the market capitalization for the average (median) acquirer in our sample is $9.5 ($3.2) billion. We use the ratio between deal value and acquirer's market value of equity as our relative size measure (SIZE_RATIO). In unreported regressions, we use the asset size ratio

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between target and acquirer banks prior to the merger as an alternative measure, and our results are robust. Many merger studies have reported lower acquirer returns when acquisitions are paid using stock. We include the method of payment in our regression as a control (D_STOCK), although the majority of the acquisitions in the banking industry are paid in cash. Interstate bank mergers are shown to offer less opportunity for increasing market power and fewer cost savings (Prager and Hannan, 1998). Therefore, we include an indicator variable (OUTOFSTATE) to control for geographic diversification.

Table VI summarizes the results. For brevity, we report only results based on the three-day window. Results based on other event windows, such as (-2, 2), (-3, 1), and (-5, 1), are qualitatively the same.

[INSERT TABLE VI HERE]

In all specifications, all three PPS measures (PPS, SPPS, and OPPS) have positive and significant coefficients, implying that acquirers with a high PPS tend to consistently outperform acquirers with a low PPS. A one unit increase in total PPS increases the announcement return by 44 basis points and the effect is even stronger at 49 basis points when we control for other governance variables.[4] Among other governance variables, we find that announcement returns are higher with a lower EINDEX (or more anti-takeover provisions adopted) and are not significantly affected by board structure or CEO age.

The significance of the EINDEX is noteworthy for at least two reasons. First, recall from Table IV that market for corporate control has a negligible impact on the acquisition decision. However, once the acquisition decision is made, the market penalizes those banks that have weaker shareholder rights. Masulis, Wang, and Xie (2007) also find that more ATPs (higher EINDEX) lead managers of non-financial firms to make value-destroying acquisitions. The negative significant coefficient for EINDEX in Table VI shows that the same dynamics are at work for financial firms. Fewer ATPs enhance the market for control, leading managers to make value-enhancing acquisitions.

Second, both EINDEX and PPS are significant but influence returns in opposite directions. Masulis, Wang, and Xie (2007) fail to find any significance for CEO compensation variables in their regressions. Our findings, however, show that banks do coordinate internal and external governance measures, where the negative aspects of the reducing market for control is mitigated by designing compensation contracts that align the interests of managers with those of shareholders.

To sharpen the relation between PPS and returns we create indicator variables for different PPS groups. D_MPPS and D_HPPS are indicator variables that equal one if the acquirer has pre-acquisition PPS in the middle or top one-third among all banks in that year, respectively. When we include D_MPPS and D_HPPS in the estimation (column 4), we find that the positive effect of PPS on returns increases monotonically: while the acquirers in the high-PPS

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[4]We lose some observations in Table VI column (5) when we control for other governance variables such as BSIZE, BINDEP, D_AGE, and EINDEX.

groups outperform the low-PPS group significantly by 1.631% on a three-day announcement returns, the difference between the low and middle PPS groups is also significant but half the magnitude at 0.847%.

[INSERT TABLE VI HERE]

In terms of the control variables, we find that returns are higher for small acquirers. Cash holdings and performance (ROA) consistently show a positive effect on announcement returns, although the effects are significant in some, but not all, of the specifications.

When we examine the deal characteristics, we observe that there is a negative relation between the relative size ratio and the acquirer announcement return. That is, returns are higher when the target is smaller relative to the acquirer's own size. This result is in contrast to Rivard and Thomas (1998), who show that larger acquisitions lead to increased efficiencies and better performance. However, given the large size of our sample deals, this finding is consistent with findings from Moeller, Schlingemann, and Stulz (2004) for their large-acquirer sample.

Contrary to acquisitions in non-financial firms, the method of payment does not significantly affect returns. This finding may be due to the fact that more than 82% of the acquisitions in the banking industry are financed mainly by stock. However, the relation between D_STOCK and acquirer returns is negative and this finding (albeit insignificant) supports Houston and Ryngaert (1994), who find that the returns to acquirers are significantly greater in bank mergers financed with cash than in acquisitions financed with stock. Mergers between banks with headquarters in different states do not significantly outperform within-state mergers.

4.3   Probability of Acquiring (Controlling for Merger Returns)

Our central hypothesis in this paper is that incentive-based compensation can serve as a double-edged sword: it prevents CEOs from making value-destroying acquisitions, but awards them for making value-enhancing acquisitions. If this hypothesis is true, then we should observe that CEOs with a high PPS make value-destroying acquisitions with lower probability.

To test this hypothesis, we first divide our acquisition sample into two groups: winners and losers, based on the cumulative abnormal stock returns around the announcement. Then, we estimate a multivariate logit model, where the dependent variable is an indicator variable that equals one if the bank makes an acquisition announcement and the announcement return is negative (D_ACQ = 1), two if the bank makes an acquisition announcement with positive return (D_ACQ = 2), and zero if no acquisition announcement is made (D_ACQ = 0). For acquirers that have done multiple acquisitions within a year, we use the weighted average return based on deal value to identify the indicator variable.

Table VII reports the results. The left panel compares making a value-destroying acquisition with no acquisition (D_ACQ=1 vs. D_ACQ=0), and the right panel compares making a value-enhancing acquisition with no acquisition

(D_ACQ=2vs. D_ACQ=0). We find that a higher PPS leads to a significantly lower probability of making value-destroying acquisitions, while having no such effect on value-enhancing acquisitions. Column 1 shows that a one unit increase in PPS lowers the odds of making a value-destroying acquisition by 42% (in the left panel) while having almost zero effect on the odds of making a value-enhancing acquisition (in the right panel). The marginal effect of PPS on making value-destroying acquisition is about twice as strong as the effect we observe in Table IV (column 1), suggesting that the negative relationship between the PPS and the probability to acquire reported in Table IV is mainly driven by the lower probability of the high-PPS banks making value-destroying acquisitions.

In addition, we obtain a number of plausible results from the bank characteristics variables. While columns 1-4 show that large banks are more likely to make value-destroying acquisitions, columns 5-8 indicate that banks with recently rising stock returns are more likely to make value-enhancing acquisitions. In both cases, acquisitions are in general more likely for banks with lower cash holdings. Although banks with previous acquisition experiences are more likely to make both types of acquisition, the marginal effect is stronger for value-destroying acquisitions. Our results are robust in both groups when we control for other governance mechanisms, such as board structure, and CEO age.

[INSERT TABLE VII HERE]

5   Performance Change Following a Merger

The previous section shows that market participants expect acquisitions to deliver more value in the future when the acquirer CEO's compensation is more closely tied to the wealth of the shareholders. In this section, we examine whether the market is efficient in predicting successful bank mergers. In other words, do acquirers with high PPS actually achieve better long-term performance?

Studies on banks' performance change following a merger provide mixed results. Craig and Cabral dos Santos (1997) show that merged banks outperform the industry in the post-merger period, but Pilloff (1996) finds no substantial evidence that mergers are associated with any significant change in performance.

We use ROA as our measure for operating performance. Since acquisitions may potentially affect the market value of assets in a bank either through change of the equity value or from the method of payment, using the book value of assets as the base for return helps us to eliminate the unwanted noise.

For each acquisition, we calculate the change in ROA two ways. The first method is the weighted average of the target and acquirer where we calculate change in ROA as the difference between the acquirer's ROA after the acquisition (average of quarters (+5,+8)) and the combined acquirer–target ROA prior to the acquisition (average of quarters (-1,-4)) divided by the pre-acquisition combined acquirer–target ROA. We use market value of equity of

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the acquirer and the target as weights to compute the pre-acquisition ROA. The second method is the acquirer only ROA, where we use only the acquirer's ROA to calculate the pre-acquisition period.

We restrict the sample to acquisitions where both the target and acquirer have ROA data four quarters before the merger and the acquirer to have ROA data eight quarters after the acquisition. This restriction reduces our sample further to 87 acquiring banks from the 100 acquiring banks we use in the logit estimation in Table (4). The sample further reduces to 69 acquirers when we require that each bank has available board characteristics variables and to 62 when we require the availability of EINDEX.

The unreported univariate statistics show that the change of ROA around acquisition is insignificant from zero with a mean of -0.01% and a median of -0.008%. Meanwhile, acquirers do exhibit a wide cross-sectional dispersion; the standard deviation in change of ROA is about 23%. A quarter of our sample experience improvement of greater than 8.6%, while another quarter experience deterioration of more than 13.2%.

We estimate a regression model of changes in ROA on pre-acquisition PPS, controlling for acquirer and deal characteristics. Our dependent variable is the change in ROA as a percentage of the pre-acquisition ROA. Table VIII shows the results. As with return regressions, pay-for-performance is significant and helps to predict the improvements in post-acquisition operating performance. Banks with high PPS prior to the acquisition generate greater improvement as measured by the change in ROA. The coefficient estimate shows that a one unit increase in the log of PPS leads to a 4 to 7% increase in the change of ROA.

[INSERT TABLE VIII HERE]

We also find that acquirers with smaller and more independent boards tend to have greater improvement measured by change in ROA. Likewise, lower managerial entrenchment leads to better returns, and older CEOs have larger increases. Small acquirers with high stock returns (in the past) and low cash holdings also experience better improvement in operating performance. On the deal characteristics, we find that previous acquisition experience and acquisitions that involve banks in different states have bigger improvements.

Our results are robust when we only use the acquirer's pre ROA instead of the combined acquirer target ROA. Using only the acquiring bank's ROA before the merger, we have 173 observations when we do not include board and entrenchment characteristics. This sample reduces to 79 observations when we add these governance variables to the estimation. In Table 8, Specification (6) shows the results of the estimation using the acquirer only ROA before the merger. The results are similar to Specification (7).

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6 Conclusion

In this paper we examine how pay-for-performance sensitivity in a CEO's compensation affects the probability of acquiring, the abnormal returns around the announcement of an acquisition, and the changes in post-acquisition performance.

We show that banks are less likely to acquire if the CEO's compensation is closely linked to the wealth of the shareholders through performance-based compensation. This result is mainly driven by the lower probability that these firms will make value-destroying acquisitions. When high–PPS managers do engage in acquisitions, financial markets expect good results and react positively; we find that the announcement returns for banks with greater incentive compensation are significantly higher than acquirers with low–PPS. We support these findings with ex-post evidence as well. Using ROA as our measure, we find that following acquisitions, banks with high PPS experience bigger improvement in their operating performance.

One important finding from our study is that there is coordinated management of governance measures at the bank level. The shareholders appear to mitigate the adverse effects of a reduced market for corporate control by designing compensation contracts that are more sensitive to performance. Following these results, it suggests that certain compensation contracts can act as a substitute for other governance mechanisms, resulting in better shareholder protection.

Our findings suggest an important policy implication. For bank acquisition decisions, pay-for-performance sensitivity appears to be the most important driver among all the governance measures studied in this paper. It significantly affects the success of acquisitions. Stock markets view acquisitions made by CEOs with high pay-for-performance sensitivity as more profitable, leading to improvements in operating performance. Compensation design also serves as a mitigating factor for a reduced market for corporate control. In other words, market participants care about the compensation design at BHCs, and for a good reason. Hence, regulators might follow suit by explicitly including top management compensation structure in the supervision and rating process.

7 Tables

Table I: Summary Statistics: Acquisitions by Year

Panel A describes the deals in our sample by year. Deal value is defined by SDC as the total value of consideration paid by the acquirer to the target. MVE denotes the market value of equity of the acquirer. TAsset and AAsset denote the total assets of the target and the acquirer, respectively. Panel B presents the number of acquisitions taken by banks during our sample period. All deal data are taken from SDC Platinum Mergers and Acquisitions database.

Panel A: Deals by Year

	Number of	Deal Value	Acq. MVE	Deal Value/Acq. MVE	TAsset/AAsset
1991	4	1,337	3,572	0.32	0.36
1992	4	395	1,264	0.29	0.23
1993	14	273	3,043	0.09	0.10
1994	13	364	3,624	0.12	0.11
1995	10	1,089	3,133	0.31	0.19
1996	11	268	1,378	0.21	0.12
1997	16	1,051	3,731	0.23	0.17
1998	21	816	4,800	0.17	0.13
1999	24	639	11,583	0.11	0.06
2000	16	1,306	21,438	0.08	0.11
2001	8	271	13,053	0.13	0.08
2002	5	209	9,073	0.07	0.03
2003	12	4,685	22,454	0.16	0.12
2004	11	7,601	17,369	0.25	0.12
2005	9	4,625	26,048	0.18	0.21
Total	178	1,597	10,398	0.17	0.12

Panel B: Number of Deals by Acquirers

Number of Acquisitions	Frequency	Percent
1	29	44.62
2	11	16.92
3	10	15.38
4	5	7.69
5 or more	10	15.38
Total	65	100

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Table II: Summary Statistics: Deal Characteristics and Bank Characteristics

Panel A summarizes the deal characteristics for acquirers. N shows the number of acquirers for each characteristic. Panel B compares acquirers with the benchmark sample, which contains all bank–years that are not related to mergers (where the bank is neither an acquirer nor a target). TA is the book value of assets. N shows the number of bank years. Banks that make multiple acquistions in a single year are only counted once per year. We use pairwise t-tests to examine whether there is a significant difference between the benchmark and the acquirer sample. *, **, and *** denote significance at the 10, 5, and 1% levels, respectively.

Panel A: Deal Characteristics

	Mean	Median	N
Deal Value (in $ mil)	1596.57	6438.61	178
PCT_ACQ	99.92	0.64	178
D_STOCK	0.82	0.38	173
ALLSTOCK	78.61	41.12	173
ALLCASH	5.78	23.4	173
SIZE_RATIO	0.35	0.51	178
REL_SIZE	0.12	0.14	151
OUTOFSTATE	0.72	0.45	178

Panel B: Bank Characteristics

	Acquirer			Benchmark		
	Mean	Median	N	Mean	Median	N
TA	52,328	20,255	155	52,839	17,021	635
MVE	9,546	3,203	143	7,724	2,503	623
RET	0.23	0.19	143	0.21	0.18	622
RET_VOL	0.23	0.21	143	0.25*	0.22	623
ROA	1.21	1.2	155	1.17	1.19	635
PRV%	0.96	0.7	143	0.92	0.59	568
CASH%	3.93	3.27	112	4.63***	3.91**	428

Table III: Summary Statistic: Governance Variables

This table provides summary statistics on governance variables. Panel A compares the acquirer banks with the benchmark sample, and Panel B presents the correlation matrix. A bank is an acquirer if it makes at least one acquisition in the current year. The benchmark sample contains all bank years that are not related to mergers (where the bank is neither an acquirer nor target). N is the number of bank years. Banks that make multiple acquisitions in a year are only counted once per year. We use pairwise t-tests to examine whether there is a significant difference between the benchmark and the acquirers, or between the benchmark and the targets. *, **, and *** denote significance at the 10, 5, and 1% levels, respectively.

Panel A: Summary Statistics: Acquirer Sample and Benchmark Sample

	Acquirer			Benchmark		
	Mean	Median	N	Mean	Median	N
Cash Comp ($ mil)	1.5	1.14	155	1.6	1.1	635
Total Comp ($ mil)	3.61	2.05	155	4.49	2.28	635
Pct_CashComp(%)	0.57	0.56	155	0.55	0.53	635
Stock PPS	231	80	155	283	115**	635
Option PPS	221	71	155	219	89	524
Total PPS	452	191	155	502	249*	635
CEO Characteristics						
Tenure	5.53	4	143	5.9	4	623
Age	56.43	56	150	56.43	57	630
Board Characteristics						
BSIZE	16.47	17	105	15.44***	15***	386
BINDEP	0.69	0.71	105	0.69	0.7	386
D_CEO	0.89	1	105	0.93	1	381
Anti-Takeover Provisions						
ETINDEX	2.69	3	107	2.53	3	394
GINDEX	10.04	10	107	10.19	10	394
CBOARD	0.73	1	107	0.67	1	394

Panel B: Correlation of Governance Variables

	PPS	BSIZE	BINDEP	D_CEO	EINDEX	GINDEX	TENURE	AGE
PPS	1							
BSIZE	-0.02	1						
BINDEP	0.02	0.06	1					
D_CEO	0.11**	0.08*	0.04	1				
EINDEX	-0.28***	-0.21***	-0.03	0.02	1			
GINDEX	-0.26***	-0.13***	0.04	0.04	0.75***	1		
TENURE	0.19***	0.07***	-0.05	0.15***	-0.09***	-0.03	1	
AGE	0.13***	0.16***	-0.09*	0.18***	-0.11***	-0.01	0.42***	1

Table IV: Probability of Acquisition

This table reports the results from logit regressions. The dependent variable equals one if the bank makes at least one acquisition in the next year and equals zero otherwise. All specifications include a year dummy. We break down our observations into the number of firm years for acquirers and benchmarks. Panel B shows the sensitivity analysis between different PPS levels and the probability of a bank engaging in acquisition based on column (1) - (3), respectively. Holding all other variables constant at the mean levels, we use 25th (75th) percentile values for the compensation variables to examine changes in the probability of acquisition. We also use PPS values for one standard deviation above and below the mean levels. *, **, and *** denote significance at the 10, 5, and 1% levels, respectively.

Panel A: Logit Estimation

	(1)	(2)	(3)	(4)	(5)
Pay-for-performance					
PPS	-0.235**			-0.274*	-0.357**
	(0.110)			(0.159)	(0.174)
SPPS		-0.197**			
		(0.094)			
OPPS			-0.333**		
			(0.155)		
Other Governance Characteristics					
BSIZE				0.040	0.035
				(0.035)	(0.039)
BINDEP				0.270	0.304
				(1.032)	(1.112)
EINDEX					0.004
					(0.131)
D_AGE				-0.373	-0.211
				(0.329)	(0.357)
Bank Characteristics					
SIZE	0.304**	0.274**	0.416***	0.420**	0.309
	(0.122)	(0.115)	(0.147)	(0.163)	(0.195)
ROA	0.595	0.482	0.21	0.820	0.995
	(0.429)	(0.420)	(0.503)	(0.543)	(0.613)
RET	1.647**	1.678**	2.278***	2.027**	2.372**
	(0.655)	(0.658)	(0.734)	(0.879)	(1.014)
RET_VOL	-0.489	-0.53	-0.767	-0.636	-2.522
	(2.004)	(2.008)	(2.229)	(2.416)	(2.796)
CASH	-0.178***	-0.171***	-0.201***	-0.315***	-0.286***
	(0.067)	(0.066)	(0.075)	(0.099)	(0.100)
PRV	-0.014	-0.022	-0.077	-0.161	0.011
	(0.244)	(0.246)	(0.290)	(0.287)	(0.303)
D_PMERGER	1.208***	1.209***	1.456***	1.384***	1.346***
	(0.265)	(0.265)	(0.306)	(0.336)	(0.363)
Const.	-3.007**	-2.948**	-2.890*	-4.714***	-3.495
	(1.342)	(1.339)	(1.514)	(1.813)	(2.298)
Obs.	515	515	427	394	323
Acquirer Obs.	100	100	100	79	68
Benchmark Obs.	415	415	327	315	255
Psuedo R^2	0.103	0.103	0.136	0.151	0.164

Panel B: Predicted Likelihood of Acquisitions

	P25	P75	Change	Mean - STDEV	Mean + STDEV	Change
Total PPS	18.22%	13.29%	-27.1%	20.38%	12.19%	-40.2%
Stock PPS	18.25%	13.57%	-25.6%	20.02%	12.44%	-37.9%
Option PPS	19.73%	12.18%	-38.3%	21.86%	10.99%	-49.7%

Table V: Acquirer Stock Returns: Univariate Analysis

This table summarizes acquirer returns for different PPS groups. Panel A shows the cumulative abnormal stock returns (CARs) in percentages for acquirers using a three-day and a five-day window where day zero is the event day. Panel B summarizes the PPS for each group based on total PPS where the low-PPS group has the bottom third of the observations, and the high-PPS group has the top third of the observations. PPS is in thousands of dollars. Panel C compares CARs between acquirers in different PPS groups. T- and signed-rank tests are performed to examine whether the mean or median returns are significantly different between high-PPS and low-PPS groups. *, **, and *** denote significance at the 10, 5, and 1% levels, respectively.

Panel A: Summary Statistics on Acquirer Returns

	Mean	Min	Max	p-value (t-test)	p-value (sign-rank test)
(-1, 1)	0.20	-8.78	8.82	0.25	0.15
(-2, 2)	0.26	-10.65	12.40	0.29	0.30
N	178				

Panel B: Summary Statistics on PPS Groups

PPS Group	Mean	Median	Min	Max	N
1	80	55	0	289	52
2	275	250	84	676	62
3	1173	976	164	3929	59
Total	510	193	0	3929	178

Panel C: Acquirer Returns by PPS Group

	CAR (-1, 1)		CAR (-2, 2)	
PPS Groups	Mean	Median	Mean	Median
Low	-0.18	-0.38	-0.39	-0.44
Medium	0.13	0.21	0.23	0.36
High	0.64	0.77	0.93	0.49
t-test (high − low)(p-values)	-1.82 (0.07)		-2.03 (0.04)	
Signed-Rank (high − low)(p-values)	-2.16 (0.03)		-2.28 (0.02)	

Table VI: Acquirer Stock Returns: Multivariate Analysis

This table shows results from regressions where the dependent variable is the acquirer's three-day cumulative abnormal stock returns (CARs) around acquisition announcement. D_MPPS and D_HPPS are indicator variables that equal one if the acquirer has pre-acquisition PPS in the middle or top one-third among all banks in that year, respectively. All independent variables are measured one year before the announcement, and we control for year fixed effect. We use Huber-White adjusted standard errors. *, **, and *** denote significance at the 10, 5, and 1% levels.

	(1)	(2)	(3)	(4)	(5)
Pay-for-performance					
PPS	0.436***				0.487**
	(0.136)				(0.202)
SPPS		0.275**			
		(0.118)			
OPPS			0.313***		
			(0.094)		
D_MPPS				0.847**	
				(0.420)	
D_HPPS				1.631***	
				(0.462)	
Other Governance Characteristics					
BSIZE					-0.033
					(0.061)
BINDEP					-0.107
					(1.550)
D_AGE					-0.056
					(0.509)
EINDEX					-0.355*
					(0.197)
Bank Characteristics					
SIZE	-0.596***	-0.486***	-0.557***	-0.637***	-0.718**
	(0.175)	(0.170)	(0.167)	(0.173)	(0.282)
ROA	0.451	0.491	0.314	.384	0.935
	(0.539)	(0.553)	(0.525)	(0.540)	(0.820)
CASH	6.977*	5.719	7.724*	5.623	2.638
	(4.236)	(4.385)	(4.121)	(4.227)	(6.373)
Deal Characteristics					
SIZE_RATIO	-1.273***	-1.338***	-1.129***	-1.381***	-1.383***
	(0.308)	(0.316)	(0.303)	(0.303)	(0.404)
D_STOCK	-0.003	0.021	-0.106	0.137	-0.060
	(0.432)	(0.442)	(0.419)	(0.434)	(0.576)
D_PMERGER	-0.232	-0.323	0.091	-0.015	-1.133
	(0.422)	(0.429)	(0.432)	(0.415)	(0.692)
OUTOFSTATE	0.173	0.264	0.323	0.415	0.401
	(0.380)	(0.389)	(0.369)	(0.374)	(0.546)
Const.	4.689**	4.064**	4.567**	5.579***	5.933*
	(1.951)	(1.983)	(1.917)	(2.086)	(3.548)
Obs.	173	173	173	173	110
R^2	0.127	0.099	0.156	0.158	0.186

Table VII: Probability to Acquire — Controlling for Acquirer Returns

This table shows the results from a multivariate logit model. The dependent variable (D_ACQ) equals to one (two) if the bank takes at least one acquisition in the next year and the cumulative abnormal return (CAR) around the announcement is negative (positive), and equals zero if the bank is neither an acquirer nor a target in the next year. We compute CARs using a three-day window, (-1, +1), where zero is the event date. For banks with more than one acquisition in the same year, we use the weighted average CAR based on deal value. All specifications include a year fixed effect. Standard errors are reported in parentheses. Panel B shows the sensitivity analysis between different PPS levels and the probability of engaging in acquisitions with negative return (D_ACQ=1) and positive return (D_ACQ=2), respectively. Holding all other variables constant at their mean level, we use the 25th (75th) percentile for the compensation variables to examine the changes in probability. We also use PPS values for one standard deviation above and below the mean. *, **, and *** denote significance at the 10, 5, and 1% levels, respectively.

Panel A: Multivariate Logit

| | Value-destroying acquisition D_ACQ=1 vs. D_ACQ=0 | | | | | Value-enhancing acquisition D_ACQ=2 vs. D_ACQ=0 | | | | |
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Pay-for-performance										
PPS	-0.539*** (0.186)			-0.821*** (0.210)	-0.825*** (0.223)	0.049 (0.192)			0.284 (0.205)	0.232 (0.257)
SPPS		-0.409*** (0.123)					-0.024 (0.146)			
OPPS			-0.522** (0.246)					-0.254 (0.166)		
Other Governance Characteristics										
BSIZE				-0.034 (0.050)	-0.054 (0.056)				0.085** (0.042)	0.104** (0.048)
BINDEP				-0.956 (1.514)	-0.884 (1.704)				2.023 (1.346)	2.588* (1.545)
D_AGE				-0.380 (0.452)	-0.195 (0.534)				-0.596 (0.467)	-0.486 (0.490)
EINDEX					-0.008 (0.210)					0.183 (0.198)
Bank Characteristics										
SIZE	0.603*** (0.181)	0.498*** (0.158)	0.732*** (0.237)	0.815*** (0.243)	0.609** (0.271)	0.064 (0.182)	0.101 (0.169)	0.249 (0.185)	0.065 (0.215)	0.076 (0.235)
ROA	0.549 (0.660)	0.230 (0.628)	-0.061 (0.848)	.927 (0.856)	1.231 (1.009)	0.558 (0.493)	0.598 (0.477)	0.415 (0.555)	0.722 (0.655)	0.680 (0.808)
RET	1.422 (1.053)	1.666 (1.124)	2.052 (1.282)	1.711 (1.197)	2.020 (1.502)	1.660** (0.820)	1.702** (0.804)	2.158*** (0.828)	1.888 (1.203)	2.173 (1.451)
RET_VOL	-4.982 (3.184)	-5.169 (3.240)	-4.418 (3.452)	-5.090 (3.655)	-5.103 (4.012)	1.610 (2.135)	1.644 (2.126)	0.948 (2.307)	2.526 (2.855)	-0.639 (3.132)
CASH	-0.242** (0.100)	-0.209** (0.098)	-0.277** (0.128)	-0.287*** (0.108)	-0.245** (0.102)	-0.153** (0.077)	-0.153** (0.077)	-0.169** (0.081)	-0.372*** (0.127)	-0.369*** (0.135)
PRV	-0.061 (0.350)	-0.027 (0.368)	-0.386 (0.467)	-0.191 (0.355)	0.003 (0.355)	0.031 (0.250)	0.024 (0.248)	0.104 (0.261)	-0.254 (0.274)	-0.186 (0.322)
D_PMerger	1.423*** (0.394)	1.403*** (0.395)	2.156*** (0.559)	1.388*** (0.441)	1.381*** (0.446)	1.081*** (0.315)	1.097*** (0.321)	1.142*** (0.335)	1.365*** (0.375)	1.389*** (0.453)
Obs.	515	515	427	394	323					
Psuedo R²	0.142	0.137	0.169	0.202	0.216					

(D_ACQ=1: Value-destroying acquisition; D_ACQ=2: Value-enhancing acquisition)

		P25	P75	Change
Total PPS	D_ACQ=1	9.39%	4.02%	-57.2%
	D_ACQ=2	4.41%	4.46%	1.1%
Stock PPS	D_ACQ=1	8.25%	3.91%	-52.6%
	D_ACQ=2	4.73%	4.20%	-11.2%
Option PPS	D_ACQ=1	4.95%	2.15%	-56.6%
	D_ACQ=2	5.41%	4.56%	-15.7%

		Mean - STDEV	Mean + STDEV	Change
Total PPS	D_ACQ=1	12.84%	3.19%	-75.2%
	D_ACQ=2	4.31%	4.45%	3.2%
Stock PPS	D_ACQ=1	10.42%	3.14%	-69.9%
	D_ACQ=2	4.87%	4.04%	-17.0%
Option PPS	D_ACQ=1	5.84%	1.83%	-68.7%
	D_ACQ=2	5.58%	4.40%	-21.1%

Table VIII: Change in Operating Performance

The dependent variable is the change in ROA. For each acquisition, we calculate the change in ROA two ways. The first method is the weighted average of the target and acquirer where we calculate change in ROA as the difference between the acquirer's ROA after the acquisition (average of quarters (+5,+8)) and the combined acquirer–target ROA prior to the acquisition (average of quarters (-1,-4)) divided by the pre-acquisition combined acquirer–target ROA. We use market value of equity of the acquirer and the target as weights to compute the pre-acquisition ROA. The second method is the acquirer only ROA, where we use only the acquirer's ROA to calculate the pre-acquisition period. Estimations (1) - (5) show the weighted average change in roa and estimation (6) shows change in acquirer's roa only. All independent variables are measured one year before the announcement and we control for year effects in all specifications. Standard errors are adjusted for heteroscedasticity using Huber-White estimates and are reported in parentheses. *, **, and *** denote significance at the 10, 5, and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
Pay-for-Performance						
PPS	0.039**			0.072***	0.073***	0.053***
	(0.016)			(0.013)	(0.013)	(0.017)
SPPS		0.051***				
		(0.011)				
OPPS			0.021*			
			(0.011)			
Other Governance Characteristics						
BSIZE				-0.019***	-0.019***	-0.013**
				(0.004)	(0.004)	(0.006)
BINDEP				0.183**	0.087	0.115
				(0.083)	(0.091)	(0.123)
D_CEO				-0.035	-0.019	0.130***
				(0.034)	(0.033)	(0.044)
Dage					-0.021*	-0.051***
					(0.011)	(0.017)
EINDEX						
Acquirer Characteristics						
SIZE	-0.022	-0.009	-0.02	-0.041***	-0.056***	-0.037
	(0.018)	(0.015)	(0.019)	(0.015)	(0.018)	(0.026)
RET	0.228**	0.291***	0.177*	0.337***	0.317***	0.098
	(0.099)	(0.084)	(0.105)	(0.073)	(0.090)	(0.114)
CASH	0.167	-0.636	0.698	0.262	0.215	-1.165**
	(0.625)	(0.548)	(0.654)	(0.602)	(0.576)	(0.540)
Deal Characteristics						
SIZE_RATIO	-0.025	-0.089	0.014	-0.199**	-0.268***	-0.222
	(0.138)	(0.117)	(0.145)	(0.092)	(0.095)	(0.141)
D_STOCK	-0.072	-0.035	-0.081*	-0.131***	-0.057	0.047
	(0.047)	(0.040)	(0.048)	(0.033)	(0.036)	(0.049)
D_PMERGER	0.042	0.082*	0.032	0.032	0.052	0.078
	(0.053)	(0.044)	(0.056)	(0.043)	(0.047)	(0.072)
OUTOFSTATE	-0.064	-0.093***	-0.045	0.009	-0.01	-0.044
	(0.041)	(0.035)	(0.043)	(0.034)	(0.034)	(0.045)
Const.	0.118	0.126	0.091	0.310*	0.525**	0.575*
	(0.231)	(0.196)	(0.242)	(0.176)	(0.217)	(0.333)
Obs.	87	87	87	69	62	79
R^2	0.388	0.62	0.311	0.816	0.797	0.512

Figure 1: CEO Compensation in Bank Holding Companies

This figure shows CEO compensation in bank holding companies over time. Panel A shows cash and total compensation in thousands of dollars, and Panel B presents the median pay-for-performance sensitivity (PPS) in thousand of dollars.

Panel A: Cash and Total Compensation over Time
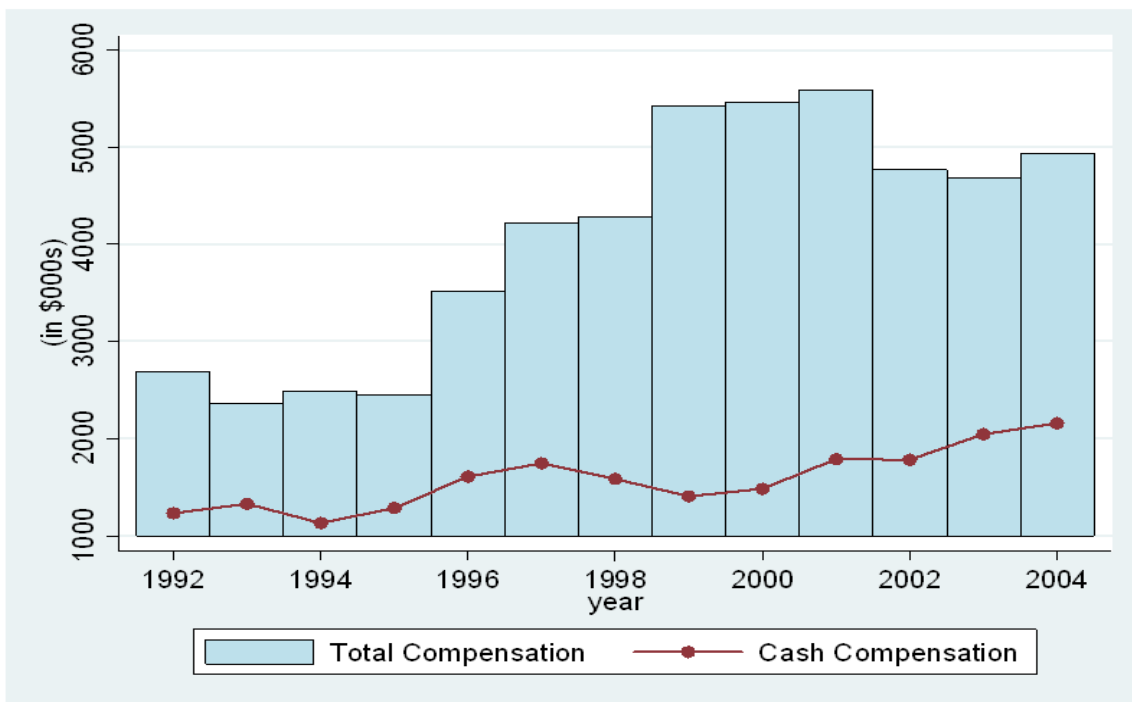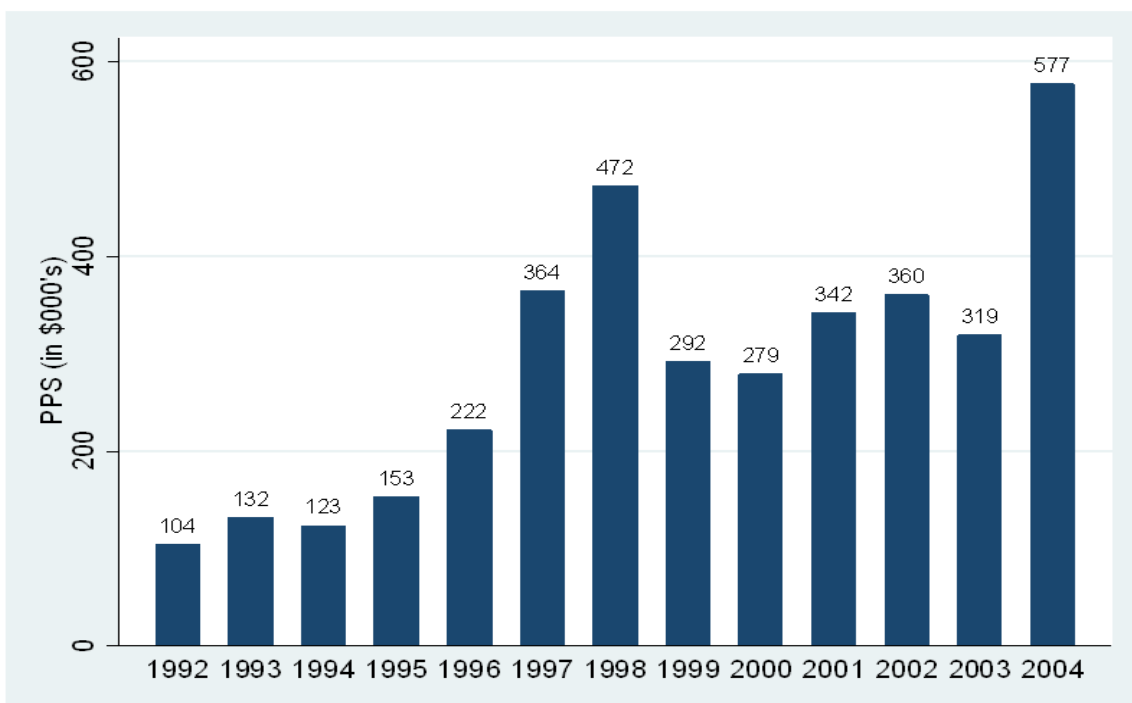

Panel B:Pay-for-Performance

Figure 2: Histogram of Acquirer Stock Returns

This figure shows the cumulative abnormal stock returns (CARs) around the announcement. We use a three-day window, (-1, 1), and a five-day window, (-2, 2), where day 0 is the event date. We use CRSP value-weighted return as the market return and estimate market model parameters over the 200-day period from event day -220 to event day -21.

**Panel A: -1 to 1**

CAR (-1, 1)
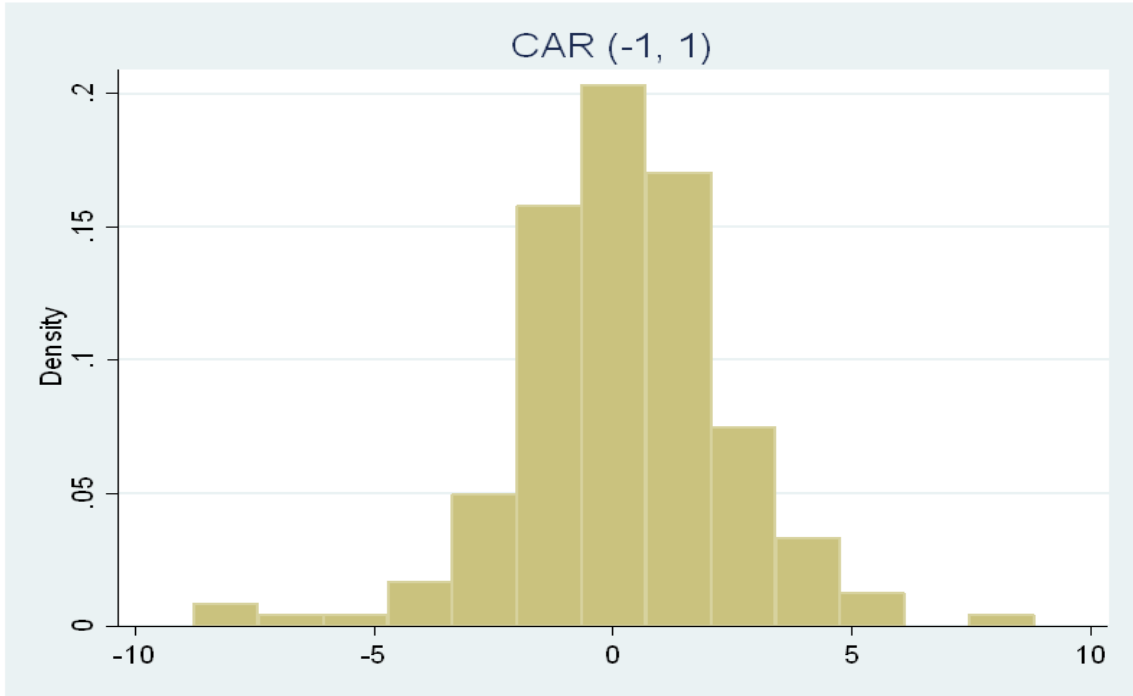
Panel B: -2 to 2

CAR (-2, 2)
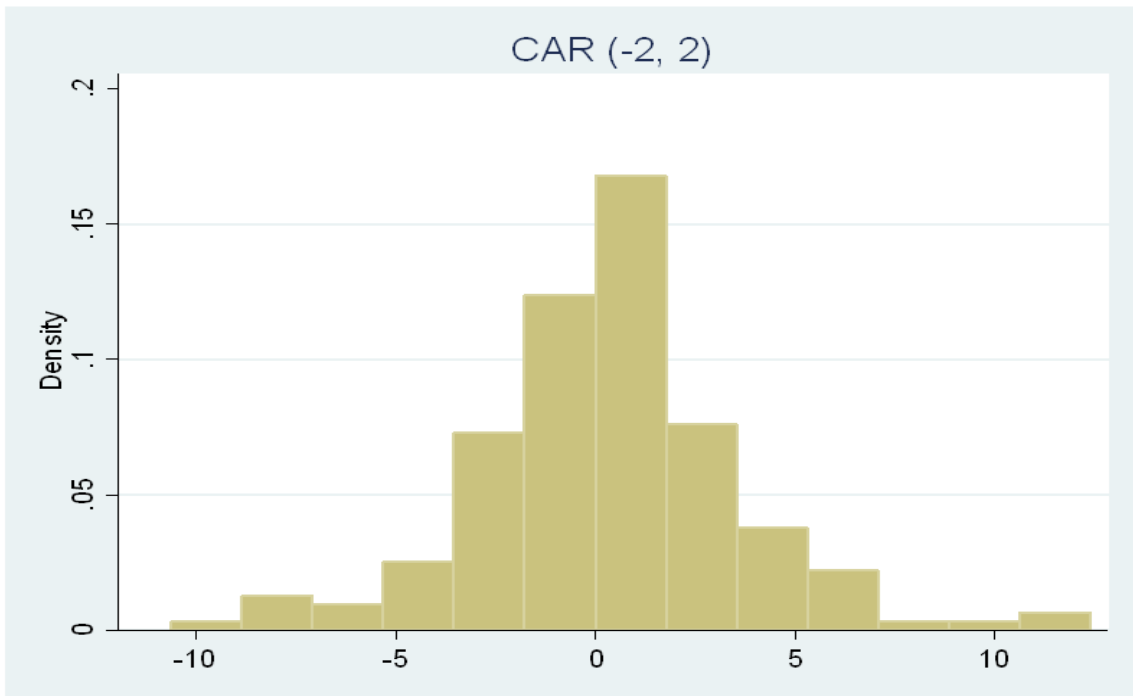
Figure 3: Acquirer Stock Returns by PPS Group

This figure shows the box plot for cumulative abnormal stock returns (CARs) around the announcement for acquirers in Low- and High-PPS groups. Panel A shows the 3-day CARs and Panel B shows the 5-day CARs. For each graph, the lines (from top to bottom) represent the largest, upper quartile, median, lower quartile, and the smallest observation. We exclude outliers for all plots. For each year, we separate all banks (both acquirer and benchmark) into three groups based on their PPS. The Low-PPS group has banks in the bottom third and the High-PPS group has banks in the top third.

Panel A: -1 to 1
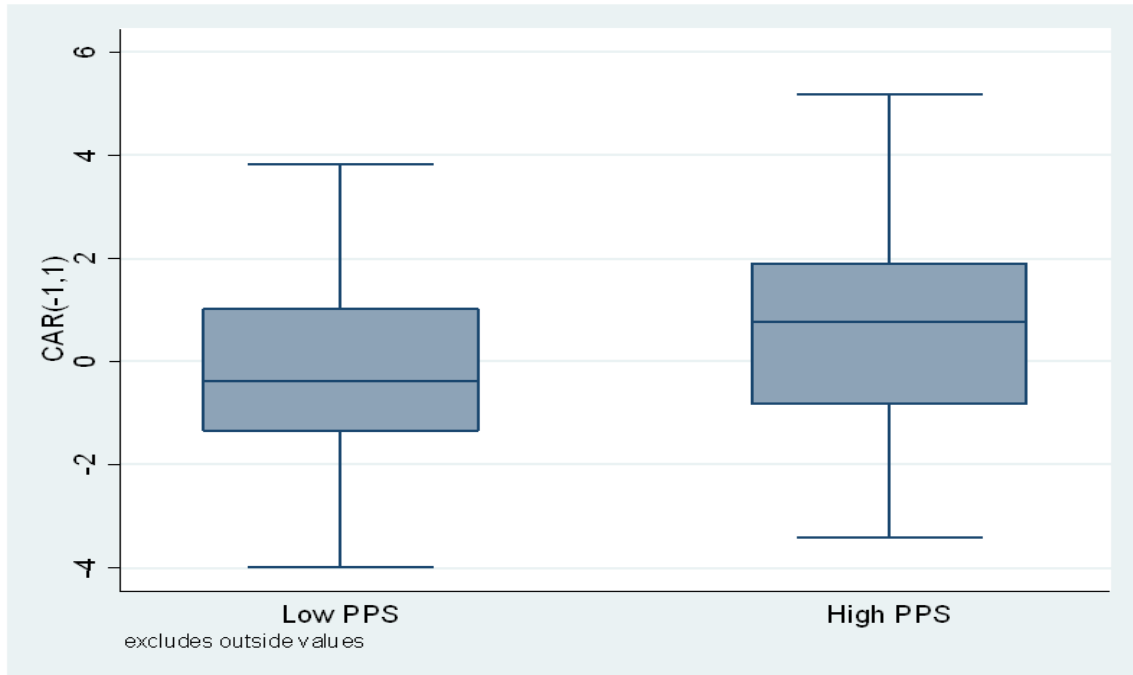
Panel B: -2 to 2
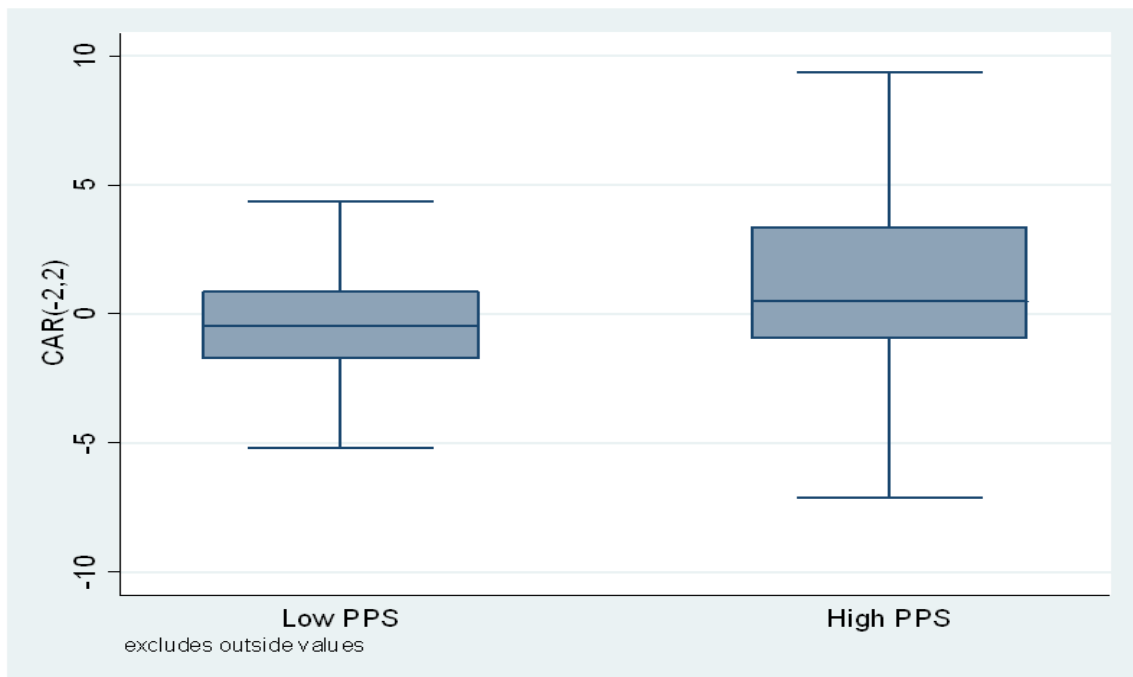
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Appendix: Description of Variables

Firm Specific Variables

From Compustat

- TA: The total asset of a bank (data6).
- Size: The natural logarithm of total assets,(log(data 6)).
- MVE: Market value of equity: the number of shares outstanding multiplied by the average share price (data199 * data 25).
- ROA: Return on assets(%), defined as operating income divided by the total assets (data18/data6 *100).
- ROE: Return on equity(%), defined as net income divided by total shareholder's equity (data237/data60 * 100).

From Compustat Bank

- RE Ratio: Real estate loans divided total loan amount (data14/data23*100).
- CI Ratio: Commercial and industrial loans to total loan amount (data20/data23*100).
- PRV_Ratio: Provision for loan losses divided by total loan amount (data135/data23 *100).
- NCO_Ratio: Net credit or charge for reserves divided by the total loan amount(data190/data23 *100).
- Cash: Cash divided by total assets (data1/data36 *100).

From CRSP

- RET_VOL:.The annualized standard deviation of stock returns based on the monthly returns.
- RET: The annualized stock return, calculated using monthly stock returns.

Deal Specific Variables (from SDC Platinum)

- A_ASSET: Acquirer asset size.
- T_ASSET: Target asset size.
- D_PMERGER: An indicator variable that equals one if the bank has participated in mergers before (within the sample period) and zero otherwise
- D_STOCK: An indicator variable that equals one if more than 75% of the deal was funded with stock and equals zero otherwise.
- D_CASH: An indicator variable that equals one if more than 75% of the deal was funded with cash and equals zero otherwise.
- OUTOFSTATE: An indicator variable that equals one if the acquisition involves acquirer and target from different states and equals zero otherwise.
- SIZE_RATIO: The ratio of the deal value to the acquirer's market value of equity.
- REL_SIZE: The total assets of the target divided by the total assets of the acquirer.

Compensation Variables and CEO Characteristics (from Execucomp and Proxy Statements)

- SPPS: The log of pay-for-performance sensitivity based on stock grants.
- OPPS: The log of pay-for-performance sensitivity based on option grants.
- PPS: The log of pay-for-performance sensitivity based on both stock and option grants
- Cash Comp: Cash compensation including salary and bonus (in $ millions)
- Total Comp: Total compensation including cash compensation and stock and option grants (in $millions)
- Tenure: The numbers of years of being the CEO
- Age: The age of the CEO
- D_Age: An indicator variable that is equal to one if the CEO is 60 or older.

Board Characteristics (from IRRC Director Database and Proxy Statements)

- BSIZE: The size of board of directors.
- BINDEP: The percentage of independent directors.
- D_CEO: An indicator variable that equals one if the CEO also serves as chairman of the board and equals zero otherwise

Anti-takeover Provisions (from IRRC)

- GINDEX: The governance index based on Gompers, Ishii, and Metrick (2003).
- EINDEX: The entrenchment index based on Bebchuk, Cohen and Ferrell (2004).
- CBOARD: An indicator variable that equals one if the bank has a staggered board, and equals zero otherwise.