

Why did Bank CEOs Forgo Their Bonus during the Financial Crisis?

TUYET NHUNG VU, *University of Glasgow*

HONG LIU, *University of Aberdeen*

MICHAEL (MINYE) TANG, *New York University (NYU)*

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ABSTRACT

We examine the determinants and consequences of U.S. bank CEOs forgoing bonus during the 2007 - 2009 financial crisis. We find that CEOs are more likely to forgo bonus if their banks are larger, better governed, or have received funding from the Troubled Asset Relief Program (TARP) by the U.S. government. Subsequent to bonus forgoing, their banks show some improvement in financial and market performance, and these CEOs are less likely to depart. Our findings are consistent with CEOs forgoing bonus under internal and external pressure, and partially support to CEOs signalling of higher skills or talent.

Key words: CEO, bank, forgo bonus, corporate governance, financial crisis

JEL codes:

1. Introduction

Corporate executives' compensation has received much attention from legislators, media and academics (Conyon, 2014; John & John, 1993; Fahlenbrach & Stulz, 2011; Murphy, 2000). In light of the U.S. financial crisis of 2008, excessive compensation of financial institutions' executives has been criticized as it is considered to have contributed to the financial crisis due to weak corporate governance. Even in the case of bank failures and government bailout, banks paid their executives exorbitant compensation, which enraged the public. In 2007 alone, top executives at banks that have received government bailout were compensated nearly \$1.6 billion (Associated Press, 2009).¹ According to Execucomp, the seven troubled financial firms awarded their top executives a total compensation (bonus) of over \$700 million (\$92 million), while reporting losses of around \$107 billion during 2007-2009 (Morgenson, 2009).² Noticeably, a considerable proportion of executive compensation is bonus, with the average amount of bonus paid to the CEOs of 95 U.S. bank holding companies and investment banks amounts to roughly a third of CEOs' total pay in 2006 (Fahlenbrach & Stulz, 2011).

Against this backdrop, the breaking news came out around year 2007-2008 that some bank CEOs gave up all of their bonus, e.g. James Cayne of Bear Stearns (19-Dec-2007), Lloyd Blankfein of Goldman Sachs (16-Nov-2008), John Thain of Merrill Lynch (08-Dec-2008), Vikram Pandit of Citigroup (31-Dec-2008), among many others. Despite the high visibility of this phenomenon in the banking sector during the recent financial crisis, little research exists on why these bank CEOs forgo their bonus (and why others do not). Unlike the popular media which often focuses on individual cases, this paper attempts to answer this question by a holistic perspective on the industry.³

We consider three plausible but mutually *non-exclusive* explanations for why a bank CEO chooses to forgo bonus during the financial crisis. These explanations all focus on the cost of *not* forgoing bonus and predict bank CEOs to be more likely to forgo bonus when the cost or pressure

¹ For example, Goldman Sachs was bailed out with \$10 billion on October 2008, while its CEO, Lloyd Blankfein, received compensation of approximately \$54 million in 2007 (see Frank Bass and Rita Beamish, "Study: \$1.6B of Bailout Funds Given to Bank Execs," *Finalcallnews.com*, January 5, 2009, http://www.finalcall.com/artman/publish/Business_amp_Money_12/Study_1_6B_of_bailout_funds_given_to_bank_execs_5524.shtml, last accessed March 29, 2018).

² The seven troubled companies are the American International Group, Bear Stearns, Citigroup, Countrywide Financial, Lehman Brothers, Merrill Lynch and Washington Mutual. <https://www.nytimes.com/2009/02/22/business/22pay.html>

³ To our knowledge, two other academic studies have examined related but different questions, both of which examine the determinants and consequences of \$1 CEO salaries (instead of bonus) for all industries (rather than focusing on the banking industry) (Hamm, Jung, and Wang 2015; Loureiro, Makhija, and Zhang 2014).

of not forgoing is relatively high. Such pressure may come from three sources either external or internal. First, to the extent some banks received government bailout, pressures can come from restrictions externally imposed by the government on bailout recipients. Facing outrage from the public about extravagant bailout costs, the U.S. government capped total compensation at \$500,000 and prohibited incentive compensations including bonus from 2009, and required clawback provisions for bonus or incentive-based compensation (Bayazitova and Shivdasani, 2012). We refer to this channel as “pressure from regulation”. Second, the pressure could arise from internal governance mechanisms, particularly from the board of directors, which serves a critical role in monitoring and advising managers (e.g., Jensen & Meckling, 1976; Fama & Jensen, 1983). Such pressures are likely more pronounced for larger banks as they are more prominent (Laeven, Ratnovski, & Tong, 2016). We refer to this channel as “pressure from (corporate) governance”. Third, even when external pressure is moderate, CEOs themselves may feel strong internal pressure to forgo bonus as a mean to motivate corporate morale by signalling their willingness and resolution to share the ups and downs of their banks. CEOs more loyal to the bank they work for are more likely to forgo their bonus given that their behaviour is considered as radical self-sacrificial leadership behaviour which is “temporary postponement of personal interests in the distribution of rewards” (Choi & Mai-Dalton, 1998, p. 479) on purpose of changing the attitudes of the members, building trust, and demonstrating loyalty and dedication to the firm. We refer to this channel as “pressure from loyalty”. While these three sources of pressure are practically intertwined in forcing CEOs to forgo bonus, they all point to the overwhelming cost of *not* forgoing bonus in presence these pressures. Thus, we refer to these channels collectively as the “pressure” explanation.

In addition to the “pressure” explanation, which focuses on the cost of *not* forgoing bonus, we also consider the “opportunism” explanation that *some* CEOs consider the cost of forgoing bonus. Specifically, during the financial crisis, many banks’ overall performance is suffering, thus making the performance-based compensation lower, which means lower cost of forgoing bonus to the CEO (i.e., the forgone bonus). Many banks evaluate their CEOs’ performance based on the banks’ predetermined performance priorities and strategic goals. Typical performance measures include accounting earnings or ratios (Murphy, 2001). Thus, if a bank fails to achieve its performance target, its CEO will not be awarded much bonus. In this scenario, the costs for CEOs

to forego bonus is relatively low because their banks are likely already performing below the target during the financial crisis.

We empirically evaluate the above explanations and find supportive evidence for the “pressure” explanation. Using a sample of CEOs from 98 U.S. publicly listed banks during 2007-2009, we find the propensity to forgo bonus increases in bank size, intensity of internal monitoring (as measured by audit committee size), and if the bank has received funds from the government’s Troubled Assets Relief Program (TARP). We also find that internally promoted CEOs are more likely than externally promoted CEOs to give up their bonus and less likely to quit their job, consistent with their willingness to signal their commitment to their banks.

We then examine to what extent the three types of pressure influence the magnitude of bonus-forgoing. In our sample, some CEOs forwent all of their bonus, while others only a portion of their bonus. We expect CEOs to forgo more of their bonus if they face higher pressure from regulator, internal governance and loyalty. Our results confirm the prediction for regulation, governance and loyalty, but not for size of banks. The results on the magnitude of forgoing are less significant than that of pressure on the decision of whether or not to forgo bonus, indicating that the forgoing bonus decision plays the most important role while the magnitude of forgoing bonus comes to the second.

Next, we further examine how bank CEOs’ decision to forgo bonus relates to their total compensation, and whether the decision results in a temporary or a long-term effect. It is possible that the bank takes the opportunity of the financial crisis and market pressure to reduce CEO’s compensation over the long run. Our empirical analysis finds that this is not the case. We find no evidence that CEOs who forwent their bonus are more likely to leave their job, nor were their subsequent total compensation negatively affected. These results suggest that it is unlikely the banks’ long-term decision to reduce CEOs’ total compensation, which may negatively affect CEOs’ subsequent compensation and their incentives to move. These results are consistent with CEOs’ actions to forgo bonus during the financial crisis being temporary actions.

Subsequently, we examine whether CEOs’ forgoing decision is to send a signal to the market that the management team has strong commitment to shareholders and demonstrates their benefits to be aligned with shareholder interests during the downturn period. In the presence of asymmetric information between managers and investors, forgoing CEOs can signal to investors by distinguishing themselves from those who do not forgo their bonus. We compare the accounting

and market performance of banks whose CEOs forwent bonus with those whose CEOs did not forgo bonus. The results suggest that there are weakly statistically significant differences in the changes of bank performance between the two groups after the forgoing year when controlling for their fixed effects. In other words, bonus-forgoing decision can be considered as a signal of interest alignment of CEOs.

To provide further evidence of self-sacrificial leadership theory, we investigate whether market reacts to bonus-forgoing decision, and whether the decision is short-term. If stock markets react positively to bonus-forgoing action, suggesting that investors view this behaviour as symbolic management, and vice versa. However, if this action during the financial crisis is a temporary action, we expect the market does not respond to the CEO-forwent-bonus news positively. We find that the market does not react to banks' announcements of their CEOs' decisions to forgo their bonus, suggesting that investors do not view them as symbolic, and this is a temporary behaviour, consistent with radical self-sacrificial leadership theory.

This study contributes to several strands of literature. First, our findings extend the research on one-dollar CEO salary (Loureiro, Makhija, & Zhang, 2014; and Hamm, Jung, & Wang, 2015) and help explain why CEOs forgo financial rewards. Hamm et al. (2015) find that CEOs are more likely to take \$1 salary to lessen the pressure of stakeholders when their firms underperform, and that it does not signal improvement in subsequent stock returns; Loureiro et al. (2014) suggest that \$1 salary is a ruse to camouflage the public's attention to CEOs' total compensation, and that firms with \$1 CEO salaries tend to have lower stock market returns than other firms over the three years following \$1-salary adoption. Our paper differs from these studies by focusing a specific period of particular political and economic tension (the 2007-2009 financial crisis) and in an important industry (banking), which has strategic implications on the overall macro-economy and thus has received great attention from the public and legislators during the financial crisis (Fahlenbrach & Stulz, 2011).

We find that CEOs are more likely to forgo bonus when facing greater pressure and that their banks' subsequent performance did not improve. Moreover, the pressure does not seem to be derived from stock performance, but from internal and external constituents (e.g., board of directors and the market and regulators). Our findings further suggest that forgoing decision during the financial crisis is a short term decision, rather than a ruse to camouflage the public's attention to CEOs' compensation as found in Loureiro et al., (2014). In addition, rather than salaries which

do not vary with the performance of the firm or the executive, we focus on bonus, which is performance-based. Focusing on bonus is also more economically significant than on salaries because the average ratio of cash bonus over salary paid for 2006 performance of the 98 U.S. large banks in our sample is 4.26 (Fahlenbrach & Stulz, 2011). According to prior accounting research, bonus also plays an essential role in managerial decisions (Healy, 1985; Holthausen, Larcker, & Sloan, 1995).

Second, our paper is also closely related to the literature on firm symbolic management which investigates the effects of symbolic actions on stock market responses (Westphal & Zajac, 1998). They find that stock markets react positively to symbolic corporate actions related to the governance mechanism, the adoption of long-term incentive plans which exhibits the interests' alignment between CEOs and shareholders. In contrast, we find that the market does not react to banks' announcements of their CEOs' decisions to forgo their bonus, suggesting that investors do not view them as symbolic.

Third, our paper sheds indirect light on how the corporate governance affects CEO compensation in the banking sector, especially the role of audit committee. Prior research finds mixed evidence on how audit committee sizes affect monitoring effectiveness. While some find smaller committees to be more beneficial to sharing and processing information more frequently and intensely than larger ones (Lipton & Lorsch, 1992; Jensen, 1993), others suggest that larger committees are more advantageous in terms of greater knowledge to perform the committee' advisory role, and the ability to perform monitoring responsibilities (Anderson, Mansi, & Reeb, 2004). Our findings support the latter view. We find that CEOs in banks with larger audit size tend to forgo their bonus.⁴

Finally, our paper offers some empirical evidence on the radical self-sacrificial leadership behaviour (Choi & Mai-Dalton, 1998) when the leaders give up or postpone their legitimate share of organisational rewards to build trust, show their loyalty and dedication to the firms (Conger, 1989; House & Shamir, 1993; Yukl, 1994)⁵. We find that the internally promoted CEOs are more likely to forgo their bonus and they are less likely to exit, demonstrating their loyalty to the banks.

⁴ However, several recent studies find systematic differences between banks and non-banks in capital structure and in corporate governance due to their tightly regulated nature and business models (Hagendorff, 2014; John, De Masi, & Paci, 2016), especially banks have larger boards than non-financial firms (Adams, 2012). Thus, our findings may differ from those of non-bank firms.

⁵ Self-sacrificial leadership can be exhibited at one point in time (known as radical), or repeated continuously over time (known as incremental) (Choi & Mai-Dalton, 1998).

Taking together, these findings are consistent with the view that CEOs' behaviours are affected by their working environment, their position, and their personal characteristics (Busenbark, Krause, Boivie, & Graffin, 2016).

The remainder of this paper proceeds as follows. Section 2 presents our hypotheses of the alternative explanations of why CEOs are more likely to forgo their bonus. Section 3 describes data and discusses the sample selection. Section 4 presents our empirical methods and reports our results, and Section 5 provides additional tests. Section 6 contains a brief conclusion.

2. Why do bank CEOs forgo their bonus during the financial crisis?

In this section, we derive predictions from the existing literature. A large literature on managerial career concerns suggest that CEOs' decisions can be influenced by various pressures on them in the form of cost of not forging bonus during the financial crisis. On the other hand, financial crisis reduces the cost of forgoing bonus, which may also explain some CEOs' bonus-forgoing decisions. These two mechanisms jointly explain the key reasons why some CEOs forgo their bonus during the financial crisis. In this section, we outline the theoretical predictions that motivate our empirical analyses. These predictions are not mutually exclusive. Thus, our empirical analyses are joint tests of all predictions and we do not seek to isolate each individual channel.

A. Predictions from the pressure channel – Costs of not forgoing bonus

A.1 Pressure from regulation hypothesis

The Troubled Asset Relief Program (hereafter TARP) - the largest government bailout funding program - was introduced under the Emergency Economic Stabilization Act of 2008 (EESA), allowing financial institutions to sell up to US\$700 billion of their mortgage-backed and other troubled assets to the U.S. government to infuse their equity. On 14 October 2008, Capital Purchase Program (CPP), a part of TARP, has committed to US\$250 billion. The dual objectives of TARP were to temporarily support unhealthy banks to recover from the financial distress and strengthen capital base for sound banks, reinstituting credit flows in the economy (Cornett, Li, & Tehranian, 2013). In view of public outrage over the fast-growing bailout costs, the US Treasury Department imposed additional restrictions on executive compensations for TARP recipients in October 2008. Specifically, TARP receiving institutions must disclose the compensation for their executives – CEO, CFO and the next 3 most highly compensated officers – to reduce excessive risk-taking; under the “clawback” provision, arrange retrieval of any bonus or compensation based

on performance measures that are subsequently proven to be inaccurate; and forbid certain types of “golden parachute” packages. Subsequently, in February 2009, the American Recovery and Reinvestment Act of 2009 (ARRA) set the cap on compensation, i.e. \$500K, imposed further restrictions on golden parachutes and incentive compensation such as bonus, retention payments, and other means of compensation with the exception of restricted stocks no more than one third of the total annual compensation and to be vested after TARP repayment. These restrictions were retroactive to those which received exceptional assistance (Cadman, Carter, & Lynch, 2012).

Prior literature also suggests that the restrictions on executive pay are important reasons for financial institutions to reject or to exit the TARP program (Bayazitova & Shivdasani, 2012; Wilson & Wendy, 2012). Cadman, Carter, & Lynch (2012) examine the implication of regulatory interventions in a compensation setting and find that banks facing greater potential restriction under TARP were less likely to enrol in the program. Thus, *pressure from regulation hypothesis* predicts that bonus-forgoing behaviour was a response to TARP receipt, since the CEOs’ bonus will be restricted and hence the cost of forgoing bonus is reduced.

HYPOTHESIS A1: *CEOs are more likely to forgo bonus if their banks received TARP funds.*

A.2 Pressure from corporate governance hypothesis

Pressure can also come from the internal governance mechanism, particularly from the board of directors. Such pressure is likely more pronounced in larger and more prominent banks (Laeven, Ratnovski, & Tong, 2016). Several studies show that the highest level of control mechanism in a firm belongs to the board of directors because of their power to monitor and advise the managers (Fama & Jensen, 1983; Jensen & Meckling, 1976). Additionally, the monitoring function is the common duty of the entire board and its committees. Kesner (1988) finds that most key decisions originated from board-level committees, such as audit, executive, compensation, and nomination committees, which have crucial impact on firm activities (Vance, 1983). In this study, we mainly focus on the role of board of directors and the audit committee because they deal with agency problems directly (Xie, Davidson, & Dadalt, 2003). Moreover, as mentioned earlier, the bonus restrictions under EESA trigger the “clawback” provision in case of inaccuracy of bank financial statements. Thus, audit committees likely have the expertise to oversee the CEOs’ compensation. This study examines the audit committee size and the financial expertise on the audit committee.

Regarding bank size, CEOs at larger banks are under greater scrutiny as they are better known by the public and suffer greater vilification in case of bank failures. In contrast, CEOs at smaller banks receive less attention and are more capable of remaining under the radar.

Also, it has been documented that CEOs are concerned about shareholders' criticisms on issues related to their compensation and actively seek to manage their public images by carefully crafting disclosures in proxy statements (Lewellen, Park, & Ro, 1996; Yermack, 1998; Baker, 1999). Such concerns are likely exacerbated by the intense public and political controversy over bank executive compensation, causing CEOs of larger banks to face greater scrutiny and possibly more intervention in their bonus rewards. As a result, we expect these CEOs to be under greater pressure to forgo their bonus. Thus, we develop the following hypothesis

HYPOTHESIS A2a: CEOs at larger banks are more likely to forgo bonus.

Audit committees serve to protect shareholder interest by overseeing corporate reporting to assist the board of directors in monitoring the management. Audit committee effectiveness have been used to proxy for governance quality (Zaman et al. 2011, Mallin, 2013), and is also considered as an important part of the governance structure in recent years (Ghafran & O'Sullivan, 2013). Prior literature on audit committees is extensive, mostly focusing on accounting quality; interestingly, they can also serve as a key factor on reporting of non-financial information, such as intellectual capital disclosures (Li, Mangena, & Pike, 2012). Hence, we expect audit committees to play a role in the disclosure of CEOs' bonus-forgoing decisions on banks' proxy statements.

Audit committees need resources and power to be able to effectively serve their control role (Defond & Francis, 2005; Mangena & Pike, 2005). The Sarbanes-Oxley Act (SOX) of 2002 has no direct guidance on audit committee size and the empirical evidence on the effects of audit committee size is mixed. Earlier studies generally find smaller committees to be more beneficial in terms of sharing and processing information from the management more frequently and more intensively (Lipton and Lorsch 1992; Jensen 1993).⁶ In contrast, more recent studies find larger committees to be more advantageous due to their greater knowledge to advise and monitor the management (Klein, 2002b; Anderson, Mansi, and Reeb, 2004).⁷ Overall, this stream of literature

⁶ This finding is consistent with the literature on organizational behaviours. For example, larger committee size has been associated with longer time for decision making (Steiner 1972), productivity losses (Hackman 1990), lower efficiency due to less cooperation and more free riding (Jensen 1993), less CEO performance-turnover sensitivity (Yermack, 1996) and higher likelihood of entrenched CEOs (Beasley, 1996; Dechow, Sloan, & Sweeney, 1996).

⁷ The documented benefits of larger audit committees include: lower bond yield spreads (Anderson, Mansi, & Reeb 2004) and less earnings management (Cornett, McNutt, & Tehranian, 2009; Yang & Krishnan, 2005). The relation between audit committee

suggests that larger audit committees tradeoff between (a) more resources such as diversified background and skills to perform their duties, and (b) a problem of coordination and free riding that could arise to lessen their effectiveness (Laksmana, 2008).

Given that our sample period overlaps more with the recent studies, which generally find larger audit committees to be associated with better corporate governance, we expect a positive relation between audit committee size and CEOs' decisions to forgo bonus. Thus, we develop the following hypothesis:

HYPOTHESIS A2b: CEOs at banks with larger audit committees are more likely to forgo bonus.

Another element of monitoring effectiveness is audit committees' financial expertise. In 2003, the SEC finalized Sections 406 and 407 of SOX, which require public firms to disclose either the names of at least one "financial expert" on audit committee, or explanations for having none. A "financial expert" must have the "education and experience as a public accountant or auditor or a principal financial officer, comptroller, or principal accounting officer of an issuer, or from a position involving the performance of similar functions" (Section 407, SOX). Financial experts should have the crucial skills and knowledge to interpret the information correctly and help the board to advise and monitor the management of increasingly complex banks.

The prior literature provides evidence generally supporting the positive role of financial experts in terms of quality of financial reporting measured by restatement (Abbott, Parker, & Peters, 2004; Krishnan & Visvanathan, 2008), earnings management (Bedard, Chtourou, & Courteau, 2004; He & Yang, 2014), fraudulent manipulation of financial statements (Farber, 2005), disclosure levels (Mangena & Pike, 2005), and recent studies focus on the internal control weakness, insolvency risk, and litigation risk. Particularly, Lisic, Neal, Zhang, & Zhang (2016) find that independent and financial expert of audit committee is associated with reduced CEO power, while negatively associated with internal control weaknesses. Moreover, the negative relation disappears if the CEO is overly powerful, suggesting that the monitoring effectiveness of audit committee financial expertise is contingent on the power of CEO being restrained. Furthermore, García-sánchez, García-meca, & Cuadrado-ballesteros (2017) find a positive effect on banks' insolvency risk, consistent with the monitoring effect of audit committee financial expertise. Krishnan & Lee (2009) find that firms with higher potential litigation risks are more

size and financial reporting quality is however mixed and inconclusive (Abbott, Parker, & Peters 2004; Bedard, Chtourou, & Courteau, 2004; Mangena & Pike 2005; Wilbanks, Hermanson, & Sharma, 2017).

likely to have accounting financial experts on audit committee and this relationship exists in firms with relative strong corporate governance, but not in those with weak governance. Following this stream of literature, which generally suggests a positive relation between financial expertise and monitoring advantage, we expect the financial expertise on audit committees to reflect stronger bank monitoring governance strength, thus exerting pressures on the CEOs to forgo bonus:

HYPOTHESIS A2c: *CEOs at banks with audit committees of greater financial expertise are more likely to forgo bonus.*

To conclude, the *pressure from governance hypothesis* predicts that bank CEOs are more likely to forgo bonus if they are under greater pressure due to larger bank size or from internal audit committees that are larger or have greater financial expertise.

A.3 Pressure from loyalty hypothesis

In addition to pressures from regulatory bodies and corporate governance within banks, pressures can also come from within CEOs themselves either due to their sense of loyalty or as a signal of their resolution to weather the financial crisis with shareholders. By forgoing bonus, banks CEOs seek to boost corporate morale by showing their willingness to share the ups and downs of their banks. From the leadership literature, CEOs' action of forgoing bonus is viewed by employees as radical self-sacrifice, which is "temporary postponement of personal interests in the distribution of rewards" (Choi & Mai-Dalton, 1998, p.479) with the purpose to change the attitudes of the members, build trust, and demonstrate loyalty and dedication to the organization (Conger, 1989; House & Shamir, 1993; Yukl, 1994). Moreover, leaders who sacrifice during times of crisis are perceived better (Halverson, Holladay, Kazama, & Quinones, 2004). The pressure to forgo bonus to signal CEOs' loyalty and commitment likely differs between internally promoted CEOs and their externally hired counterparts. In terms of managerial skills, externally hired CEOs are more prized for their broader and more general knowledge and managerial skills derived from their characteristics: traits, education and experiences (Hambrick & Mason, 1984), whereas internally promoted ones specialize in firm-specific knowledge and managerial skills accumulated from prior experience within the firm (Harris & Helfat, 1997; Zhang & Rajagopalan, 2003); therefore they are better fits for firms in a strategic context (Kesner & Sebor, 1994). With more skills and knowledge tied to the specific firm, internally promoted CEOs are likely to face greater pressure to signal their loyalty and commitment to their firms than their externally hired counterparts.

Besides, in terms of collaboration within the firm, internally promoted CEOs tend to have greater social capital, which helps them do their job more effectively and cooperate more closely with the boards and other firm employees; in contrast, when CEOs are hired externally, there is uncertainty about their abilities, making collaborating more difficult (Hermalin, 2005). For this reason, we expect that, compared with externally hired CEOs, internally promoted CEOs have more social capital and better connections with the employee base in the firm, and thus have more incentives to forgo bonus to align themselves with their firms.

Finally, using a sample of U.S. investment banks during 2003 – 2009, Bidwell (2011) find internally promoted CEOs to have lower exit rates than the external hires. Thus, internally promoted CEOs have longer career and greater stake in their current firms, which implies greater benefits to be gained by demonstrating their loyalty to their banks through forgoing their bonus. Taken together, the *pressure from loyalty hypothesis* thus predicts the following hypothesis:

HYPOTHESIS A3: *CEOs are more likely to forgo their bonus if they are internally promoted.*

B. Predictions from the opportunism channel - Costs of forgoing bonus

Another possible explanation for CEOs' bonus-forgoing decisions concerns the cost of forgoing bonus. During the financial crisis, the overall bank performance deteriorated, thus lowering the value of potential forgone bonus. This is because CEO bonus is usually set in reference to banks' predetermined performance priorities and strategic goals. The performance measurements vary across banks, including earnings (e.g., net income, pre-tax net income) or accounting ratios (e.g., return on assets) (Murphy, 2001). During the financial crisis, these measures sharply fell short of banks' targeted financial performance and market evaluation, which implies little or no bonus reward to CEOs anyways; hence, the cost of forgoing bonus is minimal. Thus, the *opportunism hypothesis* predicts the following hypothesis:

HYPOTHESIS B: *CEOs are more likely to forgo bonus if their banks underperform.*

3. Sample, Variable Measurement, and Descriptive Statistics

To test the above hypotheses, we construct a sample and collect data on bank characteristics, bank governance, CEOs, and their compensation. In this section, we describe a sample construction, discuss the measurement of main variables, and present the sample summary statistics.

A. Sample construction

Following Fahlenbrach & Stulz (2011), we collect compensation data from Execucomp, focusing on financial firms (SIC code between 6000 and 6300) but excluding businesses of non-traditional banking, e.g., firms in Investment Advice (SIC code 6282), Financial Services (SIC code 6199), and Security Brokers and Dealers such as pure brokerage houses (SIC code 6211). This leaves us with an initial sample of 98 U.S. banks. We determine whether a CEO gave up bonus during the financial crisis by reading and coding information from the bank proxy statements, and when available, supplemented by searching business press online such as Financial Times, Reuters, the Wall Street Journal. Out of the 98 banks, we exclude 15 banks delisted in 2007. We list the sample banks and their bonus-forgoing CEOs in Appendix A, and selected examples of ‘forgo decision’ mentioned in the proxy statements in Appendix B.

Next we merge data from three sources: (i) CEO background information from BoardEx, (ii) financial data from COMPUSTAT, and (iii) stock market data from CRSP. We collect TARP details from the TARP Investment Program Transaction Report issued by the U.S. Treasury on 29 September 2010. Our final sample has 224 bank-year observations, covering 76% of original sample of Fahlenbrach & Stulz (2011). In 31 observations from this sample, the CEOs forwent bonus during 2007–2009, accounting for 13.84% of the sample. Nearly half of these observations (16 cases) occurred in 2008 at the peak of the crisis. Table 1 presents the sample selection.

[Insert Table 1 about here]

B. Variables measurement

Our hypotheses in the previous section involve two main channels: the pressure channel and the opportunism channel. We measure the pressure from regulation with the indicator of receiving TARP (*TARP*), which equals one if a bank received the TARP fund in a given fiscal year t , and zero otherwise. We proxy the pressure from bank corporate governance is with *Audit committee size*, measured as the natural logarithm of the number of directors on the audit committee. Also, *Expertise* measures the audit committee financial expertise, defined as the proportion of the non-executive directors (NEDs) with related functional experience such as a public accountant, auditor, principal or chief financial officer, controller, or principal or chief accounting officer on the audit committee (Carcello & Neal, 2003; (Defond, Hann, Xuesong, & Engel, 2005)).⁸ *Bank size* is

⁸ Noticeably, we find that the average proportion of independent NEDs sitting on audit committee is extremely high in our sample, i.e. 99 percent, consistent with the independence requirements of SOX.

measured as the natural logarithm of total assets in millions of dollars, lagged at time year ($t-1$) (George, 2015; Laeven, Ratnovski, & Tong, 2014, 2016). We measure loyalty as *Inside appointed*, an indicator set to one for internally promoted CEOs, and zero otherwise (Kuang, Qin, & Wielhouwer, 2014).

To capture the opportunism channel, we measure bank performance using both market-based and accounting-based ratios, namely Tobin's Q, Return on Assets (*ROA*) and Returns on Equity (*ROE*). Tobin's Q is defined as the ratio of market to book value of assets in the prior year. *ROA*, and *ROE* are the ratios of net income to total assets, and total equity, respectively. We describe the definition and data sources for the variables used in our analysis in Appendix C.

C. Summary statistics

Panel A of Table 2 presents the summary statistics.⁹ 50 out of the 82 unique sample banks have received TARP funding during the sample period, and the mean of the *TARP* indicator is 22% of all observations. Among the proxies for pressures from governance, the average audit committee size is 1.46 (corresponding to 4.42 members) similar to that reported in prior studies (Cornett et al., 2009). On average, about 10% of the audit committees have financial experts, and about 63% of the CEOs are internally promoted. The average natural logarithm of bank total assets is 10.1 (corresponding to \$159 billion). For bank performance, we winsorize the variables at the 1st and 99th percentiles to mitigate undue influences of outliers or data error. The average Tobin's Q, *ROA*, and *ROE* are 1.04, 0.63%, and 6.80%, respectively.

[Insert Table 2 about here]

Because we are interested in understanding the differences between banks whose CEOs forwent bonus (forgo banks/CEOs) and those that did not (non-forgo banks/CEOs), we therefore provide all summary statistics for each subsample separately in Panel B of Table 2. Columns 1 and 2 show the number of observations, mean and median value of characteristics for the forgo and non-forgo groups, respectively and column 3 reports the differences. We test the significance of the differences in means and median using two-sided t-tests and Wilcoxon signed-rank tests, respectively (Hamm et al., 2015).

⁹ We re-run regressions with all variables are winsorized at the 1% level to mitigate the influence of outliers, and the results are still hold. Thus, we do not report the winsorized variables in the summary statistic table.

The comparison of forgo and non-forgo groups shows that the forgo and non-forgo banks (and their CEOs) are overall comparable across a broad range of characteristics, but there are a few notable differences. For example, forgo banks are nearly twice as likely as non-forgo banks (39% versus 20%) to receive TARP funds during the 2008-2009 financial crisis, significant at the 0.05 level. The size of the forgo banks are substantially larger than that of non-forgo banks. In particular, the average total assets of forgo banks is more than five times as that of non-forgo banks (\$521 billion versus \$99 billion), and the average natural logarithm of total assets of forgo banks is 11.43 compared to 9.89 of non-forgo banks, and these differences are significant at the 0.01 level. The average audit committee of the forgo banks is larger than that of the other banks (5.13 versus 4.30). Forgo banks' audit committees also tend to have more financial expertise than non-forgo banks' (14% compared to 10%). Interestingly, more CEOs at the forgo banks (81%) are internally promoted than at the non-forgo banks (61%). These differences are largely consistent with hypotheses on the pressure channel, but not the opportunism channel, as we find no significant difference in the bonus-to-total-compensation ratio between the two subsamples. We present our regression analyses in the next section.

4. Empirical Tests

In this section, we present the empirical tests of the hypotheses developed in Section 2.

A. Pressure channel – Cost of not forgoing bonus

To test the predictions of the pressure mechanism developed in Section 2, we estimate a series of binary logistic regressions. These regressions use different pressure proxies, thus allowing us to examine the impact of pressure from various sources on CEOs' bonus-forgoing decisions. We regress the likelihood of forgoing bonus on pressure indicators and control variables as follows:

$$Pr(\text{Forgo}_{i,t} = 1 | \text{Pressure}_{i,t,t-1}, Y_{i,t,t-1}) = G(\beta_1 + \beta_2 \text{Pressure}_{i,t,t-1} + \beta_3 Y_{i,t,t-1}' + d_i) \quad (1)$$

The dependent variable, $\text{Forgo}_{i,t}$, a dummy variable that takes the value of one if a CEO forgoes bonus in fiscal year t , and zero otherwise (Proxy statements). The explanatory variables of interest are pressure indicators for *regulation*, *corporate governance*, and *loyalty hypothesis*, respectively, consisting of *TARP*, *Bank size*, *Audit committee size*, *Expertise*, *Inside appointed* as described in Section 3B. β_2 is the coefficient of interest. Our *pressure hypothesis* predicts it to be positive ($\beta_2 > 0$), indicating that CEOs are more likely to forgo bonus under pressure.

Following Hamm et al. (2015), $Y_{i,t,t-1}$ is a vector of control variables, which includes $Y_{i,t}$ capturing current characteristics of governance and CEOs and $Y_{i,t-1}$ controlling for bank-specific and macro-economy-specific characteristics lagged at time $(t-1)$. These variables account for the factors that likely affect both the bonus-forgoing decision and pressure factors. In models where TARP is included, we exclude year fixed effects because nearly all TARP fund was received in 2008 and hence its effect will be consumed by the year fixed effects. Appendix C elaborates on the construction of these variables.

Our controls for characteristics of governance and CEOs include *Board size*, measured as the natural logarithm of the number of directors on the board, and the number of years the CEO has been in role (*Tenure*) (Deyoung, Peng, & Yan, 2013; Houston & James, 1995; Yim, 2013); the percentage of shares owned by the CEO as reported in fiscal year t (*Ownership*) (Hamm et al., 2015; King, Srivastav, & Williams, 2016; Yim, 2013); whether the CEO chairs the board of directors (*CEO duality*), a proxy for CEO power; and, an indicator for compensation in excess of \$500K lagged at time $(t-1)$ (*Excess \$500K*) (Bayazitova; & Shivdasani, 2012). Furthermore, we control for CEO characteristics such as whether the CEO graduated from one of the Ivy League universities (*Ivy League*) as such a CEO signals upper class status (Mattis, 2000) and is likely to possess higher centrality (El-khatib, Fogel, & Jandik, 2015); and the CEO's experiences acquired by holding directorships (*Directorship experience*). The inclusion of these controls is motivated by the central tenet of leadership studies, which suggests that one's backgrounds, set of skills, extensive knowledge, managerial abilities and experiences distinguish executives from others by the way they interpret and assess the issues (Fama, 1980; Fama and Jensen, 1983; Elyasiani and Zhang, 2015; Finkelstein et al., 2009).

We further control for the bank-specific characteristics and the economic performance of the state where the banks are headquartered. Bank-level information is collected from the Compustat Bank Fundamentals Annual and CRSP, and the data on macroeconomic condition are obtained from U.S. Department of Commerce - Bureau of Economic Analysis. Bank-specific variables include: financial leverage measured as the ratio of total assets to stockholder's equity book values (*Leverage*), *market-to-book ratio* measured as market value of equity over book value of equity, and the diversification of the bank activities measured by the ratio of non-primary income to total operating income (*Diversification*), and we use the natural logarithm of national gross domestic product per capita (*GDP*) to capture the macroeconomic condition.

Table 3 presents the pairwise (Pearson) correlations among variables, and Table 4 reports the estimates from the logistic regressions in Equation (1). We observe the same patterns that we noted in Table 2 Panel B. Specifically, CEOs' forgoing decisions appear to be driven by the pressures from all three sources: regulation, corporate governance, and loyalty. In columns (1) and (2) of Table 4, we include all pressure proxies with no control variable to assess and compare the effect of each pressure source. We find significant effects from most of them. In columns (3) to (4), we use the full model with control variables and find that the strongest results come from banks receiving TARP fund (TARP), larger banks (*Bank size*) and banks with a larger audit committee (*Ln(Audit committee size)*) and internally promoted CEOs (*Inside appointed*) are marginally more likely to forgo bonus.

We evaluate the economic significance of these pressure proxies by calculating the marginal effects from the regressions. For example, receiving TARP funding is associated with a 0.11 increase in the probability of bonus-forgoing, consistent with the *pressure from regulation hypothesis*. Likewise, 1% an increase in bank size and audit committee size is associated with an increase in the probability of bonus forgoing by 0.06% and 0.31%, respectively, consistent with the governance and loyalty hypothesis. Moreover, a CEO internally promoted is 0.10 more likely to forgo bonus. Together our evidence supports the *pressure hypothesis* that CEOs are likelier to forgo their bonus when they face greater pressures from regulation, governance, and loyalty.¹⁰

[Insert Table 4 about here]

B. Opportunism channel – Cost of forgoing bonus

Similar to the tests of *pressure hypothesis*, we estimate a logistic regression wherein we model the probability of a CEO's decision to forgo bonus as a function of the bank's underperformance. We report the results reported in Table 5. We estimate the regression both with and without year fixed effects (columns (1), (3), (5) and columns (2), (4), (6), respectively). Our proxies for banks' underperformance include *TobinQ* (columns (1) and (2)), *ROA* (columns (3) and (4)), and *ROE* (columns (5) and (6)). If CEOs took advantage of the financial crisis to forgo bonus due to the lower opportunity cost as predicted by the opportunity explanation, we would expect a negative coefficient on these proxies. However, the results in Table 5 show that the coefficients of interests

¹⁰ We replace the binary logistic analysis by the probit analysis to test such relationships in the robustness tests. Because we obtain the similar findings, we do not report them.

on bank performance are all insignificantly different from zero. Thus, we do not find supporting evidence for our *opportunism hypothesis* that the CEOs forgo their bonus because of the lower opportunity cost caused by their banks' underperformance.

[Insert Table 5 about here]

C. Pressure channel – Magnitude of bonus forgoing

In this section, we further examine the extent to which various pressures affect the magnitude of bonus forgone by the CEOs. Within our forgo sample, we predict that CEOs are likely to forgo more bonus if they face greater pressure from regulation, internal governance, and loyalty. To test this conjecture, we regress the bonus-to-compensation ratio on the pressure indicators, and a set of control variables similar to those determined in Equation (1) in Section 4A.

$$Bonus\text{-}to\text{-}compensation_{i,t-1} = \alpha_0 + \alpha_1 Pressure_{i,t,t-1} + \alpha_2 Z'_{i,t,t-1} + d_i + d_t + \varepsilon_{it} \quad (3)$$

The dependent variable, *Bonus-to-compensation*_{*i,t-1*}, is the ratio of bonus to total compensation which a CEO received in the previous fiscal year (*t-1*). Similar to pressure analysis of CEOs' bonus-forgoing decisions, the independent variables of interest are *TARP*, *bank size*, *audit committee size*, *expertise*, *inside appointed* defined in Section 3B. Our *pressure hypothesis* predicts that CEOs forgo more bonus under greater pressure, thus a positive coefficient on these pressure proxies (i.e., $\alpha_1 > 0$). $Z'_{i,t,t-1}$ is a vector of control variables similar to that in Equation (1). We exclude control variables with high correlations with dependent variable. We include bank fixed effects (d_i) in all specifications to control for time-invariant factors. We also include year fixed effects (d_t) to capture the idiosyncratic economy-wide shocks (Conyon, 2014), except in the specification including TARP because its receivership is concentrated in 2008, thus its effect will be consumed by year fixed effect.

Table 6 reports the regression results. Because this analysis is conducted only for banks whose CEOs forwent their bonus, the sample size decreases to 30.

The coefficients of *Audit committee size*, are positive and statistically significant, but not for those of *TARP*, *Expertise* and *Inside appointed* indicators; Bank size is significantly negative, consistent with bank CEOs forgoing bonus due to the pressure from corporate governance, but not due to the pressure from regulation, loyalty, or the size of the bank. Noticably, the finding is less significant than those found in Table 4, suggesting that the pressure has more influence on the CEO's decisions to forgo bonus but less on the magnitude of the bonus forgoing.

[Insert Table 6 about here]

In summary, the evidence in this section supports the pressure hypothesis. In particular, CEOs are more likely to forgo bonus if their banks (a) have received the TARP funds, (b) are larger in size, and (c) have more intensified internal monitoring, and for internally promoted CEOs. We do not find the propensity of forgoing to be negatively related to relative bank performance during the financial crisis. We also provide additional evidence that the pressure mechanisms affect the CEO's decision to forgo bonus more than the magnitude of the bonus forgone.

5. The Nature of bonus-forgoing : a temporary decision or a long term strategy?

The previous sections show that the CEOs are more likely to forgo their bonus if they face pressure from regulation, internal governance mechanism, and are more loyal to the banks. Additionally, those CEOs tend to sacrifice more bonus when they face greater pressure. In this section, we further investigate how forgoing decision relates to CEOs' compensation, and whether this action is temporary. Specifically, we are interested to examine whether the banks take the opportunity of financial crisis to reduce the compensations of their CEOs in the long run. If this is the case, we would observe the total compensations of the CEOs will be subsequently reduced, and the CEOs are more likely to exit the banks in the following years if they feel their compensation is suppressed.

A. CEOs' compensation after the CEOs forgo their bonus

We start to examine whether the subsequent CEOs' compensation is negatively affected. We use the difference-in-differences framework for our analysis, comparing compensation of CEOs who forgo their bonus with those who do not from before to after the bonus-forgoing year. Given examining the difference over time between the two group differences, the DID approach could constitute the omitted factors that impact on the two groups alike. Additionally, to mitigate the endogeneity of bonus-forgoing decision, we use the propensity score matching approach with the nearest neighbour (Rosenbaum and Rubin, 1983) to match the forgoing banks (treatment group) with non-forgoing banks (control group) which share the similar variables of TARP, bank size, audit committee size, expertise, board size, and inside appointed. Our regressions are as follows:

$$Y_{i,t} = \alpha_0 + \phi_1 \text{Post}_t + \phi_2 \text{Post}_t * \text{Treat}_i + X'_{i,t,t-1} + \varepsilon_{i,t} \quad (4)$$

Where $Y_{i,t}$ is natural logarithm of the total compensation and bonus, respectively. Treat_i is an indicator variable set to one if a CEO forgoing his/her bonus (treatment group), and zero

otherwise (control group). Window time period is five years before and after forgoing year. $Post_t$ equals to one for years after forgoing year, and zero otherwise. ϕ_1 measures the changes in total compensation and bonus before and after the forgoing year. ϕ_2 is the coefficient of interests which measures the changes in total compensation and bonus from before to after between the two groups. $(X_{i,t,t-1})$ are vectors of control variables for corporate governance and bank characteristics including, i.e. board size, audit committee size, bank size, leverage, and market-to-book ratio. To control for heterogeneity between forgoing banks and non-forgoing banks, bank fixed effects are employed to account for time-invariant differences due to unexplained factors that differ across banks. Additionally, standard errors are clustered at bank level to capture within-bank correlation in residuals.

Table 7 reports the results. It suggests that there are no statistically significant differences in the changes of CEOs' compensation between the two groups when controlling for bank fixed effects. Thus, we do not find any evidence that the subsequent CEOs' compensation is reduced compared to their non-forgoing peers. It implies that banks do not take the opportunity of the financial crisis to strategically suppress CEO's compensation.

[Insert Table 7 about here]

B. CEOs' turnovers after the CEOs forgo their bonus

In this section, we track the tenure of the CEOs in the forgoing banks after they gave up their bonus. If the decrease of the total compensation is a long-term strategy, they would tend to leave their job earlier. To do that, we compare tenure and turnovers of CEOs between the forgoing and non-forgoing group in the post period following the forgoing year. We define tenure as the number of years in CEO's position after the forgoing year, and turnover as a number of years between the forgoing year and the year when the executive leaves her/his bank.

As shown in Table 8, we have 65 CEOs where the data is available in the examining period. We use the two-tailed t-test, and Wilcoxon signed ranked test for the statistical significance between the differences in mean and median of turnovers between different groups. Overall, the mean (median) of tenure and turnover following the forgoing year of CEOs for forgoing sample and non-forgoing sample are 4.32 (3.16), and 5.73 (4.66), respectively. We find no difference tenure, and turnover of the CEOs between the two groups, indicating that CEOs in forgoing banks are not likely to be dismissed as well as leave their banks.

[Insert Table 8 about here]

C. Market reactions to the announcement of bonus-forgoing?

In this section, we examine how the market interpret the announcement of CEO's bonus forgoing. If the market believes it is long term strategy, the market reaction to the announcement would be more positive. On the contrary, if the market believe it is a temporary or one-off decision, the market would not react to the announcement differently.

We perform standard event study of the announcement of the forgoing bonus, and test whether the stock price reaction on the days around the CEOs announce the forgoing decision, especially the first trading day, is positive. We are interested in the first trading day after the CEOs announce that they forgo their bonus since we expect the market capitalizes the information. Unlike many other corporate events, CEOs' decision to forgo bonus is rarely announced by media online, except for some well-known banks. We construct our sample by extracting the forgoing banks of which the CEOs forgo their bonus. We then search the online articles on business magazines, such as the Wall Street Journal, New York Times, Fortune, Forbes, Business Week, The Economist, and Financial Times, to identify the forgoing announcement date of each bank. If we are unable to find any online articles, we use the date when banks mail the proxy statements to shareholders as an alternative to the announcement date (Agrawal & Mandelker, 1990) because that is the first public release of forgo information. If there is more than one time a CEO forwent her/his bonus, we take the earliest date. Thus, our event study focuses on the date of forgoing bonus for the very first time during the financial crisis. This procedure yields 21 bank observations of public announcements.

Next, we employ the market model to measure market reaction to the announcement of forgoing decision. We use daily stock returns to calculate expected returns, estimated over 252 trading days, ending 30 trading days before the event date. Cumulative abnormal returns (CARs) are calculated over several windows (0, +1), (0, +2), (-1, +1), and (-2, +2), around the announcement date (day 0) and market return on the value weighted market index from CRSP. Accordingly, the data requirement is eventually met by 18 banks with 4 announcements based on news, and 14 announcements based on bank proxy statements.

Table 9 summarizes the results. Overall, we find positive average abnormal stock returns over the windows around the bonus-forgoing announcement date for our sample of 18 banks, but

most of them are not statistically significantly different from zero. We acknowledge that these results are based on a very small sample, but they provide some evidence to our analysis. Overall, the findings suggest that market participants do not view bonus-forgoing decision as a long-term strategy.

[Insert Table 9 about here]

It is also possible that the CEOs use forgoing bonus as a signal of interest alignment between the management team and shareholder to the market during the crisis period. Our results suggest that the market does not believe so.

D. Subsequent bank performance and bank risk-taking

In this section, we continue to examine the subsequent bank performance and risk-taking between the forgoing banks and non-forgoing banks to see whether forgoing decision served as a signal to the market that the interests of managers align with shareholders' ones during the financial crisis. If the CEO truly wishes to align their interests with shareholders, we would expect that the bank performance will be improved, and overall risks will be reduced.

We reproduce the DID analysis which is similar to that in the section 5A. In this scenario, “treatment group” is the group of banks with their CEOs forgoing their bonus and “control group” is the group of banks with their CEOs who did not. The estimation equation is similar to (4). In this case, $Y_{i,t}$ are the bank performance indicator, measured by stock performance (*Returns*) as annualised of monthly stock returns, market valuation (*Tobin's Q*), accounting performance (return on assets (*ROA*) and return on equity (*ROE*)); and bank risk-taking behaviour captured by the *volatility* as the annualized standard deviation of stock monthly returns, standard deviation of ROA ($SD(ROA)$), standard deviation of ROE ($SD(ROE)$), rolling over 3 years, respectively, loan loss provisions over total assets (*Loan loss provisions/Assets*), and the natural logarithm of Z-score ($\ln(Z\text{-score})$) where Z-score is the average bank return on assets plus bank equity to assets ratio, scaled by the standard deviation of return on assets rolling over 3 years. ϕ_1 measures the changes in bank performance and risk-taking indicators before and after the forgoing year, respectively. ϕ_2 is the coefficient of interests which measures the changes in bank performance and risk-taking from before to after between the two groups. $(X_{i,t,t-1})$ are vectors of control variables for corporate governance and bank characteristics including board size, audit committee size, bank size, leverage, market-to-book ratio.

Table 10 presents the results. The interaction terms of interest are weakly statistically positively significant for ROA, but not for the other indicators. Hence, the results do not show strong evidence that CEO tend to align their interests with shareholders after forgoing their bonuses. Again, this evidence is consistent with the results reported in the previous sections that bonus-forgoing is a temporary rather than long term decision.

[Insert Table 10 about here]

6. Conclusion

One important question is why the CEOs forgo their bonus in banking industry during the financial crisis. To address this question, we provide evidences that the propensity of forgoing decision is positively related to bank size, intensity of internal monitoring governance and whether the bank received the government bailout (TARP funds). In addition, we point out that the internally promoted CEOs are more likely to do that, consistent with their willingness to signal strong commitment. However, we do not find the evidences on the relationship between forgoing decision and bank relatively low performance. These findings suggest that bank CEOs tend to forgo their bonus when the cost or pressure of not forgoing is relatively high, but not for the cost of forgoing bonus.

Moreover, we examine the effects of the pressure channel on the magnitude of bonus-forgoing and these results confirm the predictions loyalty factor, but not for internal governance and regulation. Our findings improve our current understanding of the important role of forgoing decision over the magnitude of such bonus forgoing.

Additionally, there is no evidence that CEOs who gave up their bonus tend to leave their jobs, nor were their subsequent total compensation negatively affected. We also find a little significant difference in accounting and market-based performance measures, but not positive announcement effects upon the news. These results together suggest that the bonus-forgoing decision as a signal to the market that managers' interests aligned with those of shareholders, and it is likely a bank temporary decision.

Appendix A: Selected Proxy Statement Disclosures of CEOs Forgoing Bonus

No.	Bank Name	CEO Name	Year	Proxy Statement Disclosure
1	ASSOCIATED BANC-CORP	Paul S. Beideman	2008	Mr. Beideman recommended to the Committee that the Committee specifically consider whether to exercise its discretion to not award him a cash incentive bonus under the PIP for 2008, even though Associated satisfied the relevant performance criteria. The Committee exercised its discretion not to pay the CEO the cash incentive bonus for 2008.
2	BANK OF AMERICA CORP	Kenneth (Ken) Doyle Lewis	2008	Mr. Lewis recommended that no year-end compensation be paid to him or any other executive officer.
3	CITIGROUP INC	Doctor Vikram Shankar Pandit	2009	Based on Mr. Pandit's performance against the company's strategic priorities, the committee determined that Mr. Pandit merited consideration for an incentive award for 2009; however, based on Mr. Pandit's commitment, the committee agreed to award him no incentive compensation for 2009.
4	GLACIER BANCORP INC	Michael (Mick) J Blodnick	2007	Committee recommended a bonus in excess of \$150,000, but Mr. Blodnick declined to accept a bonus in a higher amount. For 2007, we awarded a bonus to our Chief Executive Officer of \$150,000, or approximately 48% of his base salary.

Note: This table presents examples of proxy statement disclosures on CEOs forgoing bonus during the financial crisis.

Appendix B: Variable Definition and Data Source (in Parentheses)

Variable	Definition
Forgo	A dummy variable that takes the value of one if a CEO gave up her/his bonus in a given fiscal year t, and zero otherwise (Proxy statements).
TARP	A dummy variable that takes the value of one if a bank received the TARP fund in a given fiscal year t, and zero otherwise (U.S. Department of the Treasury).
<i>Bank characteristics (t-1)</i>	
Total assets	Total assets in millions of US dollars (Compustat).
Bank size	Natural logarithm of the total assets in millions of US dollars (Compustat).
Tobin's Q	Ratio of market value of assets to book value of assets. The market value of total assets is computed as the book value of total assets plus market capitalization minus book value of equity. The market capitalization is measured as common shares outstanding times the fiscal year closing price (Compustat).
Market-to-book ratio	Market value of equity over book value of equity (Compustat/CRSP).
Leverage	Ratio of book total assets to stockholder's equity (Compustat).
Diversification%	The share of non-interest income in total operating income (Compustat).
<i>Board governance (t)</i>	
Ln (Audit committee size)	Natural logarithm of the number of directors sitting on the audit committee (BoardEx).
Expertise	Refers to the audit committee financial expertise, measured as the proportion of the NEDs with related functional experience such as a public accountant, auditor, principal or chief financial officer, controller, or principal or chief accounting officer sitting on the audit committee (BoardEx).
Ln (Board size)	Natural logarithm of the number of directors sitting on the board (BoardEx).
Audit committee independence	The proportion of independent non-executive directors on audit committee (BoardEx) where 'independent directors' are non-executive directors (NEDs), i.e. not full-time employees (Sun & Liu, 2014).
<i>CEO characteristics (t)</i>	
Inside appointed	A dummy variable that takes the value of one if a CEO appointed from inside the bank, i.e. the year when a CEO joining the bank and that when he/she promoted to be a CEO is the same, and zero otherwise (BoardEx).
Ln (Directorship experience+1)	Natural logarithm of the total number of prior directorships that CEOs served on quoted boards plus one (BoardEx).
Duality	A dummy variable that takes the value of one if a CEO hold the chairman position, and zero otherwise (BoardEx).
Ln(Tenure)	Natural logarithm of the number of years the CEO has been in role (BoardEx).
CEO ownership	The percentage of total share owned by CEO as reported in given fiscal year t (BoardEx).

Ivy League	A dummy variable that takes the value of one if a CEO graduated from an Ivy League institution (Brown University, Columbia University, Cornell University, Dartmouth College, Harvard University, Princeton University, University of Pennsylvania, and Yale University) at any academic level, and zero otherwise (BoardEx).
Ln (Excess \$500K)	The natural logarithm of the total compensation amount excess of \$500K, and zero otherwise (WRDS-Execucomp)
<hr/> Macroeconomics (t-1)	
Ln(GDP)	Natural logarithm of GDP of the states where the bank presents (U.S. Department of Commerce - Bureau of Economic Analysis)
<hr/> Subsequent tests	
Total compensation	Total direct compensation (Execucomp)
Bonus	Total bonus and non-equity incentives (Execucomp)
Returns	Annual buy-and-hold stock returns (CRSP).
Returns on Assets (ROA)	Ratio of net income to total assets (Compustat).
Returns on Equity (ROE)	Ratio of net income to stockholder's equity (Compustat).
Volatility	Annualized standard deviation of stock monthly returns (CRSP).
SD(ROA)	Standard deviation of Returns on Assets, rolling over 3 years (Compustat).
SD(ROE)	Standard deviation of Returns on Equity, rolling over 3 years (Compustat).
Loan loss provisions/Assets	Loan loss provisions over total assets (Compustat).
Ln(Z-score)	Natural logarithm of Z-score where Z-score is the average bank return on assets plus bank equity to assets ratio, scaled by the standard deviation of return on assets rolling over 3 years (Compustat).

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Table 1: Bank Sample Construction

Year	No of banks	N of banks dropped	Remaining banks
2007	98	16	82
2008	98	24	74
2009	98	30	68
Total	294	70	224

Note: This table summarises our sample selection procedures. It presents the number of banks covering the original bank sample followed by Fahlenbrach & Stulz (2011). There are 70 observations dropped because the proxy statements are missing, and banks are delisted. The composition of CEOs separated by “forgo” and “non-forgo” group are (8, 74), (16, 58), and (7, 61) for 2007, 2008, and 2009, respectively. The information is collected from the sample banks’ proxy statements.

Table 2: Summary Statistics**Panel A: Full Sample of All Banks**

This table provides bank level and CEO level summary statistics from 2007 to 2009 for the full sample. All continuous variables are winsorized at the 1st and 99th percentile levels. Variable definitions and data sources are presented in the Appendix C.

	Mean	SD	Median	Min	Max	N
Forgo	0.14	0.35	0	0	1	224
TARP	0.22	0.42	0	0	1	224
Total assets (\$bil)	157	390	14	2	1,938	224
Bank size	10.1	1.77	9.56	7.61	14.5	224
Tobin Q	1.04	0.072	1.04	0.91	1.24	224
ROA	0.63%	1.20%	0.92%	-4.30%	2.20%	224
ROE	6.80%	14%	9.80%	-58%	26%	224
Leverage	0.9	0.029	0.9	0.81	0.97	224
Market-to-book ratio	1.6	0.75	1.53	0.3	3.7	224
Diversification ratio	0.2	0.14	0.19	-0.026	0.59	224
Audit committee size	4.42	1.09	4	3	8	224
Ln (Audit committee size)	1.46	0.24	1.39	1.1	2.08	224
Audit committee independence	99%	6%	100%	50%	100%	224
Expertise	10%	15%	0%	0%	50%	224
Board size	12.3	2.89	12	7	20	224
Ln (Board size)	2.49	0.23	2.48	1.95	3	224
Inside appointed	0.63	0.48	1	0	1	224
Directorship experience	0.55	0.99	0	0	5	224
Ln (Directorship experience+1)	0.3	0.48	0	0	1.79	224
Duality	0.66	0.47	1	0	1	224
Tenure	9.56	7.3	8	1	27	224
Ln (Tenure)	1.87	0.98	2.08	0	3.3	224
CEO ownership (%)	1.8	3.6	0.23	0	23.2	224
Ivy League	0.21	0.4	0	0	1	224
Excess \$500K (\$000)	4,757	9,212	1,432	-	42,513	224
Ln (Excess \$500K)	6.73	2.67	7.27	0	10.7	224
GDP (\$bil)	727	590	493	37	1,984	224
Ln (GDP)	13.1	1	13.1	10.5	14.5	224

Table 2: Summary Statistics (Cont'd)

Panel B: Subsamples by Banks with Forgoing and Non-Forgoing CEOs

This table provides bank level and CEO level summary statistics from 2007 to 2009 for the subsamples of forgo and non-forgo group, and the differences across the two groups using two-tailed t-tests for means and Wilcoxon signed-rank tests for medians. All continuous variables are winsorized at the 1st and 99th percentile levels. *, **, and *** denote significance at the 10%, 5% and 1% level, respectively. Variable definitions and data sources are presented in the Appendix C.

	Forgoing group			Non-Forgoing group			Differences	
	N	Mean	Median	N	Mean	Median	Mean	Median
TARP	31	0.39		193	0.20		0.19**	
Total assets (\$bil)	31	521	65	193	99	13	422***	52**
Bank size	31	11.43	11.08	193	9.89	9.49	1.54***	1.59**
Tobin Q	31	1.03	1.02	193	1.04	1.04	-0.01	-0.02
ROA	31	1.00%	1.00%	193	1.00%	1.00%	0	0
ROE	31	7.00%	10.00%	193	7.00%	10.00%	0	0
Leverage	31	0.92	0.91	193	0.90	0.90	0.02***	0.01**
Market-to-book ratio	31	1.53	1.48	193	1.62	1.54	-0.09	-0.06
Diversification ratio	31	22%	19%	193	20%	19%	0.02	0
Audit committee size	31	5.13	5.00	193	4.30	4.00	0.83***	1***
Ln (Audit committee size)	31	1.60	1.61	193	1.43	1.39	0.17***	0.22***
Expertise	31	14%	0.00	193	10%	0.00	4%	0
Board size	31	12.58	12.00	193	12.31	12.00	0.27	0
Ln (Board size)	31	2.51	2.48	193	2.48	2.48	0.03	0
Inside appointed	31	0.81		193	0.61		0.2**	
Directorship experience	31	1.10	0.00	193	0.47	0.00	0.63***	0***
Ln (Directorship experience+1)	31	0.54	0.00	193	0.27	0.00	0.27***	0***
Duality	31	0.61		193	0.67		-0.06	
Tenure	31	8.47	6.00	193	9.74	8.00	-1.27	-2
Ln (Tenure)	31	1.80	1.79	193	1.88	2.08	-0.08	-0.29
CEO ownership	31	1.51	0.05	193	1.84	0.25	-0.33	-0.20
Ivy League	31	0.35		193	0.18		0.17**	
Bonus/Total compensation	31	0.15	0.05	193	0.19	0.18	-0.04	-0.13
Excess \$500K (\$000)	31	11,237	1,853	193	3,716	1,853	7,521***	434
Ln (Excess \$500K)	31	6.96	7.52	193	6.69	7.26	0.27	0.26
GDP (\$bil)	31	613	579	193	746	493	-133	86
Ln (GDP)	31	12.86	13.27	193	13.13	13.11	-0.27	0.16

Table 3: Correlation Matrix

This table reports Pearson pairwise correlation coefficients for all independent variables used in the forgo likelihood regression models. Variable definitions are presented in the Appendix C. All continuous variables are winsorized at the 1st and 99th percentile levels. The coefficients in bold with the symbol *, **, and *** denote significance at the 10%, 5% and 1% level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
(1) TARP																				
(2) Bank size	0.06																			
(3) Tobin Q	-0.05	-0.25***																		
(4) ROA	0.04	0.01	0.59***																	
(5) ROE	0	0.08	0.52***	0.95***																
(6) Leverage	0.07	0.28***	-0.02	-0.11	0.02															
(7) Market-to-book ratio	-0.1	-0.06	0.86***	0.58***	0.61***	0.25***														
(8) Diversification ratio	0.06	0.47***	0.07	0.09	0.16**	0.17**	0.26***													
(9) Ln (Audit committee size)	0.01	0.31***	0.02	0.05	0.12*	0.17**	0.17**	0.34***												
(10) Expertise	0.07	0.1	-0.18***	-0.15**	-0.15**	0.11	-0.17***	0	-0.11											
(11) Ln (Board size)	0.06	0.44***	0.05	0.14**	0.12*	-0.13*	-0.01	0.33***	0.33***	-0.17**										
(12) Inside appointed	-0.08	0.08	0.13*	0.18***	0.21***	0.13*	0.21***	0.16**	0.09	-0.07	-0.03									
(13) Ln (Directorship experience+1)	0.08	0.48***	-0.27***	-0.12*	-0.1	0.14**	-0.25***	0.09	-0.02	0.09	0.18***	-0.05								
(14) Duality	0.02	0.14**	0	0.08	0.1	0.04	0.02	0.05	-0.13*	0.09	0.09	0.1	0.14**							
(15) Ln (Tenure)	-0.04	-0.32***	0.05	0.05	0.05	-0.04	-0.04	-0.30***	-0.16**	0	-0.17**	0.01	-0.13*	0.38***						
(16) CEO ownership	-0.12*	-0.24***	-0.01	0.05	0.07	0.14**	-0.02	-0.22***	-0.16**	0.05	-0.34***	0.17**	-0.06	0.05	0.43***					
(17) Ivy League	0.01	0.28***	-0.12*	-0.08	-0.05	0.21***	-0.03	0.12*	0.12*	0.24***	0.08	-0.02	0.11	-0.03	0.02	0.13*				
(18) Ln (Excess \$500K)	0.05	0.46***	0.05	0.22***	0.28***	0.07	0.14**	0.30***	0.16**	-0.11	0.23***	0.11	0.07	0.26***	0.16**	0	0.08			
(19) Ln (GDP)	0.05	0.13*	-0.02	0.1	0.11*	0.12*	0.06	0.06	-0.05	-0.09	-0.1	-0.05	0.09	0.02	-0.05	0.09	0.07	0.1		
(20) Year 2008	0.62***	-0.03	-0.04	0.14**	0.12*	0.05	-0.09	-0.06	-0.06	0	-0.04	-0.02	0.02	0.06	0.05	0.07	0.02	0	0.02	
(21) Year 2009	-0.21***	0	-0.42***	-0.51***	-0.50***	-0.11	-0.39***	-0.04	0.03	-0.01	-0.05	0	-0.03	-0.09	-0.04	-0.15**	-0.03	-0.13*	0.01	-0.47***

Table 4: Logistic Regressions of CEOs' Decisions to Forgo Bonus: Pressure Explanations

This table presents the results from regressions of the bonus-forgoing decision on pressure indicators: *TARP*, *Ln(Bank size)*, *Ln(Audit committee size)*, *Expertise*, and *Inside Appointed*. *TARP* is a dummy variable set to one if a bank has received the TARP fund in a given fiscal year *t*, and zero otherwise. *Ln(Bank size)* is the natural logarithm of the total assets in millions of dollars, lagged at time year (*t*-1), *Ln(Audit committee size)* are the natural logarithm of the number of directors sitting on audit committee, *Expertise* is the proportion of the NEDs with related functional experience sitting on the audit committee. *Inside appointed* is a dummy variable that takes the value of one if a CEO is appointed from inside the bank, i.e. the year when a CEO joins the bank and that when he/she is promoted to be a CEO is the same, and zero otherwise. The sample period is 2007-2009. All continuous variables are winsorized at the 1st and 99th percentile levels. Robust standard errors clustered by banks. t-statistics are shown in parentheses. *, **, and *** denote significance at the 10%, 5% and 1% levels, respectively. Variable definitions are presented in the Appendix C.

	Prob (Forgo=1)			
	(1)	(2)	(3)	(4)
TARP	1.0167** (2.55)		1.3590*** (2.98)	
Bank size	0.3250* (1.72)	0.3538* (1.81)	0.8099*** (3.42)	0.7861*** (3.23)
Ln (Audit committee size)	2.5051** (1.99)	2.7279** (2.21)	3.6959*** (2.94)	3.8313*** (2.98)
Expertise	2.3991 (1.55)	2.6822* (1.69)	0.6404 (0.33)	1.1326 (0.57)
Inside appointed	1.0496** (2.11)	1.0711** (2.09)	1.1828* (1.80)	1.2337* (1.81)
Ln (Board size)			-1.9966 (-1.22)	-1.9701 (-1.23)
Ln (Tenure)			0.3524 (1.23)	0.3930 (1.30)
CEO ownership			0.0387 (0.61)	-0.0011 (-0.01)
Duality			-0.4973 (-0.89)	-0.6801 (-1.20)
Ln (Directorship experience+1)			0.3823 (0.63)	0.4443 (0.72)
Ln (Excess \$500K)			-0.1804 (-1.49)	-0.1665 (-1.39)
Ivy League			-0.2541 (-0.37)	-0.3254 (-0.47)
Leverage			3.5896 (0.36)	3.8517 (0.39)
Market-to-book ratio			0.0187 (0.05)	-0.1283 (-0.28)
Diversification ratio			-3.8077 (-1.56)	-2.8495 (-1.27)
Ln(GDP)			-0.5247 (-1.53)	-0.5185 (-1.56)
Constant	-10.4072*** (-5.35)	-11.3962*** (-5.27)	-7.3265 (-0.71)	-7.8471 (-0.81)
Year FEs	No	Yes	No	Yes
Observations	224	224	224	224
Pseudo R-squared	0.1986	0.2177	0.3153	0.3252

Table 5: Logistic Regressions of CEOs' Decisions to Forgo Bonus: Opportunity Explanations

This table presents the results of regressions of the decision to forgo bonus on the cost of bonus forgoing decisions, proxied by bank performance *Tobin's Q*, *Return on Assets (ROA)*, and *Return on Equity (ROE)*. *Tobin's Q* is defined by the ratio of market value of assets to book value of assets. The market value of total assets is computed as the book value of total assets plus market capitalization minus book value of equity, and the market capitalization is measured as common shares outstanding times the fiscal year closing price. *ROA* and *ROE* are the ratio of net income to total assets, and equity, respectively. The sample period is 2007-2009. All continuous variables are winsorized at the 1st and 99th percentile levels. Robust standard errors clustered by banks. t-statistics are shown in parentheses. *, **, and *** denote significance at the 10%, 5% and 1% levels, respectively. Variable definitions are presented in the Appendix C.

	Prob (Forgo=1)					
	(1)	(2)	(3)	(4)	(5)	(6)
Tobin Q	-1.5144 (-0.49)	-0.9638 (-0.22)				
ROA			20.7261 (1.16)	26.7273 (1.13)		
ROE					1.5805 (1.19)	2.1961 (1.24)
Board size	0.7074 (0.58)	0.7748 (0.62)	0.5950 (0.48)	0.7193 (0.57)	0.6362 (0.51)	0.7734 (0.62)
Ln (Tenure)	0.1677 (0.60)	0.1748 (0.61)	0.1900 (0.65)	0.1814 (0.61)	0.1851 (0.64)	0.1781 (0.60)
CEO ownership	-0.0370 (-0.44)	-0.0438 (-0.48)	-0.0463 (-0.48)	-0.0423 (-0.43)	-0.0459 (-0.48)	-0.0425 (-0.43)
Duality	-0.6402 (-1.10)	-0.7638 (-1.28)	-0.7112 (-1.22)	-0.8040 (-1.34)	-0.7060 (-1.20)	-0.8089 (-1.33)
Ln (Directorship experience+1)	0.8219 (1.56)	0.8972 (1.57)	0.9779* (1.86)	1.0487* (1.95)	0.9781* (1.87)	1.0604** (1.97)
Ln (Excess \$500K)	0.0349 (0.39)	0.0367 (0.41)	0.0240 (0.26)	0.0270 (0.29)	0.0190 (0.20)	0.0200 (0.21)
Ivy League	0.4378 (0.70)	0.4374 (0.67)	0.5184 (0.82)	0.5095 (0.78)	0.5154 (0.82)	0.5118 (0.79)
Leverage	22.8088** (2.44)	22.7120** (2.32)	24.6725** (2.54)	25.8108** (2.37)	23.6085** (2.48)	24.5327** (2.34)
Diversification ratio	0.2332 (0.13)	0.5492 (0.31)	-0.2181 (-0.12)	0.1140 (0.06)	-0.3306 (-0.18)	-0.0556 (-0.03)
Ln(GDP)	-0.4127 (-1.29)	-0.4399 (-1.37)	-0.4361 (-1.38)	-0.4779 (-1.52)	-0.4347 (-1.37)	-0.4785 (-1.53)
Constant	-17.9857 (-1.62)	-18.8171 (-1.59)	-20.6927* (-1.68)	-22.2764* (-1.67)	-19.7630 (-1.60)	-21.1570 (-1.60)
Year FEs	No	Yes	No	Yes	No	Yes
Observations	224	224	224	224	224	224
Pseudo R-squared	0.125	0.1583	0.1305	0.1649	0.1302	0.1657

Table 6: OLS Regressions of the Amount of Bonus prior to Forgoing

This table presents results from estimating regressions of CEOs' bonus measured by total value of bonus and non-equity incentive (scaled by total compensation) in the year prior to forgoing bonus on pressure indicators, *TARP*, *Ln(Bank size)*, *Ln(Audit committee size)*, *Expertise*, and *Inside Appointed*. *TARP* is a dummy variable set to one if a bank received the TARP fund in a given fiscal year *t*, and zero otherwise. *Ln(Bank size)* is the natural logarithm of the total assets in millions of dollars, lagged at time year (*t*-1), *Ln(Audit committee size)* are the natural logarithm of the number of directors sitting on the board of directors and audit committee, respectively, *Expertise* is the proportion of the NEDs with related functional experience such as a public accountant, auditor, principal or chief financial officer, controller, or principal or chief accounting officer sitting on the audit committee. *Inside Appointed* is a dummy variable set to one if a CEO is appointed from inside the bank, i.e. the year when a CEO joins the bank and that when he/she promoted to be a CEO is the same, and zero otherwise. The sample period is 2007-2009. All continuous variables are winsorized at the 1st and 99th percentile levels. Robust standard errors clustered by banks. t-statistics are shown in parentheses. *, **, and *** denote significance at the 10%, 5% and 1% levels, respectively. Variable definitions are presented in the Appendix C.

	<i>Bonus/Total Compensation (t-1)</i>	
	(1)	(2)
TARP	0.1461 (1.28)	
Bank size	-0.8569** (-2.45)	-0.9316*** (-5.05)
Ln (Audit committee size)	0.7422 (1.31)	1.0188*** (4.52)
Expertise	0.2670 (0.12)	0.1669 (0.11)
Inside appointed	1.0886 (1.03)	0.9526 (1.21)
Ln (Board size)	1.6245 (0.47)	-0.0330 (-0.02)
Ln (Tenure)	0.1697 (0.29)	0.0130 (0.04)
CEO ownership	-0.0386 (-0.05)	-0.5616 (-1.66)
Duality	-0.5113 (-1.35)	-0.2653 (-1.50)
Market-to-book ratio	0.3488 (1.11)	0.2192 (1.14)
Constant	0.7727 (0.07)	5.5812 (1.04)
Year FEs	No	No
Bank FEs	Yes	Yes
Observations	30	30
R-squared	0.995	0.988

Table 7: Subsequent CEOs compensation and bonus

This table presents the results from difference-in-differences (DID) regressions by fixed effects models of changes in CEOs' total compensation and bonus. All continuous variables are winsorized at the 1st and 99th percentile levels to address the issue of the extreme values and outliers. T-statistics are based on robust standard errors clustered by banks and shown in parentheses. * denote significance at the 10% level. Variable definitions are presented in the Appendix C.

	<i>Ln (Total compensation)</i>	<i>Ln (Bonus+1)</i>
	(1)	(2)
Post	0.509	-0.075
	(1.24)	(-0.09)
Treat*Post	-0.282*	-0.307
	(-1.91)	(-0.71)
Ln (Audit committee size)	-0.109	1.591*
	(-0.36)	(1.95)
Ln (Board Size)	0.030	-0.140
	(0.13)	(-0.12)
Bank size	0.193	-0.056
	(1.03)	(-0.11)
Leverage	3.335	13.361
	(1.65)	(1.45)
Market-to-book ratio	0.119	0.569
	(1.11)	(1.49)
Constant	2.645	-9.944
	(0.84)	(-0.81)
Year FEs	Yes	Yes
Bank FEs	Yes	Yes
Observations	408	408
R-squared	0.706	0.323

Table 8: Bonus Forgoing and Executive Tenure and Turnover

This table compares bonus-forgoing and non-forgoing CEOs' tenure time in the CEOs' role (Tenure) at the time of forgoing (measured by the number of years since year that the CEO joins the bank) and the time to turnover (Turnover), measured by the number of years after the forgoing year to the year that the CEO leaves the bank. We report means and medians for each subsample and use two-tailed t-tests for means and Wilcoxon signed-rank tests for medians. None of the differences are statistically significant at the 10% level.

Variables	Obs	Forgo sample			Non-forgo sample			Difference	
	<i>N</i>	<i>N</i>	<i>Mean</i>	<i>Median</i>	<i>N</i>	<i>Mean</i>	<i>Median</i>	<i>Mean</i>	<i>Median</i>
Tenure	65	19	4.32	3.00	46	3.16	1.62	1.16	1.38
Turnover	65	19	5.73	8.96	46	4.66	4.31	1.07	4.65

Table 9: Cumulative abnormal returns (CARs) at forgoing announcement

This table presents the results from an event study for several window (0, +1), (0, +2), (-1, +1), and (-2, +2) with day 0 representing the date of announcement of forgoing bonus for our sample of 18 banks. We identify CEOs' announcements of forgoing bonus by reading news and proxy statements. The results are presented for both full sample and subsamples of announcements based on news, and proxy statements, respectively. We report means and medians use two-tailed t-tests for means and Wilcoxon signed-rank tests for medians. Statistical significance at the 10% and 5% level is denoted by * and **.

Variables	Total Announcement		Announcement by news		Announcement by proxy statements	
	<i>Mean</i>	<i>Median</i>	<i>Mean</i>	<i>Median</i>	<i>Mean</i>	<i>Median</i>
CARs (0, +1)	0.0201	0.0390**	0.0176	0.0107	0.0208	0.0390*
CARs (0, +2)	0.0136	0.0183	-0.0151**	-0.0198*	0.0218**	0.0328**
CARs (-1, +1)	0.007	0.0095	0.0080	-0.0115	0.0067	0.0151
CARs (-2, +2)	0.0073	-0.0078	-0.0253**	-0.0481	0.0166*	0.0059
No. of banks	18		4		14	

Table 10: Subsequent bank performance and risk-taking

This table presents difference-in-differences (DID) regression results of comparing changes in performance of bonus-forgoing (treatment group) and non-forgoing (control group) CEOs' banks with different performance proxies, i.e. buy-and-hold returns, Tobin's Q, ROA, ROE; and bank risk-taking, i.e. volatility, standard deviation of ROA (SD(ROA)), standard deviation of ROE (SD(ROE)), loan loss provisions/Assets, and Ln(Z-score). . All continuous variables are winsorized at the 1st and 99th percentile levels. Robust standard errors clustered by banks. t-statistics are shown in parentheses. *, **, and *** denote significance at the 10%, 5% and 1% levels, respectively. Variable definitions are presented in the Appendix C.

	Performance				Risk-taking				
	Tobin's Q	Returns	ROA	ROE	Volatility	SD(ROA)	SD(ROE)	Loan loss provisions/Assets	Ln(Z-score)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Post	-17.015	0.041	0.004	0.057	-0.001	-0.001	0.087	-0.003	0.103
	(-1.43)	(0.40)	(0.95)	(1.25)	(-0.11)	(-1.01)	(1.70)	(-1.17)	(0.41)
Treat*Post	12.672	0.041	0.004*	0.034	-0.010	-0.001	0.005	-0.001	0.319
	(1.47)	(0.70)	(1.94)	(1.47)	(-1.11)	(-0.67)	(0.07)	(-0.90)	(1.11)
Audit committee size	-17.115	-0.128	-0.002	-0.015	0.004	-0.001	-0.052	-0.002	-0.452
	(-1.43)	(-1.69)	(-0.90)	(-0.42)	(0.37)	(-0.85)	(-1.06)	(-0.82)	(-1.53)
Board size	21.284	0.208*	0.005	0.080	0.007	-0.002	-0.058	-0.001	0.621
	(1.50)	(1.94)	(1.25)	(1.44)	(0.57)	(-0.54)	(-0.33)	(-0.13)	(1.07)
Bank size	-14.251**	-0.176***	-0.001	-0.010	-0.001	-0.000	-0.063	0.002	0.078
	(-2.15)	(-4.54)	(-0.57)	(-0.45)	(-0.22)	(-0.05)	(-1.24)	(0.97)	(0.27)
Leverage	-761.510***	1.167	-0.020	-0.658	0.252	0.052	7.292**	0.014	-5.953*
	(-6.05)	(1.10)	(-0.37)	(-0.57)	(1.00)	(1.53)	(2.19)	(0.21)	(-1.94)
Market-to-book ratio	46.484***	-0.127***	0.006***	0.108***	-0.013***	-0.004**	-0.120	-0.004***	0.204
	(8.58)	(-3.08)	(4.21)	(2.89)	(-2.88)	(-2.20)	(-1.67)	(-2.91)	(0.75)
Constant	881.982***	0.748	0.011	0.381	-0.135	-0.027	-5.476*	-0.010	6.600
	(5.76)	(0.70)	(0.18)	(0.33)	(-0.54)	(-0.91)	(-1.93)	(-0.12)	(1.46)
Year FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bank FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	321	408	408	408	408	383	383	366	329
R-squared	0.874	0.522	0.539	0.524	0.722	0.625	0.545	0.611	0.703