THE TROUBLED ASSET RELIEF PROGRAM (TARP) FIRMS AS A QUASI EXECUTIVE COMPENSATION-SETTING LABORATORY

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Abstract

Agency theory suggests that as external dedicated ownership increases in a firm, the agents would act more responsibly (i.e. extract less rent) and executives' interests are more likely to be better aligned with those of the shareholders. We explore the role of the government as an owner during the bailout of the financial sector after the 2008/2009 financial crisis and the impact it had on CEO compensation at top TARP banks. Our analysis of the Obama administration's pay czar's effort to align top TARP firm CEO/top executive compensation with those of shareholders against agency-theoretic principles suggest that the effort was only marginally successful. We suggest that the transient nature of the government's influence, among others, was a significant reason that attenuated the government's efforts to have long

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term changes in top executive compensation at TARP firms. We also offer socio-political and managerial power arguments as alternative explanations of why seemingly inefficient or suboptimal executive compensation persists in the US.

INTRODUCTION

CEO and other top executive compensation in the US continue to perplex researchers and policymakers. The average S&P 500 CEO's total compensation to that of the average worker peaked at 525 in 2000 and was 263 in 2009 when the average S&P 500 CEO made $9.3 million (www.aflcio.org). One school of thought argues that though CEO pay may seem excessive it represents an efficient compensation, especially if it is a result of aligning the interests of CEOs and shareholders through vehicles such as stock options (Core et al. 2005). The other side of the debate posits that that CEO compensation is largely excessive and that CEOs exploit weaknesses in corporate governance and their power over the board to extract compensation in excess of what they should be paid (e.g. Bebchuk and Fried 2003; Cooper et al. 2010)[1]. In this paper we use the unique circumstances surrounding the US government's ownership role to assess how well the Obama administration's TARP pay czar's efforts met certain agency-theoretic principles about how best to design compensation contracts optimally.

[1] Cooper et al. (2010) examine CEO pay for 1500 firms from 1994 to 2006. They find that the top 10% of firms with the highest CEO compensation performed worse than their peers, measured in stock returns. The economic significance translated to about $2.4 billion lower shareholder value per year for those firms.

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During the financial crisis of 2008/2009, policymakers concurred with the latter view and explored ways to constrain what they viewed as excessive compensation, especially those that they believed incentivizes top executives to take too much risk or those that misalign the interests of top executives and shareholders. The US government made significant efforts to redesign executive compensation in firms in which it made significant equity investments to help stabilize those firms and the financial sector. While the government initially incrementally improved the alignment of shareholders and executives' interests, a recent study by the Council of Institutional Investors to evaluate the impact of new rules on pay as part of the financial bailout found that Wall Street pay practices had hardly changed and in some cases had worsened (Lucchetti 2010). One reason why the government's efforts did not significantly change the way top executives are compensated at those firms is the government's investment in the firms was transient. Our primary research question is: how well did the government's efforts to regulate top executive pay succeed in aligning the interests of shareholders and those of the top executives at top US financial firms that received support from the government in the financial crisis? We invoke agency theory and its implications for significant institutional ownership unencumbered with business relations as a basis for evaluating the US government's efforts[2]. After answering our primary research question, we explore a secondary research question about potential alternative explanations about the state of CEO compensation generally and TARP firms particularly.

The bailout of financial institutions deemed too big to fail and related attempts by the Obama administration's pay czar to curb compensation of senior executives at those banks offer a rare quasi-laboratory for assessing some agency-theoretic prescriptions for optimal compensation. In the typical public US Corporation the power of the shareholders is diffused leading to most CEOs having

[2] David et al. (1998) find that institutional investors with significant shareholdings who do not have business relations with the firm are better checks on CEO pay than those with business relations with the firm.

more power compared to shareholders (Jensen and Murphy 1990). With the Troubled Assets Relief Program (TARP) "bailout," that typical setting was somewhat reversed in that now the US government was the largest shareholder in most of these banks**.** How would such a powerful shareholder, under pressure to derive optimal compensation contracts, bargain with executives at the compensation table?

In the wake of the financial crisis of 2007/2008, President George W. Bush signed into law on October 3, 2008, the Troubled Asset Relief Program (TARP) (Nothwehr 2008; The New York Times 2008). The program was designed to strengthen the country's financial system using a multi-pronged approach. One aspect of the program was to purchase mortgage-backed securities that were difficult to sell as a result of the financial markets' doubts about the quality of the underlying assets. Other aspects of the program included equity investments in TARP firms and designing executive compensation in those firms to limit excessive risk-taking. Broad guidelines for the new compensation structure at TARP firms included limiting cash compensation to $500,000 and giving the remainder in the form of deferred, stocks and option-based compensation (breitbart.com 2009). Furthermore, bonuses and other incentive-based compensation could be clawed back if they were subsequently found to have been based on fraudulent or incorrect information (Nothwehr 2008). Ultimately by April 2010, the US government had invested $245 billion in TARP firms out of which about $169 billion had been repaid (WSJ.com 2010).

We employ newspaper articles, primarily from October 10, 2009 to January 28, 2010 – the height of the bailout of the TARP firms and the period within which the pay czar was most influential -- to assess how the agency-theoretic, socio-political and managerial power explanations of inefficient CEO pay played out in the context of executive pay at the TARP banks. We find that 1) the government's pay czar helped marginally improve how close compensation design adhered to agency theory prescriptions, but the effect was short-lived as the government's holdings were temporary and 2)political and cultural pushback from firms and

their top managements constrain serious attempts to adhere to agency theory prescriptions in compensation contracts.

We also find that the difficulty of assessing top executives' risk tolerances and incorporating them in compensation contracts contributes to compensation contracts that are not efficiently designed to benefit shareholders. Related to this point, without more accurately capturing CEOs' risk profiles to appropriately incorporate in compensation contracts, it appears that CEOs will strategically change the composition of their compensation depending on firm prospects and expedience. In particular, we find that the bulk of the top eight TARP firm CEOs' pay tend to be composed of noncurrent pay in good economic times and current pay (salary + bonus) and other forms of compensation in tough economic times. We believe that more research on how best to evaluate top executives' risk profiles for incorporation in the design of compensation contracts can help significantly improve the efficiency of such contracts. Furthermore, our finding that, agency-theoretic prescriptions for optimal compensation designs are difficult to adhere to even in situations where there is a powerful owner such as the government, suggests that other socio-political explanations for the state of top executive compensation such as social comparison and managerial power should be further explored.

Finally, we are not aware of any study that has examined the TARP's pay czar's efforts to better align executives' interests with those of shareholders through how compensation is structured. For example, Bebchuk and Fried (2010) make recommendations on how to more effectively structure bankers' pay, but do not evaluate the pay czar's efforts to do the same at TARP banks. Researchers, policymakers and shareholders who hope to better understand and improve how they evaluate the efficacy of CEO compensation contracts would find this paper informative.

In the following section we present the theory and literature on agency theory followed by our evaluation of the pay czar's efforts against those theoretical tenets. We next present the theory

and literature on socio-political and managerial power explanations of CEO compensation and evaluate the TARP firms' reactions to the pay czar's efforts as an alternative explanation for the state of CEO compensation in TARP firms.

LITERATURE AND THEORETICAL DEVELOPMENT AND ANALYSIS OF PRIMARY RESEARCH QUESTIONS

Agency Theory and Evaluation of TARP Firm Top Executive

The agency theory literature has typically assumed the agent to be risk-averse and the principal, risk-neutral (e.g. Holmstrom 1979; Core et al. 2003). To incentivize the risk-averse agent to work hard, the principal has to offer at least the agent's reservation wage. The reservation wage can be viewed as the agent's opportunity cost – he can easily earn that amount by hawking his skills on the open market or by working for himself. In analytical agency models the reservation wage is often called the participation constraint (e.g. Laffont and Martimort 2002, p.37). This reservation wage is predetermined and so is essentially fixed. The typical empirical analog to the fixed, reservation wage is the CEO's salary, though relatively invariant bonus (such those of some Wall Street bankers) would fall under the fixed category as well.

The principal (the board of directors[3]) may want to provide the agent with incentives to work harder than he otherwise would, reasoning that both he (i.e. shareholders) and the agent can do better financially with this extra incentive. In analytical models of agency theory this is often called the incentive compatibility constraint (Lamont and Martimort 2002, p.37; Mas-Colell et al. 1995, p 483). Figure 1 depicts agency-theoretic normative prescriptions for how compensation might be structured, on a spectrum demarcated by largely fixed compensation for a highly risk-averse agent to one and that is largely variable for a less risk-averse agent.

[3] The board of directors is assumed to be acting at arm's length in the interest of shareholders.

Boards of directors of many large US corporations and some researchers defend their seemingly generous stock and option awards to CEOs by arguing that they are trying to align CEO incentives with those of shareholders (e.g. Core et al 2005). Thus US CEOs tend to be compensated as if they have high risk tolerance. However, some critics of CEO compensation have argued that such stock and option awards do not really carry much risk since they tend to be awarded on top of, not in partial replacement of, current compensation (Bebchuk et al. 2002). Furthermore, agency theory prescribes that the fixed compensation be weighed heavier than the variable compensation the **more** risk-averse is the agent, and the variable portion be weighed more the **less** risk-averse is the agent. Perhaps because it is difficult to capture the construct of an agent's risk profile, few actual compensation contracts adequately consider and incorporate this[4]. As a result few empirical studies incorporate the risk profile of the executive.

Thus, though some researchers (e.g. Core et al. 2005) argue that stock options are an efficient (as opposed to optimal) way to compensate executives, to the extent that an executive's risk profile is not taken into account in deciding the best mix of stock options and other compensation to align the interests of executives and shareholders, it is difficult to say if a given value of stock options and other incentives are effective in aligning shareholders' and CEOs' interests. Large shareholders without business relations with the firm can be an important means of holding the CEO accountable (David et al. (1998).

In the typical modern US corporation with diffused shareholders, the agency problem can be quite acute, likely

[4] Later in the paper, we evaluate how well the Obama administration's pay czar for the TARP program fared when his compensation plans for top executives of TARP banks is compared to the tenets of agency theory.

contributing to the lively debate over the past decade over CEO compensation. Given the general view in the popular press and some academic circles (e.g. Frydman and Jenter 2010**)** that misalignment of the interests of Wall Street executives and those of shareholders was a significant contributing factor to the financial crisis, the Obama administration's pay czar had to make an attempt to improve the alignment of executives' and shareholders' interests.

Accounting Measures, CEO Risk Profile, and Other Determinants of Form and Levels of Compensation

Many factors affect the form of compensation and whether it is designed to be sensitive to performance or not. These include length of the employment contract, the type of firm, and the independence of the board. For example, certain growth industries with high uncertainty desire managerial actions to significantly impact growth and so are more likely to tie the manager's wealth to his efforts (Kole 1997). Examples are companies in industries or sectors where high levels of creativity are required for growth, such as pharmaceuticals or information technology. Such firms will weight a greater portion of compensation toward variable pay to incentivize managers to grow the firm than a firm with low growth and high physical assets where the manager may be only expected to maintain assets.

While it is generally accepted in agency theory that the risk profile of the manager is a critical input in determining the form and structure of his compensation, accounting necessarily provides the measures through which the theory can be tested[5]. Indeed the quality of the accounting system itself has some bearing on the form and structure of the manager's compensation package. Holmstrom (1979) makes the case that when managerial actions are known and observable, it is customary to pay the manager a fixed remuneration; on the other hand, when the manager's actions

[5] The accounting system accumulates the various forms of compensation and the related firm performance on which those forms of compensation may be based.

are not easily known or observable, then it is more helpful to tie his wealth to his effort. In tying the manager's wealth to his effort, firms evaluate competing information signals on the manager's action – accounting-based and market-based information. Lambert and Larcker (1987) argue that when accounting-based information is relatively noisier, it is more informative to put more weight on market-based information and vice-versa.

Ceteris paribus, a risk-averse person would rather have a certain amount than take a lottery. Thus, consistent with Kole's (1997) notion, managers with high levels of risk aversion would generally self-select into relatively "safe" industries where their compensation does not depend too much on their effort (e.g. utilities), while **less** risk-averse managers would gravitate toward riskier sectors like pharmaceuticals, social networking or investment banking. Invariably, not all manager-firm matches would be perfect. A manager may find himself in a firm with higher tolerance than him. Such a firm would seek to tie a significant portion of his wealth to his compensation. The manager will "resist" by seeking a larger amount of such variable pay, potentially resulting in variable compensation (largely stocks and options) that is costly to the firm. Such mismatch in risk between the firm and the CEO, or not calibrating the CEO's risk profile to efficiently incorporate in compensation contracts, can contribute significantly to inefficient CEO compensation.

Lambert et al. (1991) evaluate a similar idea where the manager values the stocks and options awarded to him by the firm at a lower value than the true cost to the firm because the risk-averse manager dislikes the risk inherent in that form of compensation. Using the Black-Scholes model and fairly reasonable assumptions to price hypothetical options, they find that manager's certainty equivalent[6] values were consistently lower than the Black-Scholes values (i.e. the firm's cost) and that the manager's valuation of the options is decreasing in his risk

[6] The "certainty equivalent" is the fixed dollar value that a manager would take in lieu of the more risky stock options.

aversion[7]. Using more recent data, Hall and Murphy (2002) report similar findings. The result is that the more risk-averse a CEO is, the higher the cost to the firm to provide incentives to him to work harder. Thus, the notion of incorporating CEO risk profiles in compensation contracts is not novel to the accounting literature. Rather, its relative paucity in the literature likely reflects the difficulty of capturing the construct in empirical research and in actual compensation arrangements.

Thus the quality of the accounting information that produces firm performance and related compensation measures and the risk profile of the CEO are necessarily interconnected in determining an apt compensation contract. Whereas agency problems such as board independence contribute to not adequately evaluating these important factors to efficiently incorporate into compensation contracts, the TARP program offered a rare opportunity to evaluate how shareholders might attempt to use these valuable pieces of information in compensation contracts if they had the power and ability to do so.

With the unique setting of the TARP program where one party is a dominant shareholder (the US government) in the firm, is the dominant shareholder better able to write compensation contracts that better reflect the tenets of agency theory? We evaluate this in the context of the TARP program next.

Large Share Ownership and CEO Compensation Levels and Structure

Considerable research has found evidence that ownership structure can impact chief executive officer (CEO) compensation (see Gomez-Mejia 1994 for a review). The category of owner who has enough ownership to make substantial impact on firms' leadership is the institutional investor with 5 percent ownership of the firm. For example, Useem (1996) finds that institutional investors with ownership of 5 percent or greater own more than

[7] Details of the assumptions that Lambert et al. 1991 make in using the Black-Scholes model to value their hypothetical options are beyond the scope of this paper.

half the equity in U.S. corporations and influence the CEO compensation. Institutional investors may be individual owners or may comprise heterogeneous groups of organizations not limited to banks, public and private pension funds, mutual funds, and insurance companies, etc (O'Barr and Conley 1992).

The US government ultimately invested $245 billion in TARP firms. Of this amount about $169 billion had been paid back by April 2010 (WSJ.com 2010). Figure 2, Panel A shows the dollar amounts that the US government invested in the top financial TARP firms and Panel B shows the percentage ownership the government's investment represents. Because these percentages are based on book value of equity, these are conservative estimates as the stock price values had fallen dramatically. The government's percentage ownership declined by the end of 2009 as the crisis receded**).**

Based on the institutional ownership literature, the expectation is that due to its large percentage of ownership, the government should have been able to influence the compensation packages of the CEOs before its percentage ownership declined by the end 2009 as the crisis receded**.**

By partially replacing current, relatively fixed compensation with a more variable one consistent with US firms' arguments that they strive to align the interests of shareholders and CEOs, Mr. Feinberg's (the US government's pay czar) compensation design comes closer to the prescriptions of agency theory (e.g. Holmstrom and Milgrom 1987) than what is typical in many large US corporations**.** In other words, if executives tend to be compensated as if they are not so risk-averse, then their compensation structure should truly reflect that by having most of their pay tied to the performance of the firm (i.e. variable). Thus our first research question acknowledges the difficulty of capturing CEOs' risk profiles and incorporating them appropriately in

compensation contracts and our second one seeks to investigate how the TARP executives would react to the new compensation levels and structure.

> **RESEARCH QUESTION 1:** *In the absence of an effective means to determine and incorporate executives' risk profiles in the design of compensation contracts, would a large and influential shareholder (the pay czar) succeed in at least incrementally improving the alignment of TARP executives and shareholders' interests ?*
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> **RESEARCH QUESTION 2:** *As the pay czar dramatically reduced fixed or cash pay and replaced it with variable pay, would TARP executives react as if they are risk-averse (i.e. fight it) or not so risk-averse (i.e., accept it)?*

We expect certain behavioral response conditional on TARP firm executives true risk tolerances. If executives have relatively high tolerances for risk as their compensation structures suggest and some defenders of high levels of executive compensation imply, then they are likely to embrace a new compensation structure that is weighted heavily toward more variable/deferred pay (as opposed to more fixed/cash pay). However, if executives tend to be relatively more risk-averse, then they will tend to resist the new pay structure or find ways to dampen its effect.

Analysis of Research Questions 1 and 2 in the Context of the TARP

In an attempt to design an optimal CEO compensation structure, after the government became an institutional investor, it tried to align executive compensation at the TARP banks by reducing total pay by about 50% in 2009 and changing the way total pay is structured. For example, the government reduced cash (primarily current compensation or cash and bonus) pay by an average of 90%, replacing it with variable pay (stocks, options and

bonus) (Labaton 2009a). Further, the stocks had to be held for two to four years (Nocera 2009). This initiative towards a greater weight on variable pay as a way of reducing risk-taking (Labaton 2009b) strongly suggests that the previous pay structures were essentially not very variable. This is because according to agency theory, ordinarily if the goal is to reduce risk in the agent's compensation, then the prescription would be to increase the fixed proportion of compensation. By reducing total compensation while increasing the variable component, executives' interests were now more likely to be at stake than they were before the crisis.

By partially replacing current, relatively fixed compensation with a more variable one consistent with US firms' arguments that they strive to align the interests of shareholders and CEOs, Mr. Feinberg's compensation design comes closer to the prescriptions of agency theory (e.g. Holmstrom and Milgrom 1987) than what is typical in many large US corporations**.** In other words, if executives act as if they have relatively high tolerance for risk in their compensation negotiations, then their compensation structure should truly reflect that by having most of their pay tied to the performance of the firm (i.e. variable). Mr. Feinberg's efforts to change the fixed/cash to variable/noncash ratio of TARP executives' pay toward more weight on the variable/noncash portion is consistent with the evidence that most CEOs already get the bulk of their compensation in variable/noncash form **(**Frydman, and Jenter. 2010).

Executives getting most of their pay in variable form (stocks and options) implies that they high tolerance for risk. Thus, the pay czar 1) reducing total TARP CEO pay, 2) weighing deferred (and variable) pay much more than fixed pay and 3) ***replacing*** relatively fixed pay with more variable and deferred pay as opposed to awarding the variable pay in ***addition*** to their current pay as has typically been the norm (Bebchuk and Fried 2003)[8] is

[8] It is not clear from the newspaper articles we read whether Mr. Feinberg considered the risk tolerance of the CEOs and incorporated that in his restructuring of the compensation contracts. By increasing the variable portion

more consistent with agency-theoretic tenets if the typical executive has low risk aversion.

TARP CEOs' Risk Profiles

While we are unaware if Mr. Feinberg explicitly considered and incorporated the risk profiles of CEOs into his pay restructuring efforts, our readings suggest he may have made an effort which run into substantial headwinds. Though it is difficult to capture risk profile with hard data, some researchers have made positive strides toward that goal. The most prominent constructs used include wealth and age (also a proxy for experience). For example Becker (2006) used age and wealth to capture the risk profiles of CEOs in Sweden. However, in the US, perhaps due to a privacy/strong individualism ethos, it is difficult to get accurate data on wealth[9].

This difficulty is highlighted when in response to Mr. Feinberg's request for information about how much share of the firm senior executives owned, the head of Citigroup's compensation team responded that it would be awkward to ask executives how much Citigroup stock they owned, implying that Citigroup did not know the number. How can a compensation contract that provides optimal incentives be designed if this current stock ownership is unknown?[10] Meanwhile, AIG had difficulty identifying who its highest paid employees were (Story 2009a).

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of compensation, Mr. Feinberg effectively implied that the executives are uniformly not very risk-averse.

[9] Still, it is not an impossible task. For example, Forbes publishes an annual list of the world's wealthiest people, though most CEOs tend not to be on the list.

[10] The TARP bailout program still offers a remarkable example of a prescription of agency theory regarding incorporation of risk profiles in compensation contracts: if the agent (manager or CEO) is risk-neutral or less risk-averse than the owner and the agent has better local knowledge then sell the firm to the manager. Mr. Feinberg believed that excessive compensation at the banks was related to excessive risk-taking. So to avoid explaining star trader Andrew Hall's

Since stocks and options form the bulk of top executives' compensation and they are typically awarded with the goal of aligning the interests of shareholders and the executives, it can be difficult, if not impossible for the firm to tell how well the executives' interests are aligned with those of shareholders if it does not know how many stocks top executives own. Since CEOs' incentive compensations were typically awarded on top of their usual compensation, any risk aversion of these executives is essentially masked.

Further, for risk-averse people, "losses loom larger" and so they are more sensitive to losses than they are to gains of equal amounts (Kahneman and Tversky 1979). Such individuals will go to great lengths to avoid losses. There is some evidence of such behavior in the TARP banks' response to regulators' efforts to limit risk-taking by restructuring compensation packages. Some banks' exhibited their dislike for variable pay by increasing base and cash pay (primarily some UK banks), by granting shares that can be sold within months (e.g. Bank of America) and lending money to executives to alleviate their liquidity constraints (e.g. Goldman Sachs, Morgan Stanley, and Royal Bank of Scotland) (Enrich et al. 2010)[11]. Perhaps most telling, AIG executives strongly resisted Mr. Feinberg's attempts to link a significant portion of their variable pay to AIG stock (Brill 2010).

Finally, a recent study offers further support to the notion that top bank executives are compensated as if they are more risk-tolerant than they really are. The study, commissioned by the Council of Institutional Investors to evaluate the impact of new rules on pay instituted by the Treasury Department as part of the

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$100 million compensation at Citigroup's trading unit Phibro to Mr. Feinberg, Citibank sold the firm to Mr. Hall (Story 2009b).

[11] A recent New York Times article reports that SEC filings by Goldman Sachs suggest that its partners use complex hedging transactions to undo the alignment with shareholder interests that the stock and related awards were designed to achieve in the first place (Dash 2011).

financial bailout in response to the financial crisis found that Wall Street pay practices had hardly changed and in some cases worsened.

The study which focused on six banks found that some banks exploited a loophole in the new rules to reward executives with "massive salary increases." Four top Wells Fargo executives had their base salaries at least triple between 2008 and 2009. The report recommended that pay be tied more closely to future performance, adding that most banks appear not to understand that deferring pay is not sufficient to link pay to long term performance[12]. Thus it is very plausible that TARP banks compensated their CEOs as if they were more risk-tolerant than they really were, allowing the executives to "gamble with other people's money." That most of these executives did not leave after such drastic reduction and restructuring of their compensation contracts suggests that their previous compensation arrangements were likely suboptimal[13].

An examination of changes in both the total and components of the top TARP firms' top executive pay suggests that the CEOs strategically alter the composition of their total pay to minimize decreases during economic downturns. Panel A of Figure 3 shows the general trend in total pay and its component from 2000 to 2010. The decline in total pay and its components in 2001 likely reflect the dotcom crash, while that of 2008 reflects the

[12] Though outside the study period, we include the result of that study because it evaluates the changes that were supposed to have corrected the pre-financial crisis Wall Street pay culture.

[13] It is also possible that given the severity of the financial crisis, finding an alternative position was not practical. Instead, perhaps the executives calculated rightly that their best option was to stick with their current positions to help extract the most favorable concessions they can from the US government, then return to the status quo compensation structure (or something closer to that) once they repaid the government. The speed with which the banks repaid the government suggests this was a possible strategy for most of the banks (Dash 2009; Enrich 2009).

financial crisis. Since the 2000 dotcom market crash, top executives reduced the risk they bore in the firms they run, by increasing their cash (i.e. current pay) pay. They started increasing the risk they bore in their firms by increasing the proportion of noncurrent pay in 2006, peaking in 2008. During the brief period that the pay czar regulated top TARP executive compensation, consistent with prior behavior in 2001 (after the 2000 dot com crash), they resisted increasing the proportion of their compensation tied to their firms' stocks. But for the pay czar, the proportion of noncurrent pay would be smaller and the total pay would likely be higher.

Panel B shows more clearly changes in the three major components of total pay (current – salary and bonus, noncurrent – stock and option awards, and all other). From 2003 to 2005, total pay increases over the 2001 low of $19M but the noncurrent component decreases[14]. The steady decline in the proportion of the noncurrent portion of pay even as total pay increased likely reflects concern over SFAS 123-expensing of stocks and options as compensation. If the purpose of stock and option awards is to align the interests of CEOs and shareholders, then an accounting artifact – SFAS 123 – which does not change any underlying economic phenomenon should not result in such a drastic change in the way CEOs are compensated.

The increase in pay coupled with a decrease in the component of pay that best aligns CEO-shareholder interests strongly suggests that CEOs were not bearing much risk – at least when compared to shareholders. Thus the CEOs were being compensated like managers with high risk tolerance when a significant portion of their total pay was not showing up in the financial statements and were compensated more like risk-averse

[14] The bonus component of current pay contributes to increasing variability in current pay. However, current pay is still relatively invariant when compared to noncurrent pay. For example, for the CEOs of the top seven TARP banks depicted in the diagram, using data from Compustat's ExecuComp database, the ratio of the standard deviation to the mean of compensation from 1992 to 2006 was 1.09 for current pay and 2.8 for noncurrent pay.

managers when it became increasingly difficult to not expense stock and option awards. Overall, the trend suggests that firms strategically alter the structure of CEOs' compensation in a way that minimizes the risk they bear while maximizing their total pay.

Thus the answer to Research Question 1 – whether the US government's pay czar would succeed in improving the alignment of shareholders and TARP executives' interests – is two-tiered. First, by replacing on average 90% of fixed/cash compensation with variable/deferred pay, the pay czar improved the alignment of shareholders and top TARP executives' interests. However this improvement was tempered by the transient nature of the government's ownership and the answer to Research Question 2. Research Question 2 asks whether risk-averse executives would resist changing the structure of their compensation contracts toward more variable/deferred pay and less fixed/cash pay. As discussed earlier in this section, TARP executives resisted the changes, in some cases, finding creative ways to increase the fixed portion of executives' compensation such as awarding stocks that could be sold within months.

The limited success of a strong, large shareholder like the US government in making a significant change in executive compensation suggests that other strong processes likely conspire to distort the alignment of executives' and shareholders' interests. In the next section, we present the literature on such alternative explanations for the misalignment of top executive pay with shareholders' interests and analyze them in the context of the TARP pay czar's efforts.

LITERATURE AND THEORY ON SOCIO-POLITICAL AND RELATED EXPLANATIONS OF CEO PAY

Role of Demographics and Social Influence on CEO Pay

According to self-categorization theory, CEOs may deliberately or subconsciously favor potential board members who

hold similar philosophical and strategic views, similar communication styles and are closer in age (Useem and Karabel 1986) or functional area of expertise (Waller et al. 1995). This is especially plausible if one considers the need for boards to function in a relatively collegial environment. Researchers have documented such benefits of higher education as better tolerance for ambiguity and information processing (Dollinger 1984; Hambrick and Mason 1984) and innovation (e.g. Wiersema and Bantel 1992). Other areas of demographic similarity that may influence who the CEO helps get on the board include similarity in education level and type and similarity in professional experience. Thus CEOs would naturally prefer directors with similar or higher levels of education and professional experience to help enhance collegiality of the boardroom and perhaps make the decision making process smoother.

Another demographic dimension that is likely to facilitate agreement with the CEO is the status of the director as an insider or outsider. Not only does the insider have similar corporate experiences – corporate culture, beliefs and management style – as the CEO (Michel and Hambrick 1992), but also, the insider-director is a subordinate of the CEO. Thus an insider on the board would be more conciliatory to the CEO than an outsider (Beatty and Zajac 1994).

Furthermore, all these sources of demographic similarity can operate within the larger board and within committees of the board. For example, a board that is different from the CEO in demographic make-up can strengthen its hand in deliberations with the CEO by building a relatively homogenous group. O'Reilly et al. (1988) document that social comparison processes in the compensation committee influence CEO compensation. They find that CEO compensation is positively related to that of outside directors on the compensation committee. Subsequent research has also documented that CEOs receive higher compensation when the chairman of the compensation committee assumed that position after the CEO's tenure had begun (Wade et al. 1990).

Though an independent board is supposed to be a better check on the CEO, the CEO may use other inter-personal and social tactics to still ingratiate himself with an otherwise independent board. Westphal (1998) posits that, according to psychological reactance theory, changes which threaten the discretion of individuals motivate the threatened individuals to react to maintain the preferred outcome (Brockner and Elkind 1985). Westphal (1998) assesses whether attenuation of the CEO's structural sources of power result in the CEO employing two reactance tactics – persuasion and ingratiation. Sources of structural independence of the board include CEO/Chair split, ratio of outsiders to insiders, and demographic distance/similarity. A CEOs' strong influence in re-nominating directors and assigning them to coveted committees is one way he can wield his power to ingratiate himself to board members.

Potential Influence of Corporate Governance on CEO Compensation

Corporate governance is a complex construct spanning the structure of executive compensation, take-over defenses, institutional ownership, etc. (e.g. Shleifer and Vishny 1997) but can be ultimately summarized as the relative power of managers and shareholders. In principle, it refers to the general oversight structure and features of a firm that act to constrain managerial actions such that shareholder value is maximized. A high quality of corporate governance has been shown in the literature to be associated with fewer incidences of fraud (e.g. Beasley 1996) and lower cost of capital (Ashbaugh-Skaife et al. 2006). Furthermore, Core et al. (1999) find that the quality of corporate governance affects CEO pay. Particularly, Core et al. find that powerful CEOs (i.e. CEOs who are also chairman of the board) tend to be paid more, and larger, less independent boards are associated with higher levels of CEO compensation. Larger boards are viewed as less effective in part because individuals can be relatively anonymous. Generally, independent directors are those with limited or no business relationship with the firm (David et al.

1998). Since non-independent directors have more to gain from not being too critical of the CEO, a higher proportion of non-independent directors is more likely to be associated with less efficient CEO compensation.

Such inefficiency in compensation contracts is likely to be greater the more non-independent directors are on the compensation committee and the less knowledgeable such directors are about the vehicles firms use to achieve compensation objectives, such as cash pay versus stock and option-based pay and perquisites. A derivative of the influence of corporate governance in CEO compensation is the role that managerial power plays in the compensation-setting process, reviewed next.

Managerial Power and CEO Compensation

Finkelstein (1992, p506) defines managerial power in an executive compensation context as the ability to exert his will or influence over the compensation decisions of the board members or members of the compensation committee. Managerial power increases as one moves up an organization through having an increased ability to assign more subordinates to tasks and influence what information flows to others in the organization. This control over information then influences decision-making and agendas are set for the organization.

Timing of director appointments too appears to have an effect on the CEO's power on the board. Directors who were appointed after the CEO took office may feel beholden to the CEO and a long-tenured CEO develops a sense of patriarchy (Wade et al. 1990) making it difficult to challenge the CEO. Another source of power is by influencing who gets on the board (e.g. Wade et al. 1990) and by increasing his equity holding in the firm. Of course, as directors increase their shareholding, they get closer to shareholders and have a greater incentive to monitor the CEO for the benefit of shareholders. Director shareholdings also increase the director's voting power, increasing the check on the CEO's power.

Porac et al. (1999) analyze industry membership of peer firms used to evaluate the performance of the CEO as a basis for justifying the CEO's compensation. They find that when the firm outperforms the industry, the set of comparable firms is relatively limited to the industry and that set is expanded outside the industry when the firm underperforms the industry. This phenomenon is associated with higher CEO compensation and paradoxically, with powerful and active shareholders. The paradox of powerful and active shareholders being associated with higher CEO compensation may in part be explained by whether the powerful shareholder has a business relationship with the firm. David et al. (1998) examine CEO pay in the 200 largest firms between 1990 and 1994. They find that the effect of institutional share ownership on CEO compensation depends on the nature of its relationship with the firm. They define "pressure-resistant" institutional investors as those with no business relationship with the firm and "pressure-sensitive" institutional investors as those with a business relationship with the firm. They find that pressure sensitive institutional investors are positively associated with CEO pay.

According to the managerial power explanation of CEO compensation, firms minimize "outrage cost"[15] by hiring a compensation consultant. The consultant typically assembles a peer group of firms to whose performance the hiring firm's can be compared; the board usually then sets the compensation of the CEO equal to or greater than the mean. Of the 100 firms that they examined, Bizjack et al. (2000) find that 96 used comparable peer groups. A large majority of the 96 firms set the CEO's pay at or above the 50^{th} percentile.

Hiring compensation consultants does not make the negotiation "arm's length" since the HR department is subordinate to the CEO and the compensation consultant could easily be fired

[15] "Outrage costs" are defined as outsiders' negative perception about CEO compensation. For example, negative media coverage of CEO compensation between tends to be followed by lower compensation in subsequent years (e.g. Thomas and Martin 1999).

if he doesn't satisfy the CEO/HR department. The consultant could also lose other HR-related assignments with the firm (Crystal 1991).

Consistent with the notion that compensation consultants are wont to please the CEO and HR department, when firms do well, compensation consultants recommend higher compensation for performance. When firms do poorly, compensation consultants recommend pay be based on survey of a peer group's compensation Gillan (2001)[16]. Of course, independent boards can mitigate the positive effect of managerial power on compensation and less independent boards are likely to seek ways to justify generous pay packages. Hartzell and Starks (2003) find that institutional ownership is negatively related to CEO pay. However, whether institutional investors are able to act as a check on managerial power depends on if they have another business relation with the firm or not (David et al. 1998). Wade et al. (1997) study S&P 500 firms between 1987 and 1992. They find that firms that pay their CEOs large base pays and firms with more concentrated and active ownership are more likely to cite compensation consultants to justify pay packages[17]. Also, these firms tend to use accounting returns as opposed to market returns when accounting returns are higher than market returns.

Directors would do a better job of monitoring the CEO if they had as much or even greater investment in the firm than shareholders. However, typically directors only have nominal equity interest in the firm (Core, et al. 1999). Core et al. (1999)

[16] A compensation consultant at a research forum on executive compensation organized by TIAA CREFF Institute commented that typically firms that tend to base compensation on surveys are poor performers.

[17] Thus citing compensation consultants to support pay packages appears to be a double-edged sword: boards that are genuinely independent will legitimately use compensation consultants to design an arm's length contract and cite them. Less independent boards can also use consultants to design generous contracts and cite them.

also find that CEO pay is 20%-40% higher when the following conditions exist: 1, the board is large; this makes it difficult to organize opposition to the CEO; 2, when there are more outsiders appointed by the CEO; 3, the board is distracted, evidenced by members sitting on three or more boards, and 4, when compensation committee members own minimal amount of stocks in the firm. The foregoing discussion leads to our third and final research question.

> **RESEARCH QUESTION 3:** *Are there certain socio-political processes such as social comparison and excessive managerial power that attenuated or facilitated the US government's efforts to rewrite TARP firms' executive compensation contracts to better align the interests of executives with those of shareholders?*

TARP Firms and Socio-political Explanations of CEO Pay

Social comparison theory posits that people evaluate themselves against others (Festinger 1954). In such comparisons, people often evaluate themselves with a positive bias (Suls and Wheeler, 2000). In trying to rein in excessive compensation at TARP banks, Ken Feinberg found that at Citigroup and Bank of America, everyone in the executive suites were viewed as "above average" when compared to banks that did not need a bailout. At the top of this comparison ladder was Lloyd Blankfein, CEO of Goldman Sachs, who the "Breaking Views" column of the *New York Times* argued deserved a premium compensation on the average S&P 500 CEO's compensation of $11 million, and certainly above AIG's CEO's $9million. The column suggested a $20 million 2009 compensation for Mr. Blankfein (Currie and Cox 2009).

Both social comparison and by managerial power underlies this phenomenon, as Warren Buffet's comment in his 2006 letter to shareholders indicates" (Brill 2010):

> Too often, executive compensation in the U.S. is ridiculously out of line with performance…A

> mediocre-or-worse C.E.O. – aided by his handpicked V.P. of human relations and a consultant from the ever-accommodating firm of Ratchet, Ratchet and Bingo – all too often receives gobs of money from ill-designed compensation arrangement…The drill is simple: Three or so directors – not chosen by chance – are bombarded for a few hours before a board meeting with pay statistics that perpetually ratchet upward. Additionally, the committee is told about perks that other managers are receiving. In this manner, outlandish 'goodies' are showered upon C.E.O.'s simply because of a corporate version of the argument we all used as children: 'But Mom, all the other kids have one.'

All 136 executives whose pay Mr. Feinberg was regulating were viewed by their firm as above average, typically ranked at the 75th percentile or higher" (Brill 2010). For example, at a meeting to discuss pay for AIG's top executives, AIG's representatives suggested the head of one of its business unit's pay be on par with that of CEOs in the industry. The representatives had no response when Mary Pat Fox, an aide to the pay czar asked, "Tell me how I justify that?" (Story 2009a).

By late October 2009, as many top TARP banks took steps to repay the US government, the reaction of the top banks who were late to repay the government, primarily Bank of America and Citigroup, offered another lesson in social comparison processes underlying how executive compensation can easily ratchet up. As Mr. Feinberg designed and enforced compensation guidelines for the TARP firms, commentators sympathetic to Bank of America and Citigroup lamented that the two banks cannot compete for talent under the government's pay restriction (Dash 2009). In a booming economy that may be a plausible argument. However, given the financial crisis and related glut of financial talent, the

claim was implausible at best. Indeed many TARP CEOs and top executives stayed on in spite of the pay restrictions.

The strength of what compensation symbolizes to CEOs is demonstrated by the speed with which the TARP banks rushed to repay the US government, even at very steep costs since this involved issuing more common stocks at depressed prices and great dilution of current shareholdings. Of course, the fact that banks were willing to expend so much resource to get out of the TARP program (Enrich 2009) in spite of its great benefits including a very competitive cost of borrowing from the government suggests that shareholder's interests may not have been paramount in directors' minds. Often the rationale the banks offered was that they could not compete for top talent at the government's wage levels (Fitzpatrick and Lubin 2009).

Though one could argue that the Obama administration was eager to show the American public that the TARP program turned out to be less expensive than anticipated, there is no evidence that the administration put any pressure on the banks to redeem the government's investment in them. Certainly given the relative weakness of the economic recovery following the financial crisis, an argument can be made that a more prudent way to protect shareholder wealth would be to delay repaying the government till there was clearer certainty regarding the recovery. This is especially important because the US government as an equity holder stood to share substantially in losses were the economic recovery to falter.

Evidence of Effects of TARP on Corporate Governance and Managerial Power

At a macro level, the US government introduced certain corporate governance changes with the goal of better aligning shareholders and executives' interests and minimizing excessive risk-taking. These include "say on pay," more independent directors, especially on the compensation committee, and limiting the use of stock options in favor of restricted stocks. The "say on pay" provision of the TARP bill (US Congress, EESA 2008,

Section 111) allows shareholders to opine on top executives' compensation arrangement by voting for or against it. This was later included in the Dodd-Frank Act (US Congress, 2010). However, though the vote can be influential in curtailing egregious contracts, it is only advisory and so cannot compel boards to change unpopular compensation arrangements. Similarly, a new provision in the new law to have all directors on the compensation committees of "too big to fail" financial institutions be independent is unlikely to make a very significant difference since the exchanges already require something similar to it[18]. Indeed Larcker et al. (2011) find that market reaction to the new "say on pay" rules are on average negative or insignificant. Finally, restricting incentive-based pay to restricted stocks limits the attractiveness of risk-taking with a goal of maximizing the upside potential of option-based compensation but unlikely to eliminate such risk-taking. Though these macro-level governance structures will help reduce inefficient top executive compensation at the top TARP firms, only a fairly accurate assessment of the true risk profile of CEOs and appropriately incorporating them into compensation contracts will significantly improve efficiency in CEO compensation and implicitly reduce excessive risk-taking[19].

That institutionalized managerial power contributes significantly to the current state of executive compensation generally and CEO compensation in particular is exemplified in Mr. Feinberg's effort to get proposals for executive compensation from the TARP banks. Citigroup and Bank of America

[18] For example, rule 452 of the New York Stock Exchange limits brokers using their discretion to vote client's shares. Ostensibly, such votes typically side with management. See for example, http://www.thecorporatecounsel.net/Blog/2010/08/the-future-of-nyse-rule-452-after-dodd-frank.html.

[19] As suggested earlier, per standard agency-theoretic tenets, a risk-averse CEO's compensation would have to be almost entirely in fixed salary, with the variable component increasing as a CEO's true risk-aversion declines. Most important, as risk-aversion declines, the CEO may have to be asked to invest a portion of his wealth in the firm to make his compensation truly efficient.

recommended compensation packages that were typically more than $10 million, much higher than the $500,000 limit on cash compensation guideline that Mr. Feinberg provided (Brill 2010). Just as they do with the Board of directors, the TARP firms employed compensation consultants to file their proposals with Mr. Feinberg, with AIG paying $3 million for the service. A brief dissection of compensation consultants and the executives' incentives clarifies why even with clear guidelines a firm on the government dole would spend millions to file a simple compensation proposal.

Given the compensation levels they are accustomed to, it is reasonable that the executives deemed the pay czar's guidelines as too restrictive. The executives would sound more credible if an "independent" third party – the compensation consultant – made that claim. But just how independent is the consultant? If he does not present a proposal favorable to the executives, he is unlikely to be rehired in the future (Bebchuk et al. 2002). The TARP banks' approach was fairly successful as on average Mr. Feinberg awarded 60% of what the top TARP financial firms requested (Brill 2010).

Given the scope of the financial crisis and the palpable role of lax oversight of the boards of directors, stronger boards at TARP firms could help better align CEOs and shareholders' interests at those firms. However a recent New York Times article reports that the oversight role of nine top US banks has not improved since the financial crisis (Goldfarb and Currie 2011). For example, the structure and makeup of most of the top TARP firms' boards have not changed. At 13, the median size is not only the same as before the crisis, but also a bit too large to engender, efficient decision making or hold individual members accountable. Furthermore, about two thirds of the boards are the same individuals that existed before the crisis and the average tenure is nine years (the same as in 2007), long enough to facilitate a loss of independence among directors. Further weakening TARP bank boards' oversight, only one in seven of nine top US banks' board members have financial expertise, compared to about one in three

in comparable European banks. Thus the quality of corporate governance at top TARP firms do not appear to have improved, helping explain why it may be difficult to achieve an improvement in top executive compensation at those firms (Goldfarb and Currie 2011).

Political and "outrage costs" as a constraint on suboptimal compensation induced by Managerial Power. At the height of the 2008/2009 financial crisis and the related TARP bailout, the public was very antagonistic toward bankers. In a similar vein to employing compensation consultants to help justify their pay, what better way to justify compensation than shareholders signing off on it? Beginning in October 2009, Goldman Sachs held several meetings with shareholder groups who were contemplating a proposal to limit pay. At the meetings Goldman executives tried to understand how shareholders make voting decisions. Shareholders submitted five proposals to Goldman, three of which were focused on compensation. A non-binding vote on executive pay got 46% of the vote in 2008 and was expected to pass this time (Craig 2009a). Two features of the negotiations highlight the influence of management over the proxy voting process at annual meetings. First, that Goldman was now trying to understand how shareholders make voting decisions suggest that hitherto, they needed not worry about it. Second, even when shareholders feel strongly about an initiative, they still have to effectively obtain management's buy-in to get it on the ballot (Bebchuk et al. 2002). Of course, large shareholders willing to spend their own funds can sponsor their own initiatives, but it is extremely difficult for most individual shareholders to coalesce and organize a proxy vote.

Sometimes would-be CEOs misalign their incentives even before they assume the top job. Firms, in their quest to land their top choice, may be more inclined to cave in to such demands. Bank of America's top choice, Robert Kelly, was not only asking that his unvested Bank of New York Mellon shares be bought out at about $20 million, bringing his compensation package to between $35 and $40 million, but he also wanted to hold the

chairman position as well (Fitzpatrick and Solomon 2009). Though Bank of America had repaid the US government by this time, perhaps sensitive to potential public and political outrage, its board sought the input of the pay czar who indicated he wouldn't approve such a large pay package. It is worth noting that this potentially more expensive pay offer was being made while a more reasonable, "cheaper" alternative existed. The board was also considering the internal candidate Brian T. Moyniham, who both knew the inner workings of the firm and could be hired at a much lower cost. Mr. Moyniham got the job[20].

It is conceivable that were it not for the TARP program, Mr. Kelly would have gotten the job at a very high compensation that was set before he delivered a single year of performance. Also as chairman of the board as well, his compensation would have been difficult to curb and could have increased dramatically with the slightest improvement in performance. Of course the board may see a greater potential upside in performance in one person versus the other. But if so, why not make a significant part of the compensation of the one with the greater upside potential contingent? So, holding potential performance constant across both choices, why would boards go for the more expensive alternative?

Part of the explanation lies in the fact that the board members would not like to be viewed as confrontational and would rather facilitate a collegial work environment. An alternative explanation is that board members would also like to ingratiate themselves with the CEO-to-be to help ensure their re-appointment to the board since the CEO holds considerable sway over the process of nominating directors (Brockner and Elkind 1985; Westphal 1998; Bebchuk et al. 2002). Making generous concessions is one way to do so. It is also possible that consistent with some of the social comparison theories described earlier, the board of directors derive prestige from paying the CEO more (Festinger 1954; Suls et al. 2000; Tosi and Greckhammer 2004).

[20] DuPont's CEO Charles O. Holiday Jr. was named the chairman of the board.

Higher CEO compensation may signify greater importance of board members' directorships.

By late 2009, the public had become sensitive to high CEO compensation generally and high TARP bank executive compensation in particular. Most of the TARP banks responded by reducing CEO bonuses to zero in spite of remarkably fast recovery from the financial crisis in 2009. Still, the less conspicuous part of CEO compensation (including stock and option awards—i.e. noncurrent pay, retirement benefits and perks – i.e. all other pay) were still substantial though lower than that of 2008 (Figure 3, Panel A).

CONCLUSION AND DIRECTIONS FOR FUTURE RESEARCH

As a result of the financial crisis and the related public outcry about senior executive compensation at TARP banks and the Obama administration's pay czar's effort to control compensation, by early December 2009, Goldman Sachs said none of its top 30 executives would receive any cash bonus. Previously, those executives received 70% of their bonuses in stock, 30% in cash. Earlier, Goldman's compensation pool for 2009 was estimated to be about $20 billion or about $800,000 per employee (Craig 2009b). By keeping only the stock portion which had to be held for several years, there was obviously an improvement in aligning the executives' incentives with those of shareholders. Later that month, John Mack, CEO of Morgan Stanley decided to forego his 2009 bonus (Bowley 2009). In January 2010 Goldman reported that it would devote 36% of its revenue to compensation, down from the traditional 50%, thus reducing the average bonus to about $498,000 from the $700,000 estimated earlier (Bowley 2010).

The TARP and its related pay czar provided an insight into how banks in particular pay their executives. These insights should by and large be transferrable to executive compensation generally. Some of the lessons learned include the following.

1. Asymmetric variability of compensation. There appears to be support for the notion that variable pay is typically added on to current compensation packages so that executives' participation and incentive compatibility constraint are likely met with limited variability in pay. For example, when regulators tried to control risk-taking, banks responded by taking actions that limited potential variability in their pay, consistent with the arguments of Bebchuk et al. (2002).

2. There is significant influence of culture and social comparison, even if subconscious, on the pay-setting process. Cultural forces that favor and honor high compensation are reinforced by social comparison, resulting in a ratcheting up of CEO compensation. Related to this, public and political outrage can result in an improvement in executive compensation practices for the better, especially if backed by a large, engaged shareholder – a role the US government played in many TARP banks in the crisis. Some of this phenomenon is evident in how the firms responded to try to reduce outrage when it became clear that the American public, which hitherto was relatively indifferent about top executive compensation, viewed compensation of TARP executives as excessive. Examples of the firms' reactions include Bank of America's concern about potential reaction if it hired Robert Kelly as its new CEO and Goldman Sachs polling shareholders to gauge their thoughts on top executive compensation.

3. Managerial power significantly influences the pay setting process. CEOs have significant influence over the pay setting process that can only be effectively controlled with a powerful shareholder who is interested in obtaining optimal or at least efficient CEO compensation and is willing to do the hard work necessary to achieve it. Again, the pay czar demonstrated that this can be done, but not without significant effort and cost. Evidence of the influence of managerial power on the pay setting process is borne out by some of the activities of TARP banks to minimize reductions in their compensation as Mr. Feinberg tried to rein in pay. An example is Goldman Sachs' attempt to influence

shareholders to buy-in on their pay package and AIG's employment of a compensation consultant to help justify its pay to the pay czar.

Another way to curtail the role of managerial power in CEO compensation is to reduce its influence over the compensation consultant. This may be achieved by reducing the dependence of the compensation consultant on the firm by having an independent third party pay the consultant. Firms can pay a fee to a regulator who pays the consultant depending on the difficulty of designing the contract which may vary by industry, firm size, and diversification, for example.

4. Minimal or no incorporation of risk profiles of executives when designing compensation contracts. Even with a powerful, large shareholder who is interested in deriving an optimal compensation structure for executives, the task cannot be adequately achieved without a very good appreciation and incorporation of the risk profile of the executive into the contract. This was a glaring limitation of the efforts of Mr. Feinberg, the Obama administration's pay czar. Effective incorporation of risk profiles in contracts will go a long way to reduce the influence of these other factors on suboptimal CEO compensation.

Perhaps the most significant insight in this paper is that though important to optimal compensation designs, the concept of risk profile is quite esoteric and difficult to capture in practice and in empirical research. More research is obviously needed to first determine what are potentially good proxies for individual risk profiles, and second, the spectrum of risk profiles that exist among senior executives and CEOs. Finally, research that incorporates the risk profiles of executives in evaluating optimality of CEO compensation should find a very receptive audience in business and economics researchers as well as policymakers. Such future research should strive to distinguish between efficient compensation, which is essentially second-best under the circumstances, and optimal compensation, which may not necessarily be first-best, but is better than merely efficient in the sense that it enhances shareholder value more than merely efficient

compensation. For example, a compensation contract for a **less** risk-averse or risk-seeking CEO should not only have a significant portion be variable, but should also require him to invest a significant portion of his wealth in the firm. Such a contract would be more efficient for shareholders than one that does not require any such upfront investment. Similarly a risk-averse CEO should not have a significant portion of his income in variable pay, much less be required to invest a significant portion of his wealth in the firm. The short-lived nature of the US government's share ownership contributed to attenuating the influence of such a powerful and relatively impartial shareholder.

5. Accounting systems can help with designing CEO compensation more efficiently by providing better quality information. For example, accounting systems can provide the variances of ROA, ROE, and shareholder returns. That way, the relative reliability of performance measures can be better evaluated and more efficiently weighted in compensation contracts in the spirit of Lambert and Larcker (1987). Similarly, the accounting system can provide information on the relative variability of the different components of compensation to help compensation committees decide the appropriate weights on the components, given a CEO's risk profile.

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Figure 1: Agency-theoretic Recommendations for Compensation

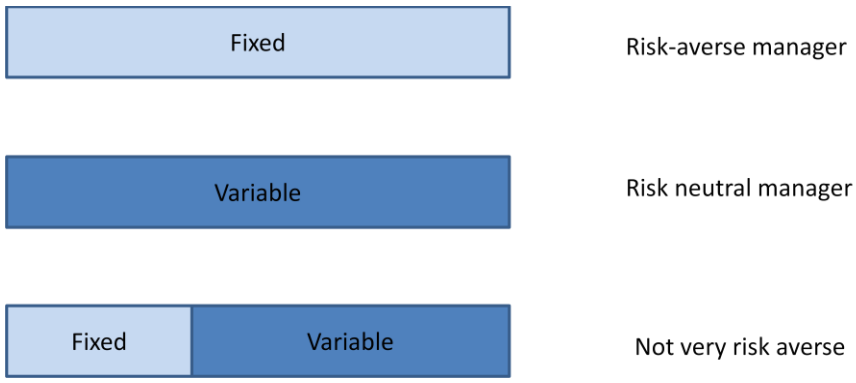
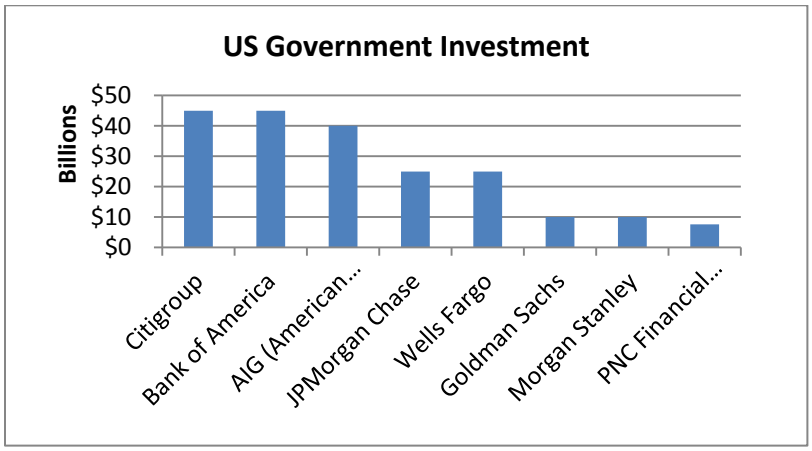


Figure 2: US Government Investment in Top Financial TARP Firms

Panel A



Panel B

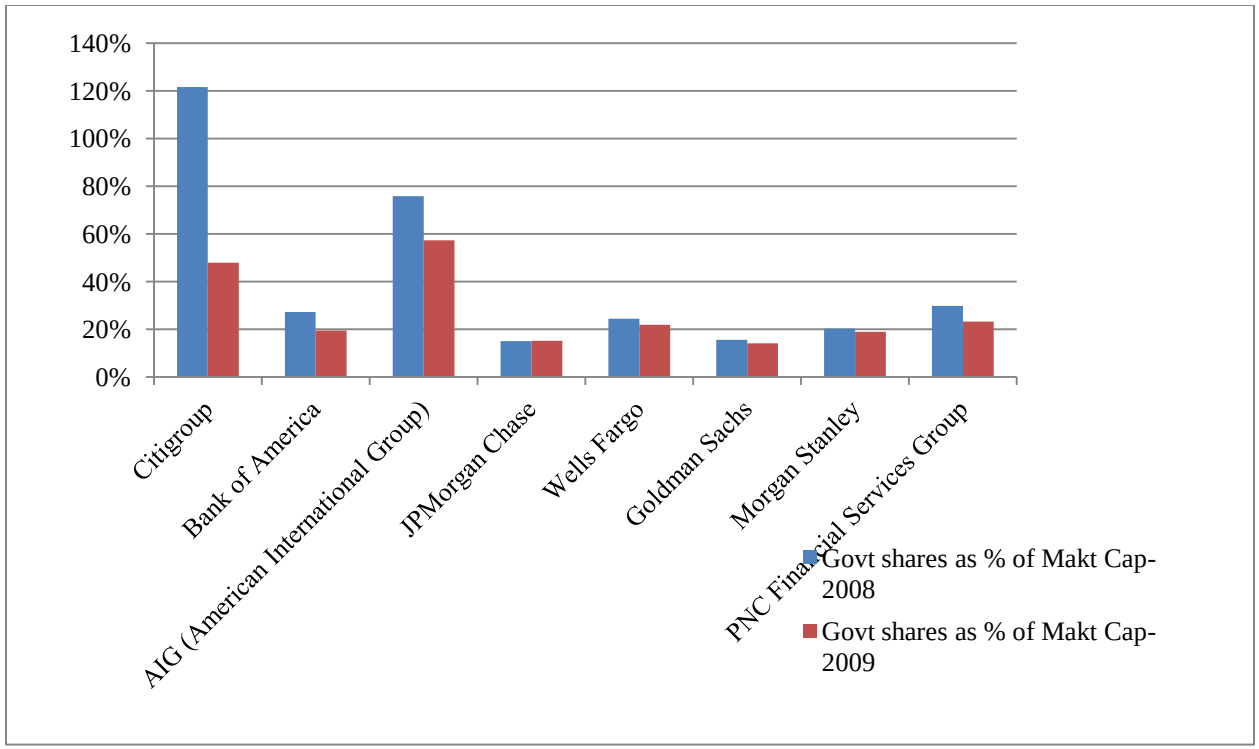
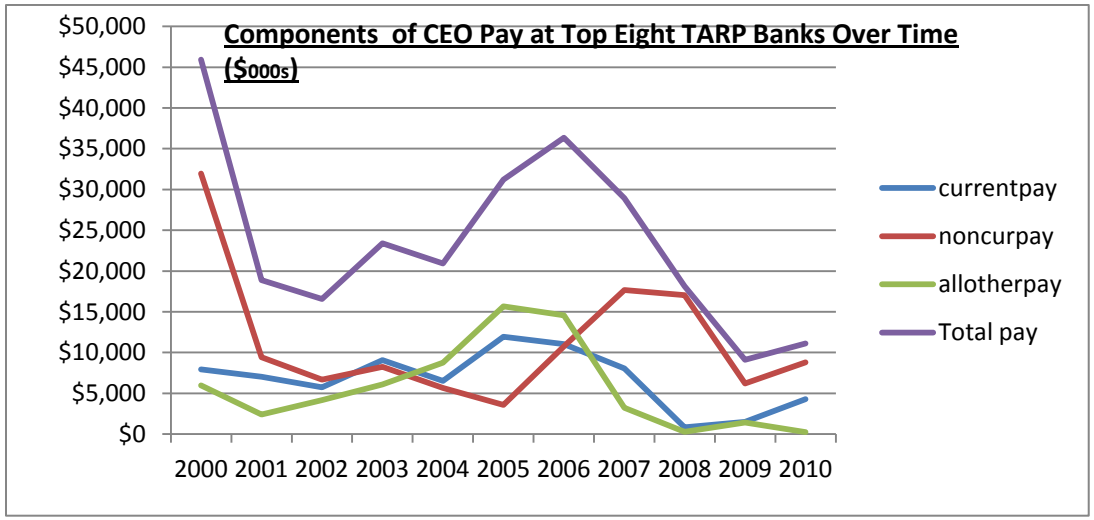
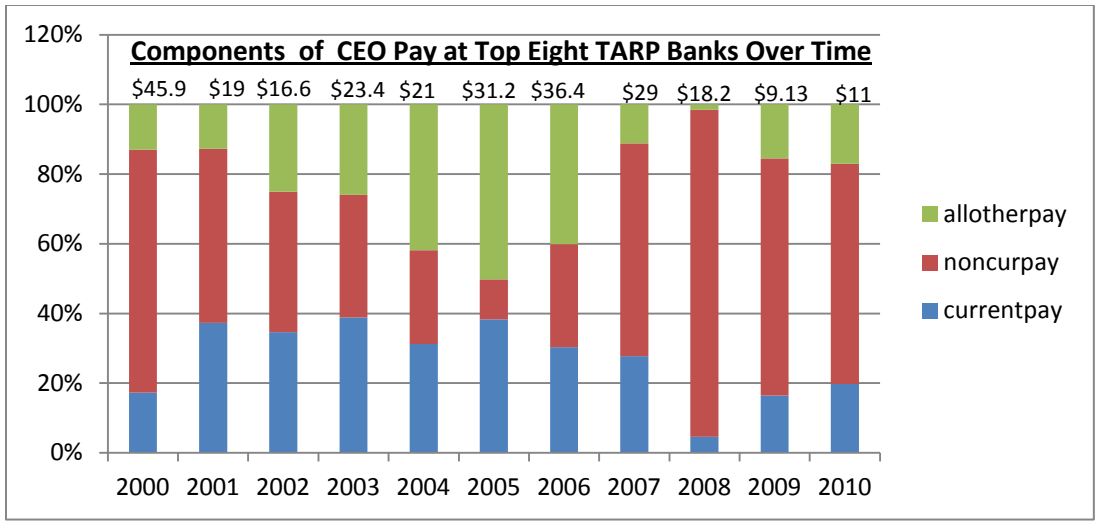

140%
120%
100%
80%
60%
40%
20%
0%
Citigroup
Bank of America
AIG (American International Group)
JPMorgan Chase
Wells Fargo
Goldman Sachs
Morgan Stanley
PNC Financial Services Group
Govt shares as % of Makt Cap-2008
Govt shares as % of Makt Cap-2009

Figure 3: Composition of Total CEO Pay of Top Financial TARP Firms Over Time*

Panel A



Panel B



* Compensation data from 2000 to 2008 are from the Execucomp database. In any year where CEOs change, we add both CEOs' compensation. 2009 data comes from the AFl-CIO.com web site. For 2010, all but Morgan Stanley's data are from a New York Times survey published in the Sunday, April 10, 2011 edition. Morgan Stanley's 2010 CEO pay data is from an April 15, 2011 Wall Street Journal article (Philbin 2011). Citigroup data excluded in 2010 because its CEO's $1 pay in 2010 does not reflect economic reality. In Panel B, numbers at the top of the bars are average total compensation.