

Executive Compensation: An Overview of Research on Corporate Practices and Proposed Reforms

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Over the last decade, we have witnessed two landmark events that have profoundly changed the perception of the role of finance in the public domain. The bursting of the dotcom bubble in 2000 and the ensuing corporate scandals triggered a collapse of well-known companies such as Enron, WorldCom, and Adelphia, resulting in massive destruction of shareholder wealth as well as damage to other stakeholders. More recently, the end of a housing bubble and the subprime debacle led to a shutdown of the credit markets and the failures of venerable financial institutions such as Lehman Brothers and Merrill Lynch. The 2008 financial crisis spread rapidly around the world. These landmark episodes have drawn attention to the high levels of executive compensation, and to the possibility that the structure of executive pay plans may have contributed to the post-1990s bubbles, corporate scandals, and recent financial crisis.

Many observers believe that top-level executive compensation is not sufficiently linked to long-term corporate performance. There are several cases in which executive pay at companies rose dramatically even though the companies were doing poorly and the stock prices were plummeting. Stock options have been viewed as particularly culpable in this regard. Overly generous compensation packages with large-sized stock option grants may have created incentives for managers to manipulate company financial statements in order to drive up stock prices, contributing to the corporate scandals of the post-dotcom era and the current financial crisis. Besides the insufficient link between compensation and stock prices, the level of executive compensation is also widely believed to be much higher than that required to retain and motivate effective top managers.

In this policy-oriented piece, we discuss the key issues pertaining to the debate on executive pay and express our support for a number of reform proposals aimed at improving incentive alignment and fostering stability in the financial system. Many proposals have been advanced in academic and policy circles, but have not yet been widely adopted.²

Our attempt here is to provide a rationale for these proposals while evaluating positions on both sides of the debate. To place the issues in perspective along with the possible need for reform, we start by reviewing the key issues on executive compensation and its possible role in the major financial crises of the last decade.

What Caused the Global Financial Crisis?

The 2008 financial crisis was precipitated by the collapse of a housing bubble. Several banks were left holding illiquid mortgage securities worth cents on the dollar. With few investors able to tell healthy institutions from unhealthy ones, the supply of private capital to the financial sector dried up. Matters came to a head in September 2008 following the hastily arranged acquisition of Merrill Lynch by Bank of America and the failure of Lehman Brothers. Credit markets froze, consumer confidence collapsed, and stock markets dropped, threatening an immediate and severe economic contraction. To avoid total collapse, there was large-scale government intervention across the globe. In the U.S., the measures included stabilization of the financial sector through government takeovers of failing institutions, capital infusion through the TARP, monetary stimulus through aggressive lending against toxic assets, and, more recently, fiscal stimulus.

In the wake of the crisis, the immediate question for policy makers has been how best to respond to the financial meltdown. At the same time, the prevention of crises in the future requires an understanding of why the crisis occurred in the first place. The crisis can be understood as an interplay between macroeconomic factors, distortions resulting from flawed government policies, and flawed incentives for several players in the financial markets. A confluence of these factors led to excessive risk-taking in the financial market—risk-taking that was facilitated in significant part by the creation of complex, illiquid mortgage securities. And let's start by taking a look at the incentives of the different parties to these transactions.

1. All four authors are members of the Corporate Governance Track Team chaired by Lemma Senbet, Director of the Center for Financial Policy at the University of Maryland's Robert H. Smith School of Business. The Center for Financial Policy (CFP) has the primary mission of promoting research and education that informs policy. It is organized around five tracks, one of which is corporate governance. We wish to acknowledge our colleague, Jerry Hoberg, who gave us comments on his reading of the earlier version of

the paper. The views and opinions expressed in this white paper are those of the authors and should not be interpreted as representing those of the Center for Financial Policy and Robert H. Smith School of Business.

2. For instance, the 2003 statement of the Financial Economists Roundtable makes several recommendations, of which stock option expensing has now been adopted.

The 2008 crisis is often traced to excessive confidence about increasing house prices, which led a record number of people to buy homes. As a result, home ownership surged to an historically high 70%. The demand for homes was met primarily through debt from banks, which relaxed credit standards and made risky loans, including subprime loans, low- or no-documentation Alt-A loans, and loans with teaser rates. With repayment of these loans predicated on house price appreciation rather than borrower income, banks effectively made risky bets on house prices.

Why did banks take on such risks? One contributing factor was the pro-housing initiatives of the U.S. Congress, with its passage of the Community Reinvestment Act and extensive support for government-sponsored entities like Freddie Mac and Fannie Mae. Another was the loose money policies of the U.S. Federal Reserve after the dotcom crash, which left too much money chasing too few opportunities. The hunger for extra yield led to a huge supply of capital for the risky mortgages. And thus at a micro level, excessive risk-taking can be understood as a product of flawed incentives.

A second major distortion in incentives came from the high leverage of banks. Finance scholars have long recognized the incentives of the shareholders of levered institutions to take on extra risk because of the asymmetry between their unlimited upside rewards and a flat downside. Explicit or implicit deposit insurance adds to this “moral hazard” problem.³ With explicit FDIC deposit insurance, depositors who enjoy FDIC protection have no incentives to worry about bank risk-taking. Implicit insurance is often attributed to the “too big to fail” (TBTF) policies in which large institutions will be bailed out in the event of distress.⁴ The trifecta of high leverage, explicit deposit insurance, and implicit TBTF insurance creates enormous incentives for banks to take excessive risk. The expansion of risky real estate loan portfolios can be viewed as a manifestation of these incentives.

Other regulatory distortions also contributed to the crisis. As already noted, GSEs like FreddieMac and Fannie Mae were enabled and encouraged to buy vast pools of mortgage debt. In theory, these were private but in practice their debt was viewed as carrying a government guarantee, giving them access to cheap funding and facilitating social policies on home ownership by individuals who would have been better off renting than buying homes. Regulations also introduced distortions in the demand for debt by pushing investors to buy instruments with high credit ratings. The demand for high-rated debt was met by a supply of innovative mortgage-backed securities. Although the MBS received high credit ratings, they were complex illiquid claims whose high ratings rested on the questionable use of largely untested statistical models using assumptions that turned out to be unrealistic. The rating agencies responsible

for the high ratings had their own incentive problems. In many instances, the complex securities were designed with the advice of the ratings agencies, which collected a fee for this service (in something resembling a “pay-to-play” model).

The bottom line, then, is that leveraged financial institutions had incentives to take too much risk, but such risk-taking was made feasible or compounded by loose money and several other regulatory distortions in the marketplace.

Where does compensation fit in this mélange? One target of public outrage has been the size of the pay packages of many employees at failed institutions. For instance, much attention has been directed to the large bonuses for Merrill Lynch employees around the time of the Bank of America takeover.

But if the size of compensation is certainly an important issue, especially in a market for talent that is becoming global, less attention has been paid to the structure of compensation, and to the process of setting compensation in financial institutions. In terms of compensation structure, several executives received pay in the form of equity or options. To the extent the shareholders of levered institutions benefit from excessive risk-taking, paying executives with stock or options and aligning them with shareholders could have the unwanted effect of pushing executives to take on extra risk. And even less attention has been paid to the role played by the pay-setting process at banks. Nevertheless several reforms take direct aim at the process by targeting areas such as the governance mechanisms in pay-setting and transparency of pay in banks. In the remainder of this article, we focus on each of these three facets of the issue: pay level, pay structure, and the pay-setting process.

Executive Compensation: The Good Side and the Dark Side

An important theoretical perspective on the design of management incentives is provided by the concept of agency costs, which focuses on conflicts of interest and incentives among different corporate stakeholders, notably between management and its shareholders. In the finance literature, this view can be traced to a pioneering paper by Michael Jensen and William Meckling (1976), which demonstrated the incentives of risk-neutral top managers with less than 100% ownership of their companies to take actions that reduce firm value. To illustrate with a simple example, a manager with a 3% stake in a publicly traded company gets 100% of the benefits from consuming a dollar of perks but incurs only 3% of the costs. Moreover, the sensitivity of the manager’s wealth to that of the shareholders—in this simple example, three dollars for every 100 of shareholder wealth—is typically used as an index of the degree of alignment achieved by the compensation structure. This perspective has led to the widespread corporate use

3. See, for example, John, Saunders, and Senbet (2000); and Bebchuk and Spamann (2009). Full citations of all studies cited in the text or footnotes are provided in the References section at the end.

4. Evidence of this implicit insurance in bond market pricing is provided by Penas and Unal (2004).

Figure 1 **Mean Sensitivity of CEO Wealth to Firm Performance for S&P 500 Firms (\$Thousands)**



of employee stock and option plans.⁵

On the positive side, then, a well-designed executive compensation package can serve as a key mechanism for corporate governance. It has the potential to align managerial incentives with those of shareholders in making important investment and financing decisions. In addition to a salary component, management compensation typically includes bonus, stocks, options, severance packages, and performance-based termination.

But if incentive alignment can lead to value creation and contribute to overall economic growth and employment, there is also a dark side to compensation. Flawed compensation schemes can lead to value destruction. For instance, excessive focus on short-term outcomes attributable at least in part to incentives can lead executives to pass up promising long-term investments. In addition, if the firm is overvalued, stock-based compensation may lead managers to overinvest or manipulate earnings to justify the firm's current stock price.

Several central issues in executive compensation remain unexplored. We now present some key issues underlying the current debate on executive compensation. We attempt to represent both sides of the debate, and then evaluate a number of reform proposals advanced in academic and policy circles.

Pay-Performance Sensitivity: Too Low?

The longstanding question is whether executive compensation structures contain sufficient incentives for managers to take optimal actions on behalf of shareholders. The literature

on principal-agent theory suggests that the primary means by which shareholders ensure that managerial actions are aligned with their interests is to tie executive pay to firm performance.

In an influential paper (that appears earlier in this issue), Jensen and Murphy (1990) introduced and estimated an empirical measure of pay-performance sensitivity—a measure designed to answer the question: to what extent does executive compensation vary with shareholder wealth? Their methodology uses regression (Ordinary Least Squares) estimates of a model that relates a change in total CEO pay to a change in firm performance. The regression coefficient is taken as an estimate of the pay-performance sensitivity. Measuring performance in terms of shareholder value, Jensen and Murphy estimated that, during the period of their study (1974-1986), top executive pay increased by about \$3.25 for every \$1000 increase in shareholder wealth. On that basis, they concluded that executive pay was surprisingly insensitive to shareholder wealth.⁶

But if the literature does not provide clear-cut answers to the question of whether the Jensen-Murphy pay-performance sensitivity is too low, a number of recent studies strongly suggest that pay has become more aligned with performance over time. Moreover, studies have shown that the larger estimates of pay-performance sensitivities during the period 1992-2006 (shown in Figure 1) were driven mostly by changes in the value of *existing or accumulated* stock and option grants, and not by annual bonuses or new grants. For example, as

5. See, for example, Haugen and Senbet (1981).

6. The relation between pay and performance is not uniform across firms and across

industries. In particular, pay was relatively less aligned with performance among large firms and at regulated utilities.

reported by Hall and Liebman (1998), 95% of the estimated 1996 pay-performance sensitivity for CEOs in manufacturing companies reflected changes in the value of *existing* grants of stock options (64%) and stock (31%), with only 5% coming from the granting of new stock and stock options in 1996.

Another factor contributing to the rise in pay-performance sensitivities has been the dramatic increase in the use of executive stock options since the 1980s.⁷ For instance, the average grant-date value of options soared from near zero in 1970 to over \$7 million in 2000. Although this value fell to \$4.4 million in 2002, by 2005 it had come back to about \$6 million. And since this upward trend in option grants was not accompanied by an equal increase in base salary, this increase in option use represented a significant change in the *structure* of executive pay. That change can be seen just by noting that, whereas base salaries accounted for 38% of average total CEO pay in 1992, they accounted for only 17% in 2000. The increase in option-based pay was particularly pronounced among large companies in the manufacturing and financial sectors, where options grants more than doubled in dollar terms over the last two decades.

Finally, option grants became an important component of pay not only for CEOs, but also for executives below the top tier. In fact, the vast majority of options have been granted to employees below the top executive level. And that majority has continued to increase over time. Between the mid-1990s and the end of 2004, the fraction of option grants to employees and executives ranked below the top five had risen from less than 85% to over 90%.

The upward trend in option-based pay resulted in steady increases in the sensitivity of total CEO pay to firm performance until 2008, when that sensitivity fell together with the overall level of pay amid the global financial crisis. And thus consistent with the basic prescription of agency theory that pay practices should aim to tie executive pay to firm performance, the academic evidence suggests that a substantial portion of CEO wealth is now tied to the performance of their companies. For example, a recent study by Fahlenbrach and Stulz (2009) of a sample of bank CEOs reports that base salaries constitute only about 10% of total compensation, and that the wealth of these CEOs increases by an average of about \$24 for every \$1,000 of shareholder value created. And this, of course, represents a dramatic improvement in the original estimates reported by Jensen and Murphy.

Finally, recent literature also suggests that the substantial variation in incentive pay among different industries and size groups is consistent with optimal contracting.⁸

7. See Murphy (1999); Core, Guay, and Larcker (2002); and Hall and Murphy (2003).

8. In a model of dynamic industry equilibrium, Falato and Kadyrzhanova (2008) show that incentives are optimally lower among industry leaders, since they have fewer growth opportunities than laggards and so the benefits of managerial effort are smaller. Edmans, Gabaix, and Landier (2008) embed the principal-agent problem in a competitive talent assignment model and show that the Jensen-Murphy pay-performance sensi-

Pay Levels: Excessive?

The level of CEO pay in large U.S. companies has surged over the past three decades, driven primarily by an explosion in stock option grants. There is an intense and ongoing debate among academics, policy makers, and practitioners about the causes of rising pay. A popular view is that excessive top-management compensation is caused by flawed governance mechanisms in the pay-setting process.

The Dramatic Rise in Pay. There has been a pronounced upward trend in both the absolute pay levels of executives and the levels relative to pay of non-executive employees. As can be seen in Figure 2, the average total CEO pay of S&P 500 firms increased from about \$850,000 in 1970 to \$14 million in 2000, fell briefly to \$9.4 million in 2002, and went back up to about \$13.5 million between 2005 and 2007 before declining to about \$10.5 million in 2008 amid the global financial crisis.

The increases in total compensation were particularly pronounced in the manufacturing and financial services sectors, where CEOs have historically earned above-average compensation. Compensation increased both in small and large corporations, but remained substantially higher in larger firms.⁹ In addition, CEOs have benefited disproportionately from the rise in executive pay levels; whereas CEOs earned 34% more, on average, than non-CEOs in 1975, by 2007 CEO pay was twice that of non-CEO executives.

Finally, inequality between executives and workers over the last three decades has been rising steadily. Average pay of top executives was about 40 times larger than that of the average worker in 1970. That ratio reached a peak of about 400 in 2000, declining to approximately 320 in 2008.¹⁰

Where do we stand on the issue of excessive pay? We are agnostic at best. Examples of egregious pay packages are clearly not hard to find. For example, Robert Nardelli received \$210 million of exit pay from HomeDepot and Richard Grasso of NYSE received a pay package of \$187.5 million while the NYSE was still a non-profit. In some cases, the packages were granted to alleged thieves. Dennis Kozlowski, former CEO of Tyco, was granted nearly six million new options (5.1 million shares in Tyco plus 800,000 options in a subsidiary) valued at \$81 million at the very time he was charged with looting the company of millions of dollars.

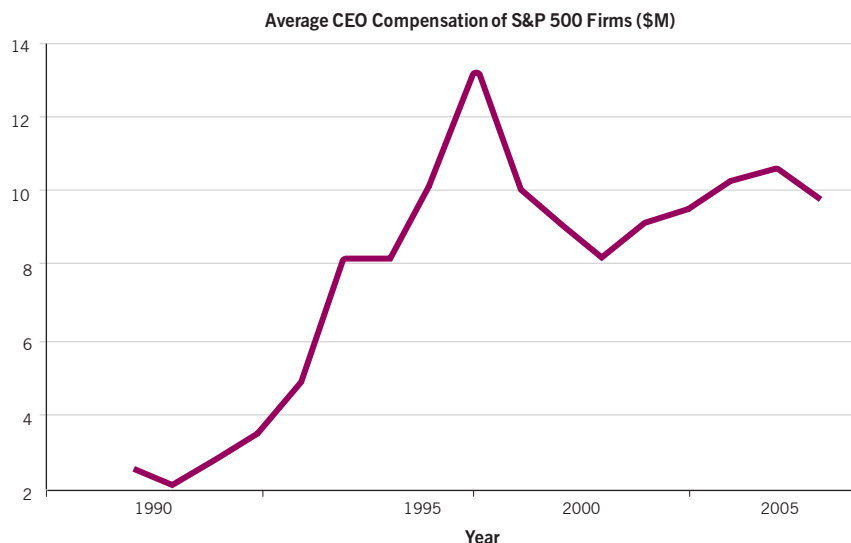
But if these examples provide clear instances of excessive executive pay, they tell us little about the *average* level of executive compensation, and whether it is too high to attract, motivate, and retain the right people. The sentiment of most academics is consistent with this agnostic view.

tivity and its negative relationship with firm size can be quantitatively reconciled with optimal contracting.

9. For documentation, see Gabaix and Landier (2008).

10. Jennifer Reingold, "Executive Pay: The Numbers are Staggering, but So is the Performance of American Business. So How Closely are they Linked?" *BusinessWeek*, April 19, 1999, p. 72.

Figure 2 **Dramatic Rise in Pay**



Policy response: While the debate on excessive compensation remains open and widely controversial, we argue against the temptation to legislate or regulate the levels or the structure of executive compensation. In particular, the choice of compensation structures should be left to the companies themselves, and accounting rules and tax treatments should not favor one form of compensation over another (say, stock options over cash or stock).

A case in point is the Internal Revenue Service Code Section 162 (m), which limits the tax deductibility of compensation to \$1 million unless such compensation is performance-based. The provision was enacted in 1993 as a means of limiting executive pay, but it had unintended consequences. Because options qualify as “performance-based” compensation, Section 162 (m) inadvertently provided incentives for public corporations to shift significantly toward option-type contracts, which are often held to be responsible for pressures to boost stock prices that led to the corporate scandals associated with the dotcom bubble. Similarly, Chidambaran and Prabhala (2009) show that policies intended to curb specific pieces of compensation could lead to compensation “squeezing out” through other means, often at an additional cost to shareholders. As Kevin Murphy (2009) writes, the only certainty with such pay regulations is that “new leaks will emerge in unsuspected places.”

We come down on the side of repealing Section 162 (m) of the IRS code. If there is a public concern that corporate boards are not exercising their function, the more appropriate

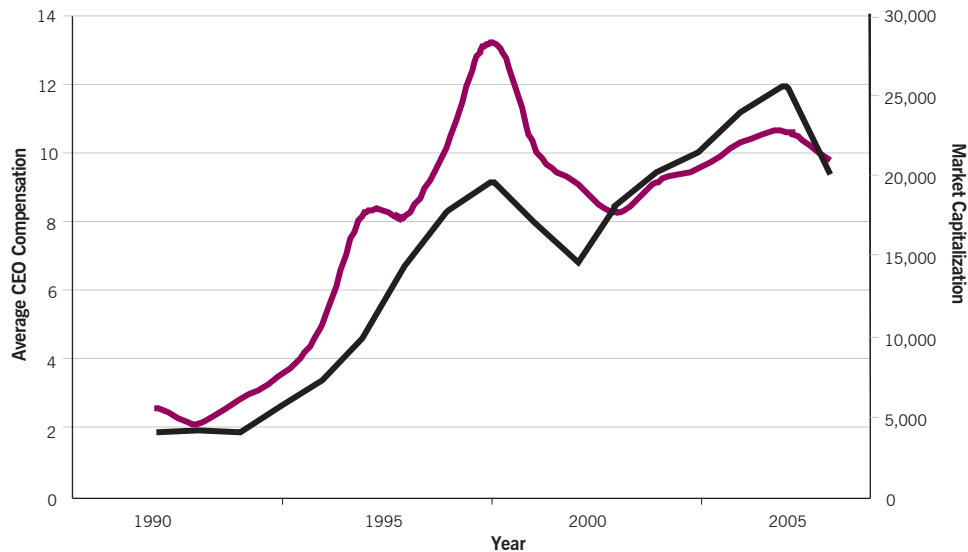
policy response would be to improve corporate governance through changes in corporate law or other governance institutions, including the greater empowerment of shareholders to monitor executive pay more directly. We come to these issues later in this paper.

The recent uproar over retention bonuses at failed institutions is another case in point. Retention bonuses have been paid to key employees provided they stayed with their firm long enough to unwind the portfolios for which they were responsible, regardless of the actual performance of those portfolios. Paying individuals to complete a task is more like a salary than a bonus, but calling it a “bonus” makes it less likely to violate Section 162 (m). Repeal of this provision would reduce the incentive of companies to misclassify compensation in the future. More broadly, accounting, tax, and disclosure requirements should apply “symmetrically” to all pieces of the compensation packages.

Pay and governance. The academic literature suggests that when corporate governance mechanisms are weak, managers tend to have greater influence on the process that determines their own compensation. Consequently, they extract rents and protect themselves from the consequences of bad performance. According to this view, the escalation in executive pay reflects inefficient transfers of wealth from shareholders to executives who enjoy too much discretion over their own pay.¹¹ This view has received considerable attention in the popular press, especially after the outrage over high bonuses at financial institutions at the center of the financial crisis in 2007-2008.

11. See Bebchuk, Fried, and Walker (2002), Bebchuk and Fried (2003); and Bertrand and Mullainathan (2003).

Figure 3 Average CEO Compensation vs Market Capitalization of S&P 500 Firms (\$M)



But the empirical evidence on governance mechanisms is mixed. Management has the clear potential to influence or dominate the nomination of directors for the compensation committee of the board, or to exert influence through interlocking boards. Thus, it is argued that committees that set executive compensation lack independence. But the evidence we have does not tell a clear or consistent story.

In an early study using a sample of 105 companies (in 1984) where the compensation committee members were also executives in other firms, O'Reilly, Main, and Crystal (1988) found that CEO pay was positively related to committee members' pay. But casting doubt on the popular criticism of the pay-setting process, Anderson (1997) compared the pay of 50 CEOs who sat on their compensation committees (and were later removed) to the CEO pay of a control sample; and using the 1985-1994 proxy data, he found that the CEOs who sat on their own committees actually received *lower* levels of pay and had very *high* stock ownership, acting much more like manager/owners than self-serving agents. Consistent with this finding, Core, Holthausen, and Larcker (1999) present evidence of only a weak empirical relation between measures of firm internal governance and the level and structure of CEO pay.

What's more, several more recent papers have suggested that CEOs do not exploit their position to extract excess pay, or what economists refer to as "rents." In particular, Murphy (2002) makes a case against such rent extraction based on the evidence in Murphy and Zábajník (2003), which finds that the large increases in compensation were experienced mainly by professional CEOs hired from outside the firm, as opposed to insiders promoted from within.

Taking a different approach to the question, Holmstrom

and Kaplan (2003) point to the superior stock-market performance of U.S. companies (relative to their European and Asian counterparts) during the 1980s and 1990s, and argue that, if U.S. CEO compensation has been excessive, the costs of such excesses have been outweighed by the value of the productivity gains achieved under the watch of the overpaid managements. And possibly consistent with this argument, Gabaix and Landier (2008) show that the increase in both the level of CEO pay and its ratio to that of the average worker has been accompanied by a commensurate increase in the size and complexity of publicly traded firms over the last three decades (see Figure 3). Moreover, as can also be seen in the figure, the variation over time in average CEO pay appears to reflect the path of average firm value.

Policy responses: Irrespective of the debate on the pay level or structure, we support better compensation governance arrangements.

Improvements in board governance. To increase the likelihood that the executive compensation-setting process is conducted on an arms-length bargaining basis, we believe there should be sufficient independence of the corporate board and a requirement of sufficient financial literacy for all members of the compensation committees.

First, we support the view that the compensation committee be composed of independent directors. Moreover, the committee should retain independent compensation consultants who are recruited by the board and not by the CEO.

Second, there should be enough finance expertise on the compensation committee so that the committee understands valuation and the role of the instruments used in executive compensation.

Third, we support the view that financial transactions by executives—particularly hedging transactions that significantly affect the sensitivity of executive pay to the value of the company—be disclosed to the board and the compensation committee.

Say on Pay: Empowering shareholders. One prominent proposal is that all top-management compensation plans—salary, equity-linked compensation, and severance packages—as well as material changes in these plans, must be approved by shareholders through a proxy vote. Proponents argue that because senior executives have inordinate influence over the board, and over the compensation committee in particular, shareholders need a more direct mechanism for influencing the level and structure of executive compensation.

Such an approach assumes that the shareholders are as informed and experienced in assessing pay packages as the members of the board of directors. Most corporate decisions are made by the board rather than shareholders precisely because board members are able to become better educated about the issues confronting the firm, and so bring about better outcomes than would result from direct shareholder vote. One might argue that the situation is no different with executive compensation. Shareholders are not necessarily as well-informed about the complexities of executive compensation or the dynamics of the CEO labor market as are members of compensation committees. The growth of shareholder advisory groups may work to limit this concern, since such groups specialize in understanding the intricacies of pay structure and may be in a better position to evaluate compensation plans relative to other firms.

In addition, Karpoff, Malatesta, and Walkling (1996) and Gillan and Starks (2000) have both reported that non-binding shareholder resolutions appear to have no consistent effects on corporate performance and shareholder values. This evidence suggests that advisory say on pay is not likely to affect corporate pay levels, though it may succeed in putting a spotlight on companies with governance failures.

Bebchuk and Spamann (2009) make a further argument against say on pay for financial firms. Because of such firms' high leverage and incentives for excessive risk-taking, say on pay could have the effect of amplifying such risk-taking by giving management larger equity stakes and hence more reason to adopt shareholders' preference for a high-risk strategy.

On balance, we endorse *advisory* say on pay on grounds that compensation committees should have an understanding of the views of shareholders. But we do not support a *binding* say on pay. Boards should continue to be given the discretion to design sophisticated pay packages that are appropriate for the firm as a whole and that produce the right incentive alignment. If a company's governance structure is working properly, its board would disregard the advisory say on pay

vote only if it believed it had sufficient cause to do so.

Do Performance Incentive Features in Compensation Lead to Manipulation?

While equity incentives can create beneficial incentives, they can also create perverse incentives for executives. Opportunistic executives have incentives to engage in manipulative activities—such as accounting restatements, earnings management, and timing of disclosure—to shore up the current stock price and cash out by exercising vested options and then selling shares at inflated prices.¹² Managers can also delay the announcement of good news until after stock and option grants to keep the stock price low when option strike prices are being set. Thus, to the extent a compensation system conditions incentives on the current stock price, it could lead to abuses to inflate the current price and cash out. This view is echoed in policy and institutional circles. For instance, it is widely believed that short-term gains can be generated from stock options when the firm simultaneously uses aggressive accounting, or even fraud, to support the overvalued prices.

Our view is that it is important to consider behavioral responses. Any proposals for changes in the design of compensation contracts should consider how executives alter their behavior as a result of the changes. Effects other than manipulation could also arise. For instance, incentive features in compensation structures expose executives to higher risk as well as rewarding them for better performance. To reduce the risk of compensation structures, there is evidence that managers resort to risk management as well as directly undertake transactions that undo some of the incentive features. In particular, they may manage or manipulate earnings, risks, disclosure, and even their peer group.

Risk manipulation. Managers have a variety of ways to hedge against the risks of exposure in high-powered contracts. For instance, derivatives such as caps and collars are often used to hedge firm-specific risk.¹³ It is hard to know if these hedging activities are games that executives play to remove proper incentives, or represent efficient rebalancings of executive portfolios when firm-specific holdings are excessive. But either way, it's important to recognize that executives may be tempted to pursue inefficient hedging activities when there is poor corporate governance and oversight.

Earnings manipulation. There is evidence that the structure of executive pay creates incentives for executives to manage corporate information. For example, Gao and Shrieves (2002) find evidence that the amount of stock options and bonuses is positively related to the intensity of earnings management. The evidence is inconclusive for the effects of long-term incentive plans or restricted stock compensation on earnings management. Burns and Kedia (2003) find that companies that end up announcing large negative restatements have granted about

12. See Burns and Kedia (2003) and Ferri (2003).

13. Core, Guay, and Larcker (2002).

50% more stock options to their top executives in the years prior to the announcements than companies in a control group matched by size and industry.

Peer Group Manipulation. Part of the process used for determining executive compensation is the construction of a peer group against which managerial pay packages are benchmarked. The median pay at this peer group is used as a guide in setting the compensation levels for firm executives. Choices of compensation peer group members tend to be explained as those companies with which the firm competes for talent, and are meant to represent the contemporaneous pay levels in the CEO labor market.

But recent work by Faulkender and Yang (2009) documents that while the composition of the peer group is partially explained by industry classification and relative size, there is some gaming of the peer groups as well. Companies with highly paid executives are more likely to be chosen as members of the peer group, all else equal, increasing the level of median pay at the peer group and so providing a mechanism for the manipulation of executive pay. When highly paid peers are over-represented in compensation peer groups and CEO pay is strongly influenced by the median pay of the peer group, one result would be the ratcheting up of CEO pay observed over the last few decades. Such gaming is reported to be stronger in companies where CEOs have previously been found to have greater influence over the board.

Disclosure manipulation. There is evidence suggesting that executives manage disclosure around the time of option and equity grants. Yermack (1997) provides evidence for positive abnormal returns after option grants and suggests that executives time option grants prior to the release of good news. Thus, executives are effectively granted in-the-money options, even though the grants are nominally at-the-money at the time of the grant. The resulting discount is related to the quality of corporate governance, with higher discounts associated with poor governance. Complementary evidence is provided by Aboody and Kasznik (2000), which finds that executives delay disclosure of good news and accelerate bad news prior to grants.

Also arousing suspicion is the tendency for companies to reprice their options before the disclosure of good news. Ferri (2003) documents a significant difference in the price run-ups following the repricings of executive options between cases when CEO options are repriced (an 11.8% 20-day CAR) and cases when they are not (2.7%). The significant difference between the two cases suggests that CEOs may well practice selective disclosure prior to the repricings.¹⁴

Policy responses: The manipulative incentives from executive compensation can be limited in a variety of ways. In particular, we support enhanced and improved disclosure.

Disclosure reform: Disclosure helps shareholders to under-

stand how executives are compensated and to make useful inferences about the incentive effects of executive pay. We support more explicit disclosure for executive compensation. Disclosure should cover all elements of executive compensation, including retirement benefits, severance packages, perquisites, and other direct or indirect schemes of compensation. In our view, companies should provide *both* summary and comprehensive detailed disclosures. While summary numbers should be available for quick assessments of pay packages, technological advances should be used to provide detailed disclosure for interested shareholders, such as institutions that want to investigate all aspects of the compensation package.

Reforms in options: We also support reforms in the options component of executive pay. Of course, the design of compensation packages should be the responsibility of corporate boards, but boards should give proper attention to the following mechanisms that could help mitigate the perverse incentives that we discussed earlier.

First, we support the view that vesting improves the linkage of pay to long-run corporate performance and reduces incentives to manipulate accounting and stock prices. However, vesting requirements should be transparent. For example, stock option plans should clearly state the vesting period for the option grant and the period for the stock after the exercise of the option. *Second*, incentive plans should consider steps that would avoid rewarding or punishing executives for outcomes that are beyond their control, including some form of indexation of pay or options contracts to industry- or market-wide performance benchmarks.

Reforms in bonus pay: Bonuses should be paid only when managerial actions generate long-term benefits, perhaps using a mechanism that parallels stock option vesting. We support the use of claw-back provisions for performance-related bonuses in cases where performance proves to have been temporary or the result of outright manipulation. Alternatively, we support delayed payment of bonuses until the performance metric used to calculate the bonus can be deemed free of manipulation.

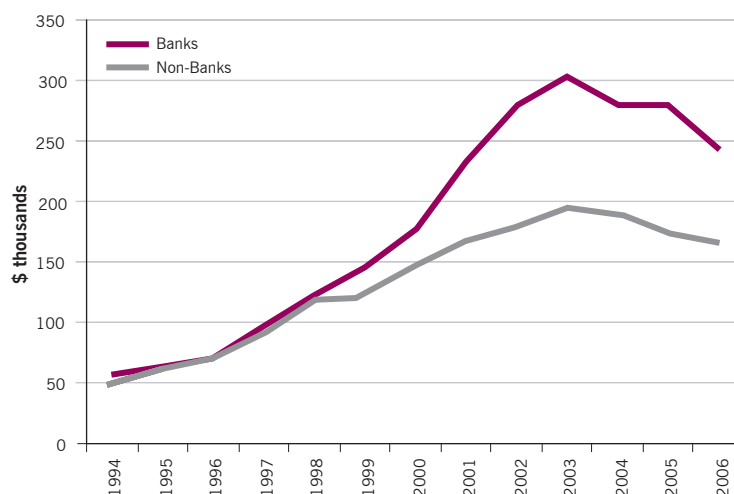
Role of Executive Pay in Financial Crisis

Executive compensation has been a prominent and visible target of regulators and policy makers in response to the crisis. The responses have differed among financial markets. The U.K. Financial Services Authority now controls both the structure of pay and the time period over which the incentive pay is distributed—and it has introduced claw-back provisions. In the U.S., a paymaster has imposed quantitative limits on the amount, structure, and timing of compensation payments to top-paid executives at companies receiving TARP funds. And further expansion of pay controls to all banks is now being contemplated.¹⁵

14. Options backdating is also one mechanism for manipulation (Heron and Lie, 2006). It is the practice of recording grant dates that are earlier than the actual date of grant. With the recent SEC disclosure rules, this practice has virtually evaporated.

15. See, e.g., "Fed Hits Banks With Pay Limits", *The Wall Street Journal* (October 23, 2009).

Figure 4 Mean Vega: Banks and Non-Banks



Source: DeYoung, Peng, and Yang (2009)

A key question in these policy responses is whether, and to what extent, flawed compensation structures at financial firms contributed to the crisis. While many policy makers seem to believe that compensation played an important role, the issue is far from settled and the subject of a vigorous academic debate. We review some of the recent work in this area.

Fahlenbrach and Stulz (2009) find that U.S. bank CEOs with more equity incentives suffered enormous wealth losses during the 2008 financial crisis and that their firms performed worse than others. Murphy (2009) makes a similar point, showing that the average executive bonuses at TARP banks have dropped by 84%, as compared to a decline of 20% for non-TARP banks. As both of these studies suggest, the extent of the losses suffered by these bank executives suggests that they had strong incentives to avoid excessive risk-taking.

In response to this argument, Bebchuk and Spamann (2009) have countered that such large (*ex post*) losses are not necessarily evidence that the compensation incentives were properly structured (*ex ante*). In other words, bank executives could have recognized the possibility of large losses but still made rational choices to take on excessive risk—choices in which the upside rewards on balance outweighed the risks, which are borne in large part by U.S. taxpayers.

After studying losses at 206 banks in 31 countries, Erkens, Hung, and Matos (2009) conclude that both *ex ante* risk-taking and *ex post* losses are greater when CEOs have higher cash bonus compensation. At the same time, they find that higher levels of equity compensation generally have the opposite effect of limiting risk-taking and losses. And consistent with this finding, Minnick, Unal, and Yang (2009) present evidence

that equity incentives help banks avoid bad mergers and find ones that create value.

In another recent study of compensation structures at major U.S. banks, DeYoung, Peng, and Yang (2009) report that the level of top management compensation at major U.S. banks is not significantly different from the level at non-financial firms. However, the incentive structure of pay is different, and this difference becomes especially pronounced after the Gramm-Leach-Bliley Act of 1999 that liberalized the scope of financial firms. As summarized in Figure 4 (which is reproduced from their paper), the most important finding of this study is that the “vega,” or sensitivity to volatility, of top management compensation diverges between banks and non-banks after 1999, making bank CEO wealth more sensitive to return volatility. The authors interpret their findings as evidence that executive pay packages in financial firms after the 1999 Act encouraged increased risk-taking, as reflected in higher levels of credit risk, non-interest income, and private mortgage securitizations, which include subprime and nonconforming mortgages.¹⁶ One consequence of this form of risk-taking is an elevated level of systemic risk in which banks become especially stressed during economic downturns.

One interesting line of work suggests that shareholder pressures for effective governance could in fact have contributed to problems with bankers’ compensation. Along with their (earlier reported) finding that bank equity ownership tends to be associated with less risk taking and losses in 31 countries, Erkens, Hung, and Matos (2009) also find that institutional ownership and board independence, traditionally regarded as *good* governance measures, were in fact positively related to

16. But we advise caution in interpreting these results since the authors do not establish that higher vega *caused* greater risk taking. Both higher vega and greater risk-taking

could coincide with the passage of the Gramm-Leach-Bliley Act. This is an area meriting further work.

losses. In their view, the pressure for short-term profits from institutions and outside directors led to excessive risk-taking. Consistent with this view, cash bonuses tied to short-term performance were also reliable predictors of losses.

This view also receives at least indirect support from Hau and Thum (2009), which finds that bank losses in 2007-2008 for a sample of 27 German banks were higher in cases where boards had less business experience, specifically financial experience. They argue that board competence and financial expertise are at least as important as compensation in limiting losses. And if one combines this insight with the finding of Adams (2009) that director pay is significantly lower at U.S. compared to overseas banks because of the post-SOX emphasis on director independence (which effectively excludes people with past executive experience in banks), one could reach the surprising conclusion that SOX reforms have led to an unintended decline in the qualifications and experience of U.S. bank directors.

In sum, whether flawed compensation incentives were the critical driver of the financial crisis remains an empirically interesting question for future research. Murphy (2009) argues that compensation incentives are a small piece of the puzzle. In his view, other regulatory distortions such as the “too big to fail” implicit guarantees for large financial institutions, and regulations allowing depository banks to run in-house hedge funds and those promoting ratings inflation by credit rating agencies, were more direct causes. What seems most likely to us is that, while other causal factors clearly played major roles, compensation schemes accelerated and amplified the effects of the other flaws in governance and regulation that led to excessive risk-taking. The empirical importance of the interlinkages and the chains of causality remain an interesting and wide-open avenue for research.

The Design of Pay

The current debate brings home that what happens in the private sector banking industry matters to society at large—and globally. This “externality” provides a rationale for taking a rather different approach to designing compensation at banks.

Banks are managed by professionals who have incentives that may be in conflict with both the interests of the banks’ owners and those of society at large. To see how the behavior of bank managers might be affected by their incentives, consider a specific bank management compensation structure with three components: salary, bonus, and equity participation. If the compensation consisted only of salary, the bank management would probably become too conservative in an effort to guarantee and perpetuate managerial compensation. In this case, the bank would likely end up taking a level of risk that is socially suboptimal. If, on the other hand, the compensation consisted of only equity participation, although the interests of bank management and bank owners would be completely aligned, bank managers working in the interests of shareholders

might well choose to build up excessively risky loan portfolios. In other words, although management’s interests are aligned with shareholders’, neither party may have sufficient concern about the stability of the banking system.

And this incentive and externality problem is compounded by the moral hazard problem associated with federal deposit guarantees. Deposit-raising by banks is facilitated by deposit insurance provided by the FDIC. At non-bank companies, creditors are able to place restrictions on risk-taking through covenants and to “price” the risk-taking of the debtors in the debt contracts they negotiate with them. In the case of banks, the FDIC acts as an insurer and should be able to place similar restrictions on risk-taking. To the extent compensation contracts contribute to risk-taking, it is reasonable for the FDIC to place covenant-like restrictions on the compensation contracts of institutions that benefit from deposit insurance. A study by John, Saunders, and Senbet (2000) shows that if deposit insurance were priced to reflect the incentive features of bank management compensation, banks would be likely to pre-commit to a compensation structure that provides decision-makers with incentives to maintain their activities at a socially desirable level of risk and, in so doing, help maintain the stability of the banking system. As an alternative, bankers’ compensation could be adjusted to include payments that reflect not just the returns to equity, but the payoffs to depositors, bondholders, and other claimants. In such a case, compensation would depend on the value of the whole firm rather than the equity slice alone.

Focusing on compensation does not preclude other approaches to achieving prudent risk-taking. The problem at the core of excessive risk-taking is that profits are private while losses are socialized. To control this aspect of risk-taking, the government could consider holding instruments such as warrants. Government ownership of warrants would have the effect of reducing the asymmetry in the distribution of profits and losses between taxpayers and shareholders. Thus, as proposed by John, Saunders, and Senbet (2000), while the issuance of warrants has proven useful in responding to the crisis, government ownership of warrants could also help *prevent* crises from arising in the first place by reducing the *ex ante* risk-taking by banks. At any rate, the alternative menu of approaches could be used to complement and strengthen the traditional approach of relying on capital or liquidity adequacy to control risk-taking, which has proven inadequate in the context of the current crisis.

Policy response: It is interesting that compensation incentives were effectively ignored by the regulatory schemes around the world until the advent of the global crisis. There is now an increasing recognition that the manner in which bank managers are compensated should be central to banking regulation, and to the oversight of the overall financial system. While ill-designed compensation could lead to instability, excessive risk-taking, and gaming, the optimal response is not neces-

sarily to swing to the other extreme and curb all risk-taking. A well-designed compensation contract that is multi-pronged rather than focused solely on bonus and equity, along with deposit insurance premiums that are sensitive to bank executives' incentives, could help achieve more effective banking regulation—one that does the best job of guaranteeing the stability of the banking system.

Concluding Note

We provide a research-based perspective on the debate over the level and structure of executive pay and the pay-setting process. Despite decades of research, the evidence is inconclusive about whether average CEO pay is excessive. CEOs retain significant influence over the pay-setting process, providing opportunities for them to manipulate the setting of their compensation. Pay-for-performance sensitivity has significantly increased over time, improving the alignment of CEOs with shareholders, but also appears to have had unintended consequences.

We examine the rationale and evidence for several proposals for pay reform, including many that have been advanced in policy and academic circles but not yet broadly adopted. Our analysis supports a number of reform proposals:

- We come down against tax and disclosure rules that are “asymmetric” across different elements of pay. Thus, Section 162 (m) of the IRS code should be eliminated. Likewise, we favor a level playing field for disclosure that is the same for all direct and indirect forms of compensation.

- We support some reforms that target compensation structures, such as indexation of pay to reward firm-specific rather than general market performance, and clawback provisions in the event the performance benchmarks used to pay bonuses turn out to destroy value.

- We also believe that companies need to pay more attention to the *process* of setting pay and its disclosure. In terms of process, boards should have compensation committees and consultants that are truly independent, and companies should ensure that committee members have sufficient expertise in evaluating financial instruments used to convey pay. Companies should seek *advisory*—but not mandatory—say on pay.

- We favor expanded disclosure of not only pay but other financial transactions of executives, particularly transactions that hedge or unwind the pay-performance sensitivity of executives.

- We also argue that banks are special and may need a different set of pay paradigms that account for leverage, regulation, and deposit insurance in a coherent and incentive-compatible framework.

Finally, one should bear in mind that executive pay was a factor in the recent financial crisis but changes that focus on pay alone may not prevent another occurrence. These proposals should be considered as part of a much larger financial regulatory restructuring that also addresses “too big to fail” bailout policies, excessive leverage, and unsustainable lending practices.

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Broadview has agreed to pay fees to Morgan Stanley for its financial advice, including transaction fees that are contingent upon the consummation of the proposed transaction.

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