Because I'm Worth It?
CEO Pay and Corporate Governance*

BY ROCCO HUANG

Over the past few years, there has been strong public outrage against current pay practices for corporate CEOs. To deal with this issue, the Dodd-Frank Wall Street Reform and Consumer Protection Act signed into law by President Obama on July 21, 2010 will allow shareholders to vote on executive pay packages and federal regulators to oversee executive compensation at financial firms. Are there problems with CEO pay? According to a recent survey, 98 percent of respondents from major financial institutions "believe that compensation structures were a factor underlying the crisis." In this article, Rocco Huang outlines what we know about how CEOs are paid, how the pay is set, how CEO compensation affects CEOs' incentives and actions and their firms' performance, and how government regulations affect CEO pay.

Recently, there has been strong public outrage against current pay practices for corporate CEOs, regarding both their high level relative to that of ordinary workers and their perceived insensitivity to poor performance. A search of the key words "executive compensation" in the *New York Times* returns 168 articles for the first six months of 2009 and only 23 during the same months in 2008 — a sevenfold increase. In June 2009, President Obama appointed Kenneth Feinberg as the special master for executive compensation (known in the media as the "pay czar") to oversee the compensation of top executives at companies that have received federal bailout assistance. To deal with this issue, the Dodd-Frank Wall Street Reform and Consumer Protection Act signed into law by President Obama on July 21, 2010 will allow shareholders to vote on executive pay packages and federal regulators to oversee executive compensation at financial firms.

Are there problems with CEO pay? According to a recent survey by the Institute of International Finance (IIF), 98 percent of respondents from major financial institutions "believe that compensation structures were a factor underlying the crisis." By analyzing executive compensation data, financial economists have improved their understanding of CEO pay. We know a lot about how CEOs are paid, how the pay is set, how CEO compensation affects CEOs' incentives and actions and firm performance, and how government regulations affect CEO pay.

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*The views expressed here are those of the author and do not necessarily represent the views of the Federal Reserve Bank of Philadelphia or the Federal Reserve System.

HOW ARE CEOs PAID?

The structure of CEO pay is more complicated than just a base salary plus bonus. Their pay packages are not just bigger; they are also very different from those of ordinary workers. We need to understand the special structure of CEOs' packages before we can say anything about whether they are paid too much. Unless otherwise stated, we will focus on CEO pay practices in the United States because they have been much better researched.

Cash bonuses account for, on average, half of a CEO's total compensation. We may think that a CEO is paid a bonus for better performance. But the evidence suggests otherwise. Kevin Murphy has combed through the research of his fellow economists and finds no evidence of a significant relationship between the size of a CEO's cash bonus and the firm's performance, measured as return on equity or stock returns. And indeed, Yaniv Grinstein and Paul Hribar find that CEOs were as likely to receive bonuses for making acquisitions that negatively affected shareholder wealth (as measured by negative stock returns upon announcement of the acquisition news) as well as for acquisitions that increased shareholder wealth.[1] Thus, CEOs receive a bonus for an acquisition whether or not shareholders believe the acquisition increases their wealth.[2]

If cash bonuses are not much different from base salaries except that they are paid at the end of the year instead of every month, what motivates CEOs to work harder and to make better decisions for the company? Equity-based compensation such as stock options plays an important role.

An option is a contract that gives the owner the right, but not the obligation, to buy or sell an underlying asset at a specific price on or before a certain date. CEOs are typically awarded options allowing them to purchase company stock on a future date but at the stock price prevailing at the time the option is granted, thus allowing CEOs to benefit from future stock-price appreciation if the company performs well. Naturally, stock options reward CEOs for better performance if better performance leads to higher future stock prices. Indeed, Brian Hall and Jeffrey Liebman's study finds that, unlike cash bonuses, stock options make CEO pay very sensitive to company performance.

For example, in their sample, Hall and Liebman find that, for a moderate change in firm performance (moving from a median stock-price performance to a 70th percentile performance), a CEO's compensation increases more than 50 percent, which represents an increase in CEO wealth of about $1.8 million. Most of the increase comes from appreciation in the value of stock options. That's a large reward for improving a company's performance from middle of the pack to better than 70 percent of its peers.

Lucian Bebchuk and Yaniv Grinstein show that the level of CEO compensation in the United States had been increasing in the decade before the stock market downturn in 2001, and the lion's share of the increases resulted from equity-based compensation such as stock options (see the figure).[3]

Finally, another important source of compensation for CEOs is their pensions. CEOs stay in their positions for six years, on average. According to Lucian Bebchuk and Robert Jackson, the executives' pension plans had a median actuarial value of $15 million. The ratio of the executives' pension value to the executives' total compensation during their service as CEO had a median value of 34 percent. That is, more than a quarter of the money the CEO receives from the company comes after his or her retirement.

They also find that, in contrast to stock options, CEOs' pensions do not depend much on their performance on the job. Poorly performing CEOs do not get less pension money after retirement. After a CEO retires, he is seldom in the media spotlight, and few people bother to look into the paycheck of a retired CEO. Bebchuk and Jackson's research, however, illustrates that the omission of pension plan values by researchers and the media leads to significant overestimation of the extent to which executive pay is linked to performance.

Finally, the composition of CEO compensation is somewhat different in commercial banks. (See *What's Different About Compensation for Commercial Bank CEOs?*)

Compensation Practices Outside the U.S. There are relatively few academic studies on CEO pay practices outside the United States. The several studies that have been conducted suggest that, in other countries, CEO pay is much lower and stock options play a much less important role. A study by Martin J. Conyon, John E. Core, and Wayne R. Guay compares the largest 250 British companies with about 1,200 U.S. firms of similar size and

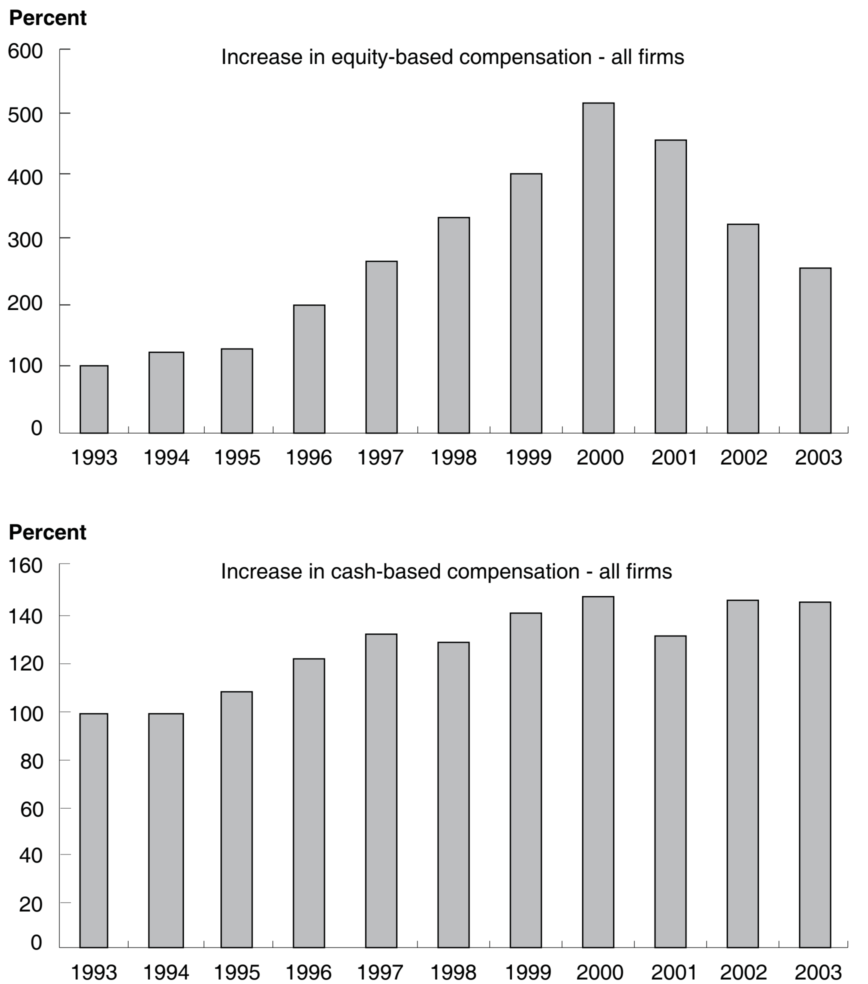
Another important source of compensation for CEOs is their pensions.

[1] The change in stock price after the announcement reflects how shareholders believe the acquisition is affecting their financial interests. The stock price declines if shareholders believe that the announcement is bad news.

[2] Note that it is certainly possible that the CEOs may be right and the shareholders may be wrong about the acquisition's eventual benefits and costs.

[3] Taxation and accounting considerations partly contributed to the popularity of equity-based compensation. Section 162(m) of the Internal Revenue Code, enacted in 1993, places a $1 million limit on the deductibility (against corporate profits) of non-performance-related executive compensation, giving rise to a tax advantage for equity-based compensation. Furthermore, until 2006 when it became mandatory, firms were not required to count stock option grants to executives as expenses on their income statement, allowing them to report higher earnings.

FIGURE



Source: Bebchuk, Lucian A., and Grinstein, Yaniv. "The Growth of Executive Pay," *Oxford Review of Economic Policy*, 21 (2005), pp. 283-303.

finds that, in 1997, the median pay of a U.S. CEO was more than twice the median pay of a British CEO. But the gap is shrinking: In 2003 the median pay of a U.S. CEO was only 30 percent more. However, the personal fortune of U.S. CEOs is tied much more closely to company stock-price movements. In 2003, their equity incentives (the sensitivity of the value of their stock and options holdings to changes in stock prices) were about 4.6 times greater than those of UK CEOs. After adjusting for what is reasonably needed to compensate U.S. CEOs for bearing the higher risk of equity-based compensation, the researchers find that the risk-adjusted pay for the U.S. CEOs is not consistently higher than that for UK CEOs.

CEOs SET THEIR OWN PAY WHEN THEY CAN

CEO Compensation Is High When the Board Is Weak. Your bosses set your pay, but who sets the pay for the CEO? The board of directors (in the U.S. representing the interests of shareholders, and in some other countries, other stakeholders as well) supervises a CEO and sets his pay. It has become more common for the full board to delegate a compensation committee to set a CEO's pay. Normally, the human resources department makes an initial recommendation. Then the compensation committee reviews the recommendation and, if necessary, revises it, sometimes with input from compensation consulting firms such as Towers Perrin. Finally, the full board of directors votes on the CEO pay proposal.

Strictly speaking, there is no such thing as "CEOs without bosses," unless the CEO happens to be the majority owner of the company, a rarity among large corporations. Let's rephrase the question: Who sets the pay for the CEOs who are effectively their own bosses because they have more power than the board of directors?

A CEO has financial incentives to persuade the board of directors and influence the pay-setting procedure in a direction that enriches him. The outcome of the bargaining depends on the CEO's relative influence vis-à-vis the board of directors'. Below we present some evidence that in firms where the CEOs are more powerful, they are paid more. (For alternative views on how higher CEO pay can better serve the interests of shareholders, see *Maybe It's Really Worth Paying Top Dollar for Managers.*)

A study by John Core, Robert Holthausen, and David Larcker identifies the following corporate board arrangements as potential causes of a weaker board vis-à-vis the CEO. First, having a large number of directors on the board can make the board weaker because it's harder for a large board to coordinate and override the CEO's wishes. Second, more of the outside directors — that is, the directors who are not current or past employees of

What's Different About Compensation for Commercial Bank CEOs?

The structure of CEO compensation at commercial banks differs from that in other industries. According to a study by Kose John and Yiming Qian, based on a sample of 120 commercial banks from 1992 to 2000, CEOs' pay-performance sensitivity is lower in banking firms than in manufacturing firms. In particular, the sensitivity is lower in more highly leveraged banks.

Elijah Brewer, William Hunter, and William Jackson document that equity-based compensation becomes more important after the Riegle-Neal Act of 1994. They find that, after deregulation, the equity-based component of bank CEO compensation increases significantly, on average, for the industry. Riskier banks have significantly higher levels of equity-based compensation, as do banks with more investment opportunities.

After deregulation, the opportunity to acquire other banks opened up. Stronger incentives for CEOs may have become more important after deregulation. For example, Liu Yang, Haluk Unal, and Kristina Minnick find that higher pay-performance sensitivity leads to more value-enhancing acquisitions. Among those banks that acquired another bank, higher-sensitivity banks experienced significantly better announcement returns than lower-sensitivity banks. Announcement returns are stock returns calculated in a three-day window around the announcement of acquisitions. The positive market reaction can be rationalized by better long-term performance. Following acquisitions, banks with high pay-performance sensitivity experience greater improvement in their operating performance as measured by the return on assets.

the firm — have been appointed by the CEO.[4] Third, more of the "outside directors" are borderline insiders; that is, the director or his employer receives payments from the company in excess of his board pay. Examples include a board member who is a partner in a law firm that provides services to the company or one who is a supplier that sells products to the company. Fourth, more of the outside directors are busy; that is, the director serves on three or more other boards. Finally, the CEO is the chairman of the board and makes himself literally the boss of his supposed bosses.

Core, Holthausen, and Larcker then show that companies with such boards give their CEOs higher pay. However, it is important to note that a correlation between CEO pay and certain firm characteristics, such as board size, does not necessarily equal causality and results should be interpreted with some caution. For example, certain types of complex businesses may require a higher quality CEO (and hence one who earns higher pay), a larger board to provide a broad array of advice, more insider executives on the board to supply operational information, more outsiders with connections in the industry through board memberships, and a CEO who is also the chairman in order to reduce coordination problems. These correlations do not necessarily prove that, for example, having a larger board results in higher CEO pay.

Pay for Performance or for Good Luck? A study by Marianne Bertrand and Sendhil Mullainathan finds that CEOs are rewarded for good luck.

First, let me explain what I mean by good luck. For a petroleum company with large oil reserves, profits increase with oil prices, but the CEO should take no credit for this windfall. For a company that exports goods to foreign countries, when the U.S. dollar gets cheaper, profits go up. Again, the CEO does nothing to make this happen. These are examples of good luck and have no relationship to the CEO's efforts.

Ideally, CEO pay should not be tied to luck, that is, factors that affect firm performance that are beyond the CEO's control. The effect of good luck should be filtered out when setting CEO pay. However, using several measures of luck, Bertrand and Mullainathan find that CEO pay in fact responds as much to a dollar earned through luck as to a dollar earned through CEO effort. For every one-percentage-point rise in accounting returns due to changes in oil prices or the exchange rate, they find that CEO pay increases by about 2 percent, roughly the same as the response to accounting returns not due to those lucky factors.

Many firms have large shareholders who have a strong incentive to watch over the CEO and who also have the ability to have their voice heard. They are the motivated bosses. They pay their CEOs less for luck. Bertrand and Mullainathan find that

[4] In a more recent paper, Jeff Coles, Naveen Daniel, and Lalitha Naveen call them "co-option board members."

for each additional large shareholder (defined as a shareholder, other than the CEO, who owns blocks of at least 5 percent of the firm's common shares), the pay-for-luck effect declines by 10 percent. For each additional large shareholder who also has a seat on the board of directors, the pay-for-luck effect declines by 33 percent. And in a firm without any large shareholders, a CEO who has spent nine years in the position has about a 35 percent greater pay-for-luck effect than one who is just starting at the firm. The overall results suggest that CEOs without bosses seem to set their own pay and they set it to their own advantage.

No one can have good luck all the time. Are CEOs punished for bad luck? Gerald Garvey and Todd Milbourn show that they aren't. They find that luck affects pay less when the luck is bad than when it is good. Their study finds that the average executive loses 25 to 45 percent less pay from bad luck than is gained from good luck.

Backdating: How to Make Your Own Luck. CEOs also seem to be able to influence the timing of stock option awards in their favor. In a recent study, Lucian Bebchuk, Yaniv Grinstein, and Urs Peyer posit that the practice of *option backdating* is more likely when the CEO is more powerful than the board of directors, which is supposed to monitor and discipline him. A backdated option is one in which the grant date of the option is chosen after the date has already passed. It is like buying a lottery ticket after seeing the wining number. The three researchers identify options granted at the lowest price of the month, which they call "lucky options." Choosing a date when the stock price is low is a direct transfer from stockholders to the executive who exercises the option, since he looks back and sets the exercise price of the option at the lowest possible price.

Many CEOs seem to have more luck than ordinary people. The three researchers find that during the period 1996-2005, 12 percent of firms provided one or more lucky grants due to opportunistic timing. It is not surprising that "CEOs without bosses" are more likely to get lucky. Bebchuk, Grinstein, and Peyer find that lucky grants were more likely when the

Maybe It's Really Worth Paying Top Dollar for Managers

There is plenty of evidence suggesting that CEOs influence their own pay for their own financial interest. However, many questions remain unanswered. For example, it is difficult to explain why compensation has increased so much in the late 20th century compared with earlier periods, solely on the basis of weak corporate governance. Actually, greater pressure from institutional investors should have reduced the power of CEOs in the past two decades. The current corporate governance environment is not perfect, but it is reasonable to say that it was even worse in the early 20th century.

Xavier Gabaix and Augustin Landier developed a theoretical model that attempts to explain why CEO pay has risen so rapidly. They find that a very small dispersion in CEO talent can justify large pay differences. They show that the six-fold increase in U.S. CEO pay between 1980 and 2003 can be fully attributed to the six-fold increase in market capitalization of large companies during that period. Alex Edmans, a professor of finance at the Wharton School, has argued that "being slightly better can have a huge effect on firm value. It's really worth paying top dollar for the most talented managers."* For example, at a $20 billion company, a half-percent improvement in results would translate into $100 million, which is a huge sum of money relative to an average CEO's annual pay.

Edmans and Gabaix's review paper is a good starting point to read more about the emerging literature that uses optimal contracting theories to explain many seemingly inefficient CEO pay arrangements as efficient outcomes, for example, the recent rapid increase in pay, the low level of incentives and their negative correlation with firm size, pay-for-luck, the widespread use of options (as opposed to stock), severance pay and debt-like compensation such as pensions, and the insensitivity of incentives to risk.

* Interviewed by Knowledge@Wharton: http://www.wharton.universia.net/index.cfm?fa=printArticle&ID=1662&language=english

company did not have a majority of independent directors on the board or the CEO had longer tenure. Both factors are associated with increased influence of the CEO on pay-setting and board decision-making.

However, the size of the gains from this practice is economically small. David Aboody and Ron Kasznik find that the practice increases the CEO's option award value by a mean of $46,700 (the median is $18,500), representing only 2.5 percent of reported total CEO compensation. The puzzle remains: Why do wealthy CEOs backdate options? Christopher Armstrong, an accounting professor at the Wharton School, has speculated that "maybe they underestimated the probability of getting caught, or they thought everyone else was doing it and they were entitled."[5] At this point, we can only speculate on the real reasons.

CEO COMPENSATION STRUCTURE AFFECTS CORPORATE POLICY

All of the evidence I've discussed so far concerns the division of the firm's profits between shareholders and CEOs. But there is also evidence that CEO compensation affects corporate decision-making, including the riskiness of the firm's operating and financial decisions and the firm's accounting policy

Compensation and Firm Risk. Many studies have shown that compensation does affect CEOs' incentives and actions, and the investment, financial, and accounting policies they adopt. The general finding is that option-like compensation arrangements are associated with more risk-taking in the companies these CEOs run. Options increase in value when the firm's stock price becomes more volatile. The CEO gains when the stock price is very high, but the option is simply not exercised when the price is low. Thus, everything else equal, the holder of the option prefers firm policies that increase stock price volatility.

Jeffrey Coles, Naveen Daniel, and Lalitha Naveen, for example, confirm that CEO compensation arrangements affect investment policy, debt policy, and firm risk. In firms where a large fraction of CEO pay is in options, CEOs adopt riskier policies. These policy choices include relatively more investment in research and development, more industry focus (that is, less diversified activities), and higher financial leverage (that is, more debt). Chief financial officers' (CFOs) compensation arrangements matter, too. Sudheer Chava and Amiyatosh Purnanandam show that in firms in which the CFO has greater incentive to increase risk because of stock options, firms use more short-term debt, which may create more volatile firm performance.

It is important to note that riskier policies can be both good and bad for the shareholders. In some cases, without the stock options, a senior executive may be too risk averse (because he may be afraid of losing his job) and may fail to maximize shareholders' interests. But shareholders need to recognize that the mix of executive compensation can affect corporate policies and set executive pay according to the risk profile they desire.

Compensation and Dodgy Accounting. Changing long-term policies may not have as direct and as fast an impact as changing short-term earnings numbers in financial reports. On average, stock prices respond positively to unexpectedly better earnings numbers and negatively to unexpectedly worse ones, so CEOs have an incentive to manipulate reported earnings. Economists have shown that equity-based compensation is related to "earnings management": activities that may raise short-term earnings in financial reports.

Daniel Bergstresser and Thomas Philippon find that the use of accrual accounting to manipulate reported earnings is more pronounced at firms where the CEO's compensation is more closely tied to the value of his stock and option holdings. Accrual accounting allows a firm to recognize revenues and costs at the time of sale rather than when payment is received or at the time of purchase rather than when payment is made. This gives accountants some discretion in timing revenues and costs opportunistically, for example, increasing short-term reported earnings by booking revenue earlier.[6]

Bergstresser and Philippon identify such "discretionary" accruals and show that they are more likely to be observed when CEOs' compensation is more closely tied to the value of stock and option holdings. They also find that CEOs do benefit financially through such manipulations. During years of high accruals (that is, revenues and reported earnings are increased by accrual accounting), CEOs exercise

[5] Interviewed by Knowledge@Wharton: http://www.wharton.universia.net/index.cfm?fa=printArticle&ID=1662&language=english

[6] Consider the following simple example. It is December, and the fiscal year for a boating company ends on December 31. A new client has just reserved 12 fishing trips for the next 12 months. In principle, revenues should be matched with corresponding expenses and booked as each trip is actually taken. However, the accountant using accrual accounting can take a more aggressive approach and book the revenue now, in December, by arguing that the company is already incurring some costs in preparing for those trips. As a result, the boating company sharply increases its revenue for the fiscal year, but it also records an equally large accounts receivable number on its balance sheet because payments for the trips have not been received (but are expected) from the client. The accounting choice makes the reported income look better for the current fiscal year, but it reduces future income.

an unusually large number of options. In addition, CEOs and other insiders sell large quantities of shares. The selling of shares by insiders is often interpreted as evidence that they expect the stock price to fall in the future, as would happen if they expected future reported revenues to be low due to discretionary accruals.

Some CEOs push the envelope even further. Natasha Burns and Simi Kedia find that CEO stock options are related to incidences of accounting misreporting. A firm has misreported if it later restates its financial statements because the original financial statements were not in accordance with generally accepted accounting principles (GAAP). They identify 215 misreporting firms among the S&P 1500 firms (excluding financial firms). These are likely to be a small subset of total misreporting firms because many others may go uncaught.

Burns and Kedia find that a firm with a CEO whose stock option portfolio value is more sensitive to stock price is more likely to misreport. They also find that the sensitivity of other compensation components (equity, restricted stock, etc.) does not matter. This is a sensible result, because, relative to other components of compensation, stock options are associated with stronger incentives to misreport. Through stock options, CEOs can benefit from higher short-term accounting performance (and higher stock price) but relatively limited downside risk, for example, the risk of getting caught and having to restate earnings downward. For instance, if a CEO owns out-of-money stock options with the strike price of $25 but the current stock price is $20, an increase in stock price to $26 will greatly increase the value of his options, but a decline in the stock price to $15 will not make him much worse off.

GOVERNMENT REGULATIONS CAN AFFECT COMPENSATION

CEO compensation contracts are private agreements between the shareholders and the CEOs. Nevertheless, government regulations can affect executive compensation through empowering shareholders, to whom the CEO is ultimately answerable.

In response to the corporate scandals in 2001-02, by 2003 the major U.S. stock exchanges had revised their listing standards and imposed new requirements for directors' and committees' independence, requirements intended to enhance board oversight.[7] The rules require that all firms have a majority of independent directors and that the compensation, nominating, and audit committees shall consist of independent directors.

Although firms were not required to comply with the rules until 2004, Vidhi Chhaochharia and Yaniv Grinstein find that many firms already adhered to the rules even before the rules became mandatory. However, in 2000 about 12 percent of firms in their sample did not comply with any of the requirements regarding independent directors. Chhaochharia and Grinstein find a significant decrease in CEO compensation when those firms finally appointed a majority of independent directors to their boards and removed all insiders from their compensation, nominating, and audit committees. They also note that the significant decrease in compensation is due to a decrease in the option-based portion of the compensation. The cash portion of compensation shows no significant drop. Their results suggest that board structure is a significant determinant of the size and structure of CEO compensation. Note that the rules do not dictate directly how much the CEOs should be paid but, instead, influence it through making the board of directors more accountable to shareholders.

The United Kingdom experimented with another law that has been incorporated into the Dodd-Frank Wall Street Reform and Consumer Protection Act in the U.S. In the UK, nonbinding advisory votes by shareholders on executive compensation packages have been required for all listed firms since 2002; that is, shareholders have a direct say in executive pay. Mary Ellen Carter and Valentina Zamora find that shareholders express their anger through voting. Their analysis indicates that shareholders disapprove of higher salaries, weak pay-for-performance sensitivity in bonus pay, and greater potential dilution in stock-based compensation, particularly stock-option pay.

Shareholders' disapproval does not have a binding power on the company, and disapproval rates rarely exceed 50 percent. However, the board of directors does listen and react. When shareholder disapproval is stronger, boards respond and subsequently decrease grants of stock-option compensation to CEOs, without increasing base salary or the pay-for-performance sensitivity of bonus pay accordingly.

WHAT DO WE KNOW AND NOT KNOW?

What can we take away from economists' collective knowledge about CEO pay? First, there seems to be a disconnect between CEO compensation and CEO performance, but the problems are concentrated in firms where the board of directors is weak and large shareholders are not present. Second, stock options are an important component of CEO compensation, and they seem to correlate with more risk-taking. Third, government policies can indeed

[7] See Securities and Exchange Commission Release No. 34-48745.

influence how CEOs are paid by empowering the shareholders and the board of directors.

Many questions, however, remain unanswered. Bengt Holmstrom, a scholar of compensation and incentives and himself a board member of a large family company with a billion dollars in revenue, believes that most existing theories do not explain the following two puzzles. First, if the strong influence of CEOs on their own pay-setting process explains why they are paid so much, why has CEO compensation increased so much in the late 20th century, exactly when pressure from large institutional investors arguably should have reduced the influence of CEOs vis-à-vis the shareholders?[8] Second, why do executive pay patterns in closely held companies such as family firms (where CEOs are closely monitored by well-motivated owners) resemble those in publicly held companies? These and other questions pose a challenge for researchers seeking to explain the causes and effects of executive compensation practices.

[8] Institutional investors held only about 10 percent of U.S. equities in 1953 but over 70 percent by the end of 2006.

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