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The Economics of Corporate Executive Pay

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Abstract

[Excerpt] In the past ten years, the pay of chief executive officers (CEOs) has more than doubled, and the ratio of median CEO to worker pay has risen to 179 to 1. High and rising executive pay could be an issue of public concern on two different grounds. First, it is contributing to widening income inequality that may be of concern from an equity perspective. Second, it could be the result of economically inefficient labor markets. It is difficult to determine whether executive pay is excessive across the board since executives’ marginal product cannot be directly observed. An upward trend in pay over time is not sufficient proof that the market is not efficient since factors determining supply and demand, such as the skills required of the position, can change over time. To show that pay is excessive from an economic perspective, one must first demonstrate that there is a market failure that is preventing the market from functioning efficiently. The market failure could originate in the division in large modern firms between management and ownership, which is typically dispersed among millions of shareholders. Shareholders’ interests are represented by a board of directors. Critics of executive pay have argued that boards have all too often been “captured” by the executive and are no longer negotiating pay packages that are in the shareholders’ best interests. They point to a number of common practices that they call “stealth compensation” which are inconsistent with arm’s length contracting. These include “golden parachutes,” generous severance packages, company-provided perks, and bonuses that are unrelated to firm performance.

Keywords

chief executive officers, CEOs, worker, pay, executive, economic, labor, market, supply, demand, compensation, perks, bonus stock price, bull market

Comments

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The Economics of Corporate Executive Pay

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In the past ten years, the pay of chief executive officers (CEOs) has more than doubled, and the ratio of median CEO to worker pay has risen to 179 to 1. High and rising executive pay could be an issue of public concern on two different grounds. First, it is contributing to widening income inequality that may be of concern from an equity perspective. Second, it could be the result of economically inefficient labor markets. It is difficult to determine whether executive pay is excessive across the board since executives’ marginal product cannot be directly observed. An upward trend in pay over time is not sufficient proof that the market is not efficient since factors determining supply and demand, such as the skills required of the position, can change over time. To show that pay is excessive from an economic perspective, one must first demonstrate that there is a market failure that is preventing the market from functioning efficiently. The market failure could originate in the division in large modern firms between management and ownership, which is typically dispersed among millions of shareholders. Shareholders’ interests are represented by a board of directors. Critics of executive pay have argued that boards have all too often been “captured” by the executive and are no longer negotiating pay packages that are in the shareholders’ best interests. They point to a number of common practices that they call “stealth compensation” which are inconsistent with arm’s length contracting. These include “golden parachutes,” generous severance packages, company-provided perks, and bonuses that are unrelated to firm performance.

Stock options have been the fastest growing portion of executive pay since the 1990s, and critics believe this pattern can also be explained through the prism of stealth compensation. Rewarding executives with employee stock options was often justified in terms of the “pay for performance” mantra, but options are usually designed to reward absolute, not relative, performance. This means that in the bull market of the 1990s, when virtually all stock prices were rising, a company could fall behind its competitors and its executives could still receive handsome options payouts. Indeed, a sizeable portion of the increase in executive pay in the 1990s was likely due to options that turned out to be much more valuable than expected because of the unprecedented price increases of the bull market.

Many of the recent corporate scandals appear consistent with stealth compensation as well. Stock options backdating, earnings manipulation, and accounting fraud might have been motivated by attempts to covertly increase executive pay. If short-term fluctuations in the stock price are not good proxies of firm performance, then tying compensation to the stock price can create incentives for executives to engage in activities that are detrimental to shareholders.

Policy proposals mostly focus on improving transparency, increasing board independence, and strengthening shareholder control rather than attempting to curb pay directly. H.R. 1257 would give shareholders a nonbinding vote on executive pay. Another proposal would modify the limit on deductibility of executive pay from corporate taxation. More broadly, income inequality could be reduced by increasing the progressivity of the tax system. For current developments and legislation, see CRS Report RS22604, *Excessive CEO Pay: Background and Policy Approaches*. 
# Contents

Introduction ........................................................................................................... 1

Data on CEO Pay ................................................................................................. 4

The Economics of Executive Pay ................................................................. 6
  How Executive Compensation Is Set ............................................................ 7
  Executive Pay in the Neo-Classical World .................................................. 7
  The Principal-Agent Problem and the Free-Rider Problem ......................... 9
  The “Managerial Power” Critique of the Neo-Classical Model ................... 10
  Board “Capture” ............................................................................................ 10
  Stealth Compensation and Outrage Costs .................................................. 12
  Performance Based Pay: Part of the Solution or Part of the Problem? ........... 14
  Criticisms ...................................................................................................... 19
  Executive Pay in the 1990s: Being in the Right Place at the Right Time? .... 21
  Can “Excessive Pay” Be Empirically Measured? .......................................... 23

A Brief History of the Regulation of Executive Pay ...................................... 25
  The Omnibus Budget Reconciliation Act (OBRA) of 1993’s Cap on the Deductibility of Executive Compensation ................................. 26
  The Sarbanes-Oxley Act .............................................................................. 26
  Requirement that Shareholders Approve Equity-Based Compensation Plans for NYSE and Nasdaq Listed Firms ........................................ 27
  Requirement that NYSE-Listed Companies Have Compensation Committees Solely Composed of Outside Directors .............................. 27
  FASB’s Options Accounting Rule ............................................................... 28
  SEC Rules on Disclosure of Executive Pay .................................................. 28

Policy Options .................................................................................................... 29
  Maintain the Status Quo ............................................................................... 30
  Eliminating or Significantly Restricting OBRA .......................................... 30
  A Cap on the Deductibility of Executive Pay When It Exceeds a Certain Ratio of Non-Managerial Pay ......................................................... 31
  Disclosure of Corporate Services Provided by Firms Affiliated with Compensation Consultants or a Ban on Such Services ............................. 32
  Increase Shareholder Roles in the Election of Board Members .................. 32
  Give Shareholders a Non-binding Vote on Executive Pay ......................... 34
  Increase the Progressivity of the Tax Code .................................................. 34

Appendix. A Primer on Stock Options .............................................................. 36

# List of Figures

Figure 1. Median CEO Pay at the 350 Largest Publicly-Held Companies ...... 5
Figure 2. S&P 500: Actual and Projected Based on Historical Average, 1995-1999 ................................................................. 22
The Economics of Corporate Executive Pay

Introduction

For years, many observers have characterized the annual pay packages awarded to the executives and chief executive officers (CEOs) of the nation’s largest firms as excessive. According to one estimate, the total median CEO pay at the nation’s 350 largest publicly-owned firms grew from $2.7 million in 1995 to $6.8 million in 2005.1 The overall increase in CEO pay has outstripped inflation and the growth in non-managerial pay over the same period, fueling criticism of executive compensation packages.

Among the quite vociferous critics of executive pay are public officials, academics, shareholders, and some Members of Congress. For example, William J. McDonough, chairman of the Public Company Accounting Oversight Board, has said that there is “... nothing in economic theory to justify the levels of executive compensation that are widely prevalent today.”2 Warren Buffett has observed that “...it’s difficult to overpay the truly extraordinary CEO of a giant enterprise. But this species is rare.”3 Former Securities and Exchange Commission (SEC) Chairman Arthur Levitt, Jr. has written that “these huge paydays, I believe, undermine corporate governance and send a signal that boards are willing to spend shareholders’ money lavishly...”4 In addition, a 2006 survey found that 90% of institutional investors, who are the largest owners of outstanding domestic corporate shares, said that executives at most companies are overpaid.5

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1 See “Testimony of Frederic W. Cook & Co. before the House Financial Services Committee on Executive Compensation,” May 25, 2006. Cook & Co.’s data were provided by Mercer Human Resources Consulting. Total pay includes salary, bonuses, deferred compensation, and incentive pay such as stock grants and stock options. The median measurement is the middle observation in the sample, if an average had been used instead, both figures would have been higher. There are no official estimates for executive pay; however, private estimates have been made based on data that public corporations are required to file in their annual statements.


There are also a number of current examples of congressional concerns over executive pay. For example, the version of H.R. 2 (the minimum wage bill) passed by the Senate on February 1, 2007, included several tax provisions, one of which applies to executive pay. Current tax rules permit individuals to defer taxes on income that is held in non-qualified deferred compensation plans. Under the Senate version of H.R. 2, an individual could defer no more than $1,000,000 annually from taxable income by contributing to such a plan. The version passed by the House had no similar provision. Arguing for the cap, Chairman Max Baucus of the Senate Finance Committee, which unanimously passed the tax provisions that became part of the Senate version of H.R. 2, observed:

Rank-and-file workers generally have to pay taxes on their compensation when they earn it. The exception is deferred compensation provided through qualified retirement plans with statutory limits on contributions and benefits. A 401(k) is the best example. Management, on the other hand, has no limit on the amount that can be deferred to nonqualified arrangements — no limit...

With respect to CEO pay, Chairman Barney Frank of the House Financial Services Committee said that:

I do not think the boards of directors work as effective independent checks. They are not the fox guarding the hen house. They are the hens guarding the rooster. And I think the time has come to say we need the shareholders to do this..."

In the 110th Congress, Representative Frank has introduced the “Shareholder Vote on Executive Compensation Act” (H.R. 1257), which would require publicly-held companies to hold annual non-binding shareholder votes on their executive compensation plans and any new “golden parachute” compensation offered to executives during mergers and acquisitions.

Critics argue that excessive executive pay can be traced to the fact that the members of corporate boards are not sufficiently independent of managerial influence. In this view, boards formulate executive pay packages that often allow executives to extract hefty compensation deals that bear little relationship to their contribution to the firms. In addition, if corporate executives are overpaid, other potentially significant concerns include the following:

- **Issues over pay inequality and worker productivity.** According to one estimate, between 1994 and 2005, the ratio of annual median CEO pay to median production worker pay nearly doubled, growing

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7 [Congressional Record: January 24, 2007 (Senate)] [Page S1011-S1048] From the Congressional Record Online via GPO Access [wais.access.gpo.gov] [DOCID:cr24ja07-114]

from 90 to one to 179 to one. Indeed, for many workers, the perceived excessiveness of executive pay has become the most visible embodiment of growing pay inequality, contributing to a feeling that workers have not shared in the gains from economic growth. For example, adjusted for inflation, average worker pay rose 8% from 1995 to 2005; median CEO pay at the 350 largest firms rose about 150% over the same period. And while it is very difficult to quantify the impact of executive pay packages on worker morale and productivity, there are concerns that both could be affected detrimentally. For example, there have been several high profile stories of executives who have laid off employees at the same time their own compensation was rising.

- **A potentially negative direct impact on shareholder returns.** If executive compensation has been receiving a share of corporate resources that far exceeds the executives’ contribution to the firm’s value, shareholder returns may be compromised. Although not directly addressing the issue of whether increases in executive pay have been accompanied by commensurate increases in their value to the firms, one study compared the total pay given to the top five executives relative to corporate earnings at S&P 1500 firms between 1993-1995 and 2001-2003. It found that the ratio of executive pay to aggregate corporate earnings doubled between the two periods.

- **A potential proxy for sub-par board performance in monitoring executives.** When a corporate board is unable to get a handle on excessive CEO pay, it may be a sign of the board’s failings in its central role of corporate governance.

- **A purported link between excessive executive pay and the corporate scandals of recent years.** Critics argue that a misalignment of incentives from executive pay helps explain the occurrence of scandals involving stock options backdating, accounting fraud, and earnings manipulation.

But this “managerial power” perspective of how flawed corporate governance serves to inflate CEO pay is at odds with an alternative notion that the increase has largely been a function of natural market-driven changes in the demand and supply for CEOs. For example, during a 2006 interview with *The Wall Street Journal*, then Treasury Secretary John Snow observed that “in an aggregate sense... [CEO pay] reflects the marginal productivity of CEOs.... Until we can find a better way to...

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10 As measured by the Bureau of Labor Statistics data series on average earnings of production and non-supervisory workers.

compensate CEOs, I’m going to trust the marketplace.” 12 Like Secretary Snow, others argue that market forces are more likely than government to solve any problems that do exist with excessive pay. In his state of the economy address on January 31, 2007, President Bush said:

Government should not decide the compensation for America’s corporate executives, but the salaries and bonuses of CEOs should be based on their success at improving their companies and bringing value to their shareholders. America’s corporate boardrooms must step up to their responsibilities. You need to pay attention to the executive compensation packages that you approve. You need to show the world that American businesses are a model of transparency and good corporate governance.

Whether or not policy intervention is merited to tackle the issue of executive pay will depend on whether the managerial power or the market-based view of executive pay is the accurate one. Given congressional concerns with the potentially serious implications of excessive executive pay, this report examines critical and supportive evidence surrounding the premise that the executives are generally overpaid from an economic perspective. The report also provides a brief history of executive pay regulation and analyzes policy options. But first, the report looks more closely at the available data.

Data on CEO Pay

Median CEO pay began its rapid rise in 1993. As seen in Figure 1, it rose 35% in 2001 alone, which would later prove to be the high point. The current economic expansion has not been as favorable to CEOs. Contrary to popular belief, executive pay does not always rise — following the large decline in stock prices, median pay fell 13% from 2001 to 2002. Since then it has made up lost ground, and median pay in 2005 was nearly equal to its 2001 peak. The 1990s were not the first time that CEO pay had risen rapidly; it also rose by about one half from 1982 to 1987. 13

As important as the trend in the level of CEO pay is the trend in the composition of CEO pay. Since 1995, median annual cash salary has risen relatively slowly, from $0.7 million in 1995 to $1 million in 2005. But over the same period, median performance-based pay, which includes stock and stock option grants, grew 13% a year, from $1.3 million to $4.4 million. As will be discussed later, the role of stock and stock options in executive pay helps explain why it rose so quickly in the 1990s, and why it fell in 2002.

The disparity between the pay given to U.S. executives relative to the compensation awarded to CEOs in other nations is often mentioned as evidence that American executives are overpaid. For example, controlling for various firm characteristics such as size, one study examined pay for CEOs in the U.S. and the United Kingdom (UK) in 2003. It found that CEO pay in the U.S. to be about 1.3 times that of CEOs in the UK and argued that a significant portion of the greater U.S. CEO pay could be attributed to the higher proportion of equity-based pay, such as stock options, in the United States, and the higher risk premiums associated with such pay.\textsuperscript{14} Research on Japanese executives found that after controlling for firm size, their pay constituted about a third of the pay of their U.S. counterparts in 2004.\textsuperscript{15} However, in Japan, the UK, and other many other nations of the developed world, there are reports that CEO pay levels abroad have been slowly converging with the United States over time.\textsuperscript{16}


\textsuperscript{16} For example, see Eric Wahlgren, “Spreading the Yankee Way of Pay,” Business Week online, Apr. 18, 2001.
High and rising executive pay could be a cause for policy concern on efficiency grounds or on equity grounds. Current pay levels would be economically inefficient if they resulted from a market failure that prevented pay levels from reflecting an equilibrium between supply and demand in the labor market for executives. If so, a policy response might be justified on the grounds that resources could be allocated in the economy more efficiently. However, even if pay levels were the result of perfect competition, policymakers could still be concerned that high executive pay resulted in an inequitable distribution of wealth that had negative social ramifications. The grounds for concern about executive pay matters greatly in determining the appropriate policy response. If current pay levels are economically efficient, then policy responses that disrupted the market outcome would lead to a misallocation of resources and deadweight loss by distorting people’s career choices. Rather than targeting executive pay specifically, a more economically efficient response to address equity concerns would be through the normal channels of government redistribution, such as the progressivity of the tax system and social welfare spending (although it should be noted that these channels create efficiency tradeoffs of their own). Equity concerns are, at heart, matters of competing societal values for which economic theory cannot offer definitive answers. The non-economic gains of policies to improve equity would need to be balanced against their economic costs.

Some economists argue that the trend in executive pay is not just an equity issue, it is the result of market imperfections that allow executives to manipulate the market outcome. If this is the case, then executive pay is causing resources to be misallocated to an extent that is, arguably, non-negligible. For example, one study estimated that the compensation of the top five executives averaged 6.6% of total corporate earnings from 1993 to 2003. Of course, only a fraction at most of this compensation is “excessive.” (The definition of excessive pay is discussed in a later section.) Whether or not “excessive pay” is a negligible share of total corporate earnings depends on what fraction of the 6.6% is “excessive.”

How Executive Compensation Is Set

In publicly-owned firms, the shareholders’ interests are represented by the board of directors. The board of directors is responsible for setting and approving the compensation for the CEO and the top executives of publicly-owned firms. In a majority of publicly traded U.S. firms, the CEO also serves as chairman of the board.

Since shareholders’ interests are represented by the board, shareholders have little direct say in setting executive compensation. Generally, the broad details of equity-based compensation plans must be approved by shareholders before they are implemented. Otherwise, the shareholders must approve the directors when they are nominated and re-nominated, and the board’s decisions on compensation are one of a number of factors that shareholders take into account when determining whether or not to approve a nomination.

Boards typically cede the setting of executive pay to the compensation committee, a board committee generally composed of outside directors who are not employed by the firm. The compensation committee recommends executive pay packages to the board for approval. To help guide the committee in the setting of executive pay, corporations often hire outside pay experts known as compensation consultants. Central to the advice that they provide to the firms is a survey of compensation levels and practices at so-called peer firms.

Executive Pay in the Neo-Classical World

In a “neo-classical” model of perfect competition, the compensation of an executive (or any worker) is determined by the executive’s marginal product. In other words, the executive will be paid just as much as the revenue he contributes to the firm. If the firm tries to pay him less than his marginal product, he will seek employment elsewhere. If the firm tries to pay him more, it will be undercut by competitors (who are paying their executives at a competitive rate) and become unprofitable. A number of economists and business experts believe this world view is a reasonable facsimile of reality. For example, Roy Smith, a professor of finance at New York University, has written that

The best chief executives have proven track records demonstrating management ability in large, complex corporate situations. Such people are always in demand. But most get only one shot at being a CEO, and they want to make the most of it. They also know that the rate of CEO turnover at large corporations has increased significantly in recent years, and that 50 percent of departures are the result of mergers or performance issues. If things go wrong, their contracts may

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19 In economic theory, perfect competition exists in a market with many buyers and sellers, no barriers to entry, and perfect information, and when the costs and benefits of the transaction are completely borne by the buyer and seller.
be all they have to hang on to, so they negotiate the best ones they can going in.... Today’s CEOs are paid well when they deserve to be (and sometimes when they don’t), but most corporate directors will tell you that over the past 20 years, public companies have become better managed, with increased profit margins, productivity and returns on investment... 

In this model, high pay is not a sign of an executive being overpaid, it is a sign that the executive is highly productive. It therefore follows that the burden of proof should be on critics to show that the high level of executive pay is not simply a reflection of the executive’s strong skills, hard work, and successful business strategies. Nor, from this perspective, is the relative increase in executive pay compared to worker pay necessarily a sign of excessive pay. The superior performance of U.S. firms on average over the past decade, relative to foreign firms and U.S. firms in the past, could be taken as evidence in favor of the neo-classical model. It could also be that the increase in pay is driven by a relative increase in the demand for executives. If running a company requires more skill now than in the past — because, for example, markets are now more competitive or firms are more complex — it would be expected in a neo-classical world that firms would be willing to pay more now in order to attract these skills. For example, economists have described a “superstar effect,” where the pay of entertainment celebrities rose once their market draw increased through the development of mass media. Because so much of the market is captured by a few individuals, small differences in talent or public preferences lead to large differences in pay. Some economists have suggested a similar effect may be at work in the market for executives: as firms have gotten larger and begun to operate in a global rather than domestic market, the value that executives can add to a firm has increased, and their compensation has followed suit. Using this logic, one study concluded that “the six-fold increase of CEO pay between 1980 and 2003 can be fully attributed to the six-fold increase in market capitalization.” 

In the neo-classical model, executive pay is held in check not just by competition in the labor market for executives, but also by competitive forces in capital markets and the firm’s product markets. The key point made by this model is that for an executive to be overpaid, the firm must be generating excess profits that the executive is able to skim off, and in a world of perfect competition, no excess profits (profits beyond a normal, risk-adjusted rate of return) exist for the executive to capture. (It could be argued that the amount the executives are skimming off is

22 In the study, Gabaix and Landier present a theoretical model showing that with scarce CEO talent, CEOs pay would increase when firms get larger. They believe this explains why pay has risen over time and why it is higher on average in America than abroad. Xavier Gabaix and Augustin Landier, “Why Has CEO Pay Increased So Much?”, National Bureau of Economic Research working paper 12365, July 2006.
23 Most economists believe that markets are typically better described by a model of (continued...
too negligible to affect the firm’s profitability; but, if so, excessive compensation is presumably of rather minor importance.) There is ample evidence that capital markets and most product markets are efficient, so for executives to be overpaid without placing their firms at a competitive disadvantage, there must be something in the compensation arrangement that is placing most firms at the same disadvantage. Otherwise, the company would be unable to raise sufficient capital or become vulnerable to a hostile takeover. In a world of perfect competition, there is no need to try to measure whether executives are overpaid, because excessive pay is an unsustainable outcome that would be driven out by market forces. For executives to be overpaid, something must be impeding the efficient market allocation of resources. Economists who have argued that executives are overpaid have pointed to the principal-agent problem as the market failure that could lead to executives being widely overpaid.

The Principal-Agent Problem and the Free-Rider Problem

The principal-agent problem is a well-known market failure that exists when a principal’s (owner’s) interests are represented by an agent (in this case, the CEO) whose goals or incentives diverge from the principal, and the principal is unable to closely enough monitor the agent to keep their interests aligned. The agent could be pursuing any number of private interests, including minimizing his own effort, maximizing his own reputation (by unprofitably expanding the firm, for example), covering up his own mistakes, minimizing risk, and so on. The key point is that the agent is not always pursuing the principal’s goal: profit maximization. Profit maximization is in the agent’s self-interest only insofar as it maximizes his own compensation or well-being. Yet there is a tradeoff, since an increase in the agent’s pay decreases the company’s profits, all else equal.

For a publicly listed corporation, the principal-agent problem is particularly hard to avoid because of another well-known market failure: the free-rider problem. For a publicly listed corporation, the (collective) principal is the firm’s thousands of shareholders. Assuming for a moment that barriers to shareholder action (which will be discussed below) did not exist, it is still unlikely that shareholders could avoid the principal-agent problem because it would be highly costly for any individual shareholder or group of shareholders to monitor the agent. Any benefits that resulted from monitoring the executives would not be captured solely by the shareholders undertaking the monitoring; they would flow to all shareholders. Hence, it is in any individual shareholder’s self-interest to leave monitoring the executives to other shareholders since that will lead to the same benefit with none of the cost of personal

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21 (...continued)

imperfect competition, where firms have some market power, than perfect competition, but the results for both are the same. In a model of imperfect competition, there are no barriers to entry, so firms are still not generating excess profits that executives could potentially skim off. Some economists argue that even in markets where one firm wields significant market power, the threat of potential entry is enough to keep the firm from collecting significant excess profits.

24 Admittedly, there are barriers to corporate takeovers, such as “poison pills,” that make the takeover market less than perfectly efficient as well.
monitoring. As a result, every shareholder chooses not to monitor, and this is the essence of the free-rider problem.

In theory, the firm’s board of directors is meant to safeguard the shareholders’ interests and monitor the firm’s executives: the free-rider problem has been overcome by the shareholders banding together and appointing a board to represent them. But does the board really represent the shareholders’ interests? For the board faces a principal-agent problem of its own: since each board member’s financial stake in the firm typically makes up a negligible share of the firm’s total value, the board members may also have an incentive to pursue private interests other than profit maximization. This incentive opens the door to a number of ways in which the executives could “capture” the board so that the board members were not truly “independent,” as will be discussed below.

In this context, it is easy to see how an endemic problem of overpaying executives could potentially arise. Since neither the executives nor the board are acting solely in the shareholders’ interests, they may agree to pay the executive more than his marginal product. Since executives at competing firms are also overpaid, the firm’s performance would not fall behind its competitors. If the burden of proof is on critics to prove that the real world outcome does not match the neo-classical ideal, then the “managerial power” critique, discussed in the following section, attempts to make a comprehensive case that the principal-agent problem has led to excessive executive pay.

The “Managerial Power” Critique of the Neo-Classical Model

Does the neo-classical or the principal-agent model more accurately describe executive pay setting in the United States today? In support of the principal-agent model, law professors Bebchuk and Fried (hereafter, BF) have set out a “managerial power” critique, which identifies the numerous ways in which the structure of executive pay and the relationship between the executive and the board differs from the neo-classical ideal. Although the managerial power critique cannot numerically estimate how much executives are overpaid, BF argue it is prima facie evidence that executives are paid excessively and pursue the goal of maximizing pay rather than shareholder value. The primary elements of the managerial power critique are laid out below.

Board “Capture”. The neo-classical model assumes that executive pay is determined through “arm’s length contracting”: in negotiating the executive’s pay,


the board of directors (typically through its compensation committee) is charged with driving the best bargain it can obtain on behalf of shareholders. BF argue that the typical board structure has little in common with this ideal. In many corporations, the CEO is also the chairman of the board and other company “insiders,” who may be loyal to the CEO, serve on the board. BF argue these arrangements are susceptible to the boards being “captured” by the executives.

Some fears of board capture were allayed in 2003 when the NYSE required that boards of its listed companies have a majority of outside directors, and the boards’ nominating, compensation, and audit committees consist solely of outside directors. (The NASDAQ has similar rules, except for those pertaining to the compensation and nominating committees.) But even “outsiders” who serve on the board may owe their positions — and hence, BF argue, their allegiance — to the CEO. For example, the only candidates who appear in the official proxy given to shareholders for election are individuals selected by the board’s nominating committee. It is commonly perceived that the CEO strongly influences the nominating committee’s selections. Shareholders can withhold support from a director but cannot vote against a director, which means that a director technically needs only one favorable vote to be elected. There are few ways that the shareholders can directly select members of the board. Alternative directors proposed by shareholders are costly, difficult, and rare.

Board members may feel that they must keep on the CEO’s “good side” in order to be re-nominated when their terms expire. Furthermore, board members are frequently executives at other corporations, which may make them predisposed to view executive compensation requests favorably and may make them hesitant to be critical board members since their criticisms could be used against them at their own companies. Boards are also dependent on executives to furnish them with information and advice in order to fulfill their duties, and must maintain the executives’ good will in order to receive this information. In fact, the CEO compensation packages that boards approve typically originate from the company’s human resources department, which, of course, is subordinate to the CEO.

If boards are captured by the executives, one would expect that arm’s length bargaining would be compromised. There is evidence that less independent boards are correlated with higher executive pay, all else equal. Some studies have shown that CEO pay is 20%-40% higher when the CEO is also the chairman of the board.

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27 The literature is surveyed in Kevin Murphy, “Executive Compensation,” in Orley Ashenfelter and David Card, eds., Handbook of Labor Economics, vol. 3B, Elsevier Publishers (Amsterdam: 1999), p. 2485. Although most studies found that greater board independence leads to lower executive pay, one study found that a higher proportion of independent directors (who are less likely to be captured by the executives) led to higher pay for the CEO and top five executives. Wan also found that firms with more independent directors perform no better than firms without. Kam-Ming Wan, “Independent Directors, Executive Pay, and Firm Performance,” EFMA 2003 Helsinki Meetings, working paper, 2003.

28 See Richard Cyert, et al., “Corporate Governance, Takeovers, and Top-Management (continued...
One study showed that executive compensation is higher when the CEO picked the board’s outside directors.29 There are studies that found that executive pay is lower in situations where shareholders have more influence over the board — for example, when there is a single large shareholder or institutional shareholders with a significant ownership position.30

Companies often hire outside compensation consultants to help them determine the level and characteristics of the executive compensation package. But BF argue that these consultants can also be “captured” by management because the consultants are eager for more business from the firm (including business unrelated to executive compensation); as a result, they tell the executives what they want to hear.

If shareholders thought that the board was allowing executives to be overpaid, institutional barriers would limit their influence over the board. The general terms of the company’s overall performance-based compensation packages, such as stock options plans, may be subject to an up or down vote by the shareholders, but shareholders cannot modify the details of the package or offer alternatives. Only fifteen of 2000 options plans were voted down by shareholders from July 1997 to June 1998.31 Shareholders can introduce resolutions on executive pay, but even if they attract a majority of voters, the resolutions may not be binding.32

**Stealth Compensation and Outrage Costs.** BF argue that one of the main constraints on executive compensation levels are “outrage costs” — a fear on the part of executives that if their compensation is too excessive they will face hostility from shareholders and negative publicity from the media.33 BF argue that outrage costs have two effects. First, they reduce executive compensation levels

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28 (...continued)


below what they would otherwise be. (This factor works to the extent that outrage exists — BF argue one reason why executive pay rose in the late 1990s is because CEOs were exalted during the stock market boom, causing outrage costs to diminish.)

Second, they encourage executives to seek “stealth compensation” — compensation delivered in a form that is difficult for shareholders and the public to understand — in order to avoid outrage. “Golden parachutes,” generous severance or retirement packages (details of which do not have to be disclosed beforehand), “golden hellos” (additional incentives to join a company),34 life insurance, deferred compensation, personal loans (before the Sarbanes-Oxley Act), bonuses that are not linked to company performance, and company-provided perks in the form of vehicles, aircraft, and club memberships are all examples of stealth compensation.

BF believe that the rapid growth in executive stock options is explained by the desire for stealth compensation. From a neo-classical perspective, it is difficult to understand why stock options are awarded rather than stock — when the options are too far “underwater” (the stock price is below the option’s strike price35), there is no incentive effect, and when it is close to the strike price, executives may be extremely risk averse for fear that the option will fall below the strike price. After they are exercised, options cease to have any influence on executives’ behavior. And options, unlike stock, are not necessarily aligned with the shareholder’s interest since they discourage the payment of dividends (i.e., the money can be used to buy back the stock to boost its price instead). But BF argue that from the managerial power perspective, the prevalence of stock options is logical because accurately pricing options at the time they are granted is complex and controversial. Until recently, options were not expensed on a firm’s balance sheet, so some argued this treatment made their effect on shareholder value less transparent. Stock options may also be a way to increase compensation without generating as much shareholder outrage since options are worth more when the stock price is high and shareholders are doing well, without exposing the executives to any risk when the share price falls below the strike price.

BF also attribute the “ratcheting up” of executive pay to outrage costs. Executive pay is often set relative to some (self-selected) peer group, typically identified by the compensation consultant. To justify compensation levels, the board sets CEO pay somewhat higher than the industry average, reasoning that its executive is an above average performer (which critics have compared to the mythical “Lake Wobegon,” where all of the children were above average.)36 Of course, it is mathematically impossible for everyone’s performance to be above average, but as long as compensation is close to the industry norm, shareholders are unlikely to


35 The strike price is the predetermined stock price at which the option allows the stock to later be bought. For a basic primer on stock options, see the appendix.

complain and the company is unlikely to attract unwanted publicity. But if each executive is having their pay set above the average, then the average will rise over time — inadvertently, the practice will cause pay to be ratcheted up to levels that may have little to do with marginal product. If pay levels are set based on peer groups, they will also be insensitive to performance, the subject of the next section.

**Performance Based Pay: Part of the Solution or Part of the Problem?** In the 1980s and early 1990s, many academics complained that executives were well compensated regardless of whether their firm performed well or poorly. In a much cited article, Jensen and Murphy argued

> The relentless focus on how much CEOs are paid diverts public attention from the real problem — how CEOs are paid. In most publicly held companies, the compensation of top executives is virtually independent of performance.... Is it any wonder then that so many CEOs act like bureaucrats rather than the value-maximizing entrepreneurs that companies need...?37

According to their estimates, a $100 increase in firm value led to a 26 cents median increase in CEO wealth, of which cash compensation rose only 4 cents.38 They argued that the way to solve the principal-agent problem was to align executive incentives with profit maximization by making compensation more sensitive to the firm’s performance. (They estimated executive compensation was no more sensitive to firm performance than workers’ wages.) One way to accomplish this goal was through performance-based bonuses. Another way was by compensating executives with firm stock or stock options, so that when executives made decisions that made the firm more profitable, the firm’s stock price would rise, causing the value of the executive’s compensation to rise. In theory, executives would no longer wish to pursue private goals that undermine firm profitability because it would reduce their compensation.

The authors argued that if pay were more closely linked to performance, average pay would probably rise because bad executives would be forced out, more talented individuals would be drawn to managing, executives would be motivated to work harder, and firm performance would improve. In addition, pay would need to be higher if it were riskier (since incentive-based pay would fall if the executive missed the performance benchmarks) because individuals must be compensated to take on risk. They argued that performance-based pay could exacerbate inequality but society as a whole would be better off overall.

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While most studies confirmed that cash pay and bonuses were fairly unresponsive to firm performance, the literature is divided about the relation of total pay to performance, once executive stock holdings and stock options are included. For example, Hall and Liebman argue that pay for performance rose throughout the 1980s and early 1990s because of the rising share of compensation that consisted of stock and stock options. They estimate that CEO wealth rose about sixty cents for every $100 increase in firm value in 1994, significantly higher than Jensen and Murphy’s earlier estimate. Furthermore, they argue that executive pay is much more sensitive to performance than Jensen and Murphy’s measure implies because the firms involved are so large that even if the ratio of the change in wealth and the change in firm value is small, the dollar change in wealth is very large. For example, they estimated that a CEO who increased the performance of his company from below average to above average would increase the median value of his stock holdings by $4 million, all else equal. Similarly, Core et al estimated that the median portfolio value of an S&P 500 CEO’s own firm holdings was $30.1 million in 2003, and a 1% change in the firm’s stock price would cause the median portfolio value to change by $430,000.

In the context of this report, this shift to so-called “performance-based” pay turns out to be important because it was the source of most of the rise in executive pay in the 1990s and 2000s. The estimated value of options granted to CEOs (at the time of the grant) increased nine-fold from 1992 to 2000, while other types of compensation rose three-fold over that period.

**Pay for Performance or Managerial Power?** BF argue that the growing share of non-cash executive compensation should not be taken as a sign that pay is now tied more closely to performance. The managerial power critique identifies several standard components of executive pay that may appear to be performance-based pay, but arguably allow executives to circumvent the link between pay and performance in practice.

For example, severance packages often handsomely reward executives for leaving their jobs, on good or bad terms. These packages have only negative effects on incentives since they send the message that regardless of whether an executive succeeds or fails, he will be rewarded after the fact. Bonuses should be an important part of performance-based pay, but studies have found that instead they are often paid for reasons unrelated to profit maximization.

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BF identify several common characteristics of stock options that seem inconsistent with the pay for performance mantra. Stock options are almost always designed to reward absolute performance rather than relative performance.\textsuperscript{42} For example, if a company’s stock price rises by just as much as the overall market, then the executive’s compensation will have risen because of trends largely beyond his control. Even if a company is outperformed by its competitors, the options could still have value in a bull market since “a rising tide lifts all ships.” Furthermore, stock options are usually granted “at the money” (they have a strike price equal to the market price at the time the option is granted). Since stocks usually rise over time, this will generally reward executives for doing nothing, a phenomenon Warren Buffett characterized as “a royalty for the passage of time.”\textsuperscript{43} Once exercised (usually after a vesting period), the options no longer provide executives with any incentives.

There is also a more basic question to ask: in instances where firms offered incentive-based pay, why did it typically supplement rather than substitute for cash salary? The thrust of the pay for performance argument was that executives should be paid differently, but in practice they were also paid more. Instead of rewarding good executives and punishing incompetent executives as many academic observers prescribed, everyone was made better off.

Besides pay, some argue that executives have a degree of job security that is at odds with the pay for performance mantra. For example, Murphy found that the correlation between firm performance and CEO turnover was low and fell in the 1990s to a statistically insignificant relationship.\textsuperscript{44} CEOs also have more contractual job protection than employees: Schwab and Thomas found that only 25 of 375 of the CEOs they examined served “at will,” like regular employees, while the remainder could only be dismissed without penalty for “just cause.”\textsuperscript{45}

**Pay for Performance and Corporate Scandals.** The corporate scandals of recent years have brought greater scrutiny to executive pay practices, particularly stock-based and option-based compensation. Linking compensation to the stock price can only mitigate the principal-agent problem if the stock price is an accurate proxy for firm value. The assumption that it is a good proxy is at the heart of the efficient market hypothesis, and most economists would consider it true over long

\textsuperscript{42} Linking options to relative performance would require a more complex derivative than the standard options offered now. For example, instead of giving the option a fixed strike price, the strike price could be set relative to the prevailing value of a stock index. A shift to options based on relative performance could cause executive pay to rise because the holder would demand more options to offset the greater risk, making them more expensive for the company to offer.


periods of time. But it is difficult to argue that the stock price is a good proxy for firm value over short time periods when stock prices tend to fluctuate widely and unpredictably, implying that the value of the firm can fluctuate by millions or even billions of dollars in a matter of days. If it is not a good proxy, a potential problem arises because the agent’s incentive is linked to a goal that is not perfectly aligned with the principal’s interests. In other words, the agent can increase his compensation by taking advantage of — or even causing — short-term changes in the firm’s stock price, which could be detrimental to the long-term performance of the firm. Unsurprisingly, the agent may decide to take actions that boost the short-term stock price when the firm’s long-term prospects are bleak. In this situation, the large stock and stock option holdings of the typical executive arguably offer a powerful incentive to take actions to boost the stock price long enough to divest one’s stock holdings. In this context, performance-based pay exacerbates the principal-agent problem.

This problem was the essence of many of the corporate scandals that followed the 2001 recession. Some of the scandals involved executives pumping up the firm’s stock price by manipulating reported earnings in order to increase their performance-based pay (or prevent it from falling).

Other scandals revolved around executives attempting to hide financial problems from the public to prevent their stock and option holdings from losing value. In other cases, executives used inside information to exercise their options before the firm’s share price fell. Likewise, the ongoing scandal involving the backdating of stock options revolves around executives retroactively manipulating the timing of the option grant to a day when the firm’s stock price was unusually low in order to increase the option’s value when it is exercised. These scandals suggest that, on balance, the principal-agent problem seems to have survived the shift to performance-based pay intact. In fact, the growth of performance based pay and accounting problems seems to have gone hand-in-hand — 700 firms issued financial restatements from 1997 to 2000, compared to 11 from 1992 to 1993, when performance-based pay was less prevalent. Burns and Kedia find that firms whose executives have a higher share of option-based compensation are more likely to restate their earnings.

While the incentives for executives to manipulate earnings seems straightforward, the rationale for the board’s failure to prevent it seems less clear: the board would not profit substantially from manipulation and could face high costs

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47 For more information, see CRS Report RL33926, *Stock Options: The Backdating Issue*, by James M. Bickley and Gary Shorter.


50 The notion that board members would not benefit from manipulation by executives was questioned in a recent study that found that outside directors also received stock options whose timing was characteristic of back dating in 9% of all cases. Lucian Bebchuk et al., (continued...)
if the manipulation is detected, unless “board capture” has occurred or the board is operating under the same short-term time horizon as the executives. Of course, the board may have been unaware of the executives’ actions, but that may raise the question of why it did not monitor the executives more closely. There may also be a human tendency to use less scrutiny when results appear positive.

Although the corporate scandals that have unfolded over the past few years may not be proof of the managerial power theory, they can be shown to be consistent with it. Boosting pay through accounting fraud and earnings smoothing is consistent with executives’ desire for stealth pay. Bergstresser and Philippon show that at firms that appear to have managed earnings, executives exercise options and sell stock at a higher rate than average and have a greater share of performance-based pay. The failure of the board to prevent such activities is consistent with board capture. Allowing executives to exercise their options at their discretion (after a vesting period) is primarily what made accounting fraud and manipulation profitable, yet there is little purpose in allowing options to be exercised at will if the options are meant to keep the executive’s interests aligned with the shareholders’ on an on-going basis. It is also difficult to see why firms would allow backdated options except to mask the true size of executive compensation (relative to the “performance” required to earn the compensation). Firms could have legally paid executives just as much by either issuing them more options or options with a lower strike price, but doing so would have drawn more attention from shareholders and the media. One study found that favorably dated option grants, potentially caused by backdating, was one-third more likely at firms where independent directors did not make up a majority of the board.

50 (...continued)

51 Bolton et al. derive a model where earnings manipulation may be in the shareholders’, and by extension the board’s, self interest. In their model, it is possible for the CEO to artificially increase the stock price temporarily above its fundamental value. The CEO can then exercise his options and profit from the artificially high price before the price falls back to its fundamental value. This arrangement could suit current shareholders since they could sell while the stock price is inflated and profit at the expense of future shareholders (who buy the stock at the inflated price). This reasoning could also be applied to the board, since it represents the interests of current shareholders but not future shareholders. Patrick Bolton, et al, “Pay for Short-Term Performance,” National Bureau of Economic Research, working paper 12107, Mar. 2006. Bolton et al argue that, contrary to the “managerial power” thesis, reloading options and revaluing options that are underwater may help keep managers’ incentives aligned with the interests of future shareholders.


**Criticisms.** Criticisms of the managerial power theory can be split into two broad categories, disagreements with BF’s findings and alternative explanations for the phenomena that BF identify. On their findings, critics have disagreed with

- If pay were determined by managerial power, then executives hired from the outside should not receive the same generous pay packages as insiders, but they do.  BF reply that the board and compensation consultants have the same incentive to reward someone who will have influence over their welfare in the future as they do over someone who can influence it now.

- BF’s claim that executive pay is not well linked to performance. As noted above, some studies have argued that executive pay is highly sensitive to performance because of their large holdings of their firm’s stocks and options, which gives them powerful incentives to maximize the firm’s profitability.

- BF’s ability to explain the change in executive pay over time. First, BF’s theory depends on the CEO’s ability to “capture” the board so that it does not act in the shareholders interests. Yet boards have become more independent and active in recent years.  For example, in 2003 the NYSE and Nasdaq required that a majority of a company’s directors must be independent in order to be listed on their exchanges. Second, changes to SEC rules required more disclosure of options granted to executives in 1992 — at the very time that options began to increase in value. This pattern seems at odds with BF’s argument that executives prefer options because they are a form of stealth compensation. Third, Murphy argues that outrage costs were much higher in the early 1990s, with the introduction of legislation and new regulations to curb pay, than the late 1990s, when compensation escalated.

- Although executive pay is higher in the United States than abroad, that could be evidence in favor of efficient markets since the U.S. stock market has consistently outperformed foreign stock markets.

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54 Murphy claims that total compensation is higher for “outsiders” than “insiders.” Kevin Murphy, “Explaining Executive Compensation: Managerial Power versus the Perceived Cost of Stock Options,” *University of Chicago Law Review*, vol. 69, no. 847, summer 2002.


This finding casts doubt on BF’s claim that excessive pay is undermining firm profitability.57

Alternative explanations have been offered for several of the phenomena that the managerial power theory describes. Some of them are related to the incentives offered by accounting rules. For example, the shrinking share of executive compensation being paid in cash wages has been attributed to the million dollar cap on pay that corporations are able to deduct from taxes, which is described below. Similarly, certain standard characteristics of options (such as setting the strike price equal to the actual price at time of issue and using options that reward absolute instead of relative changes in the stock price) were encouraged by accounting rules that, until recently (see below), did not require that options with those characteristics be expensed.

Hall and Murphy have argued that the managerial power theory cannot adequately explain the recent burgeoning of stock option compensation because most stock options (90% in 2002) are paid to non-executives. They offer a “perceived cost theory” of why stock options have become so popular: because stock options do not require the company to outlay any cash when granted and were not expensed in the company’s accounting statements before the rule change in 2005, they argue that options became popular because they appeared costless to issue.58 On the contrary, options do have a cost — they dilute the existing shareholders’ ownership position when they are realized. The shortcoming of this explanation is it begs the question of whom Hall and Murphy believed were being duped into thinking the options were costless — the board or the shareholders? In the former case, BF argue that “...if directors had so little financial sophistication, then the board-monitoring model of corporate governance is in even worse shape than our analysis suggests.”59 In the latter case, the perceived cost argument is consistent with, but not proof of, the managerial power view that options are a form of stealth compensation. Alternatively, the perceived cost view could be rejected on the grounds of market efficiency. For example, although options were not expensed, information about the options were included in the footnotes to corporations’ financial statements. If market actors use all of the information available to them, as market efficiency requires, then the stock price would already reflect the information presented in the footnotes, and the stock price would decline, all else equal, when options were granted. Otherwise, market participants who were aware of the real costs associated with options could systematically profit by short selling firms that offered employees overly generous stock options.

58 Brian Hall and Kevin Murphy, “The Trouble with Stock Options,” Journal of Economic Perspectives, vol. 17, no. 3, summer 2003, p. 49. The company also has tax incentives to favor compensation in the form of options.
It has also been suggested that there are alternative explanations to the managerial power theory for why executive compensation could exceed marginal product. In a well-known article, Lazear and Rosen argued that executive pay could be much higher than the executive’s marginal product and still be economically efficient from the perspective of the overall firm.60 They argued that this could be true if the firm’s pay structure is likened to a tournament. If the firm has no easy way to accurately identify each of its workers’ marginal product, then the most efficient way to induce maximum effort from its workers could be to attach a large monetary incentive to the “winner” of each promotion. At the top of this ladder is the CEO, with a correspondingly larger prize each step of the way to motivate workers to strive for further promotions. As long as the CEO’s high pay motivates his subordinates to work harder to strive to some day replace him, it will be profitable for the firm to compensate him at that rate regardless of his marginal product. Anabtawi argues that the tournament model explains why executive pay is not more closely linked to performance (because reductions would weaken incentives of subordinates to try to win the tournament).61

Executive Pay in the 1990s: Being in the Right Place at the Right Time?

The decision to base executive stock options in the 1990s on absolute performance rather than relative performance had important implications during the stock market boom of the 1990s. When the board chooses how much stock option compensation to award to an executive, it is basing its decision on the ex ante expected value of the options. But actual executive pay depends on what happens to the stock price ex post. For example, if an executive were granted one option with a strike price of $40, and the board expected the stock price to rise to $50 when the executive exercised it, the executive’s expected pay gain ex ante would be $10. But if the stock price actually rose to $60, his actual pay increase would be $20 — double what the board expected him to earn.

A strong case can be made that since the sharp appreciation in stock prices in the 1990s was largely unexpected, much of the pay increase tied to the stock price or other metrics of firm performance was also unexpected windfalls. For example, in the 50 years preceding December 1995, the inflation-adjusted annual appreciation rate of the Standard & Poor’s 500 stock index averaged 2.3%.62 From December 1995 to December 1999, the average real rate of appreciation was 22.8%. Figure 2 shows the expected value (based on the historical average) and actual value for a

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62 The nominal 50-year average appreciation rate was 6.8%. This figure does not represent the average rate of return on stocks, which includes dividend payments. Dividend payments are not included since options are based solely on the stock price. One drawback to a historical comparison is that dividend payments have become a smaller portion of the rate of return over time.
stock option issued in December 1994 and exercised at any point from December 1995 to 1999. If the company set the strike price at the firm’s current stock price and expected the stock price to follow the historical average, then the company would expect the nominal stock price to rise about 26% by 1999. Instead, the average stock over that period rose by 214% in nominal value. Assuming a strike price at the firm’s current stock price, the actual payment from options over that period would be over eight times higher than expected for the average firm.63

Figure 2. S&P 500: Actual and Projected Based on Historical Average, 1995-1999

Source: CRS calculations based on data constructed by Robert Shiller (Yale University)

Figure 2 suggests that much of the increase in pay in the 1990s may have been unrelated to competitive forces or managerial power, but instead was unanticipated on the part of executives and board directors. In a rapidly rising market, almost all executives, regardless of talent or effort, arguably profited from being in the right place at the right time.64 But even if the windfall was unintentional, that begs the question of why executive pay did not fall further in the 2000s when the stock market declined by nearly one half. It would be expected that boards would react to the stock option windfalls received by executives in the 1990s by offering less generous stock options from that point on or tying future options to relative rather than absolute performance. Indeed, even if directors had made no changes to ex ante option packages, one might expect sharp declines in option-based pay from 2000 to 2003 since stock prices were falling. Instead, overall pay fell by only 11% between 2001 and 2003 (which was still higher than it was in 2000) and returned to its previous peak in 2004, which seems difficult to reconcile with the neo-classical...
model. While windfalls are consistent with arm’s length contracting in a world of uncertainty, executives would not be expected in a neo-classical world to permanently lock in windfall payments after the source of the windfall had disappeared. This experience does seem consistent with the managerial power theory, however. Shareholder satisfaction with the large stock market returns of the 1990s may have greatly reduced the outrage costs associated with the corresponding increase in executive stock options. Executives may have been able to maintain those pay increases in the 2000s despite the fall in the stock market by using past pay levels as a benchmark for future pay as a way to limit outrage.

Can “Excessive Pay” Be Empirically Measured?

Excessive pay might be defined from an equity perspective in terms of material need or in relation to the pay of others in society. In economic discussions concerning the efficient allocation of resources, these definitions are not likely to be useful. From an economic perspective, the starting point for determining whether pay is excessive is likely to be whether or not pay exceeds marginal product. Unfortunately, economists have no way to directly measure an executive’s marginal product (what monetary value should be placed on, say, decision making?), so there is no way to directly determine whether executives are being overpaid in absolute terms. (In the neo-classical model, that is not a concern since nobody is overpaid.) All that can be measured is what specific executives are being paid relative to others, and how their firms have performed (based on profitability, rate of return, stock price, and so on) relative to others. Many economists have attempted to determine whether executive pay is correlated with firm success. In these studies, executives with above average compensation can be thought to have “earned it” if their firm outperformed its rivals.65 As useful as this exercise may be, it should be noted that it does not attempt to answer the underlying question of whether, overall, executives are excessively paid on average, and whether firms could achieve the same results if they paid their executives less.

Some economists define excessive pay more broadly than the marginal product definition, defining it in terms of executives who are capturing economic rents. Taken literally, an economic rent is defined as any level of pay above the worker’s reservation wage, which is the lowest wage the worker would be willing to accept to work.66 Thus, according to this definition, an executive could be paid less than the

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65 Murphy points out a problem with this methodology: firms with better managers would not be expected to offer investors a permanently higher rate of return because of market forces. As soon as investors realized that a firm had superior management, investors would bid up the current price of the firm’s stock. While the stock price was being bid up, investors would experience a superior rate of return, but after this process was complete, future rates of return would not be out of the ordinary because of the law of diminishing returns. An economist who compared these future ordinary rates of return to the executives’ compensation might erroneously conclude that they were overpaid. Kevin Murphy, “Executive Compensation,” in Orley Ashenfelter and David Card, eds., *Handbook of Labor Economics*, vol. 3B (Amsterdam: Elsevier Publishers, 1999), p. 2540.

66 BF define executive rent seeking as “additional value that managers obtain beyond what (continued...
value he adds to the firm (i.e., his marginal product), but still be overpaid since he
would have been willing to perform the same job for less. This broader definition is
somewhat problematic from a measurement perspective — since the reservation
wage cannot be observed, classifying an executive as overpaid becomes purely
subjective. In a perfectly competitive labor market, one would expect the reservation
wage to converge with marginal product since there are a very large number of
interchangeable workers for any job, and jobs for any worker. In the market for
executives, where the candidates and openings are limited and not perfectly
substitutable, a wedge between the reservation wage and marginal product could
theoretically exist. But it would be expected that the wedge would ultimately be
limited by the fact that any executive paid less than his marginal product could be
profitably snatched away by another firm willing to pay slightly more. Furthermore,
the rent will exist whether it is captured by the executive or the firm’s shareholders.
Therefore, equating the executive’s capture of the rent with excessive pay (and all the
negative connotations that entails) implies that one views capital (shareholders) as
a more deserving recipient of the rent than labor. Defining excessive pay as pay
above marginal product remains less controversial, since it has clearer implications
for economic efficiency.

Arguments about efficiency mostly come down to incentive effects — the fear
that attempts to curb executive compensation would also reduce executive
productivity. This would be true if current compensation levels are needed to entice
the best possible candidates to become executives instead of pursuing other career
paths that would not maximize these individuals skills. Given the wide gulf between
executive pay and pay in nearly any other profession (although some elite members
of the financial, legal, and medical professions are comparably paid), some might be
skeptical that a pay cut that left a portion of the gulf intact would scare off suitable
candidates. For example, one economist recently pointed out that one CEO with a
net worth of $16 billion would need to spend $30 million per week just to keep his
net worth from rising.67 But most would agree that some reward is needed to
compensate for job attributes such as stress and long hours that are expected of
executives.

Perhaps also implicit in efficiency concerns is the neo-classical assumption that
higher pay leads to higher levels of utility. In other words, individuals are motivated
to work harder to earn more because earning more makes them happier. Thus,
policymakers looking to curb executive pay may need to weigh the loss of welfare
it would cause as one of the costs of such a proposal. But recent empirical evidence
on compensation and welfare suggests that this might not be the case.68 This research

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66 (...continued)
they would get in arm’s length bargaining...” In Lucian Bebchuk and Jesse Fried, Pay


68 See, for example, Robert Frank, “The Frame of Reference as a Public Good,” Economic
(continued...)
suggests that after a certain point, people are not made happier by further increases in absolute income. That is because when income increases, people quickly adapt to their new circumstances, and any temporary rise in happiness caused by greater income dissipates. Rather, the research suggests that people are made permanently happier by increases in relative income, a sentiment captured in the saying “keeping up with the Joneses.” According to this theory, the ratcheting up in executive pay in recent years has not made anyone better off since all executives’ pay is rising simultaneously. It also suggests that, hypothetically, if there were a costless way to reduce executive pay across the board (admittedly, an unrealistic assumption), it might not make anyone worse off (once individuals had adapted to their new circumstances) as long as enough of the gulf between executive pay and other professions were maintained to leave a sufficient superiority in relative income intact. Executives may also derive utility from non-material aspects of their job, such as fame and power, that could be unaffected by an absolute decline in income. Obviously, across the board changes would require some type of collective action; if any single board decided to reduce executive pay, those executives would lose utility since their income relative to their peers would fall.

A Brief History of the Regulation of Executive Pay

A corporation’s bylaws lay out the general rules regarding a company’s corporate governance protocol, including procedures for the determination of executive pay. In turn, the general parameters of a firm’s corporate governance are principally dictated by the state corporate law that prevails in the state in which a company is incorporated. By some estimates, about half of publicly-traded companies are incorporated in the state of Delaware, giving its corporate laws a disproportionately large influence in this area. Delaware’s influence also extends to the Delaware Chancery Court, which is widely viewed as the preeminent national legal forum for corporate disputes.

In spite of the primacy of state law in this area, the federal government and regulatory entities, like the SEC and the nation’s securities exchanges, have also promulgated policies in this area. The existing rules governing CEO pay have developed through a variety of legislation, executive branch regulation, and regulation by independent, self-governing bodies. Most regulation involves disclosure of pay, and does not set compensation levels. The following legislative and regulatory developments have affected CEO pay, although that was not always their primary focus. Starting with the earliest developments, they are listed in chronological order.

68 (...continued) 2005).
The Omnibus Budget Reconciliation Act (OBRA) of 1993’s Cap on the Deductibility of Executive Compensation

Corporations can generally deduct employee pay, including executive pay, from their corporate income subject to taxation. In 1993, in response to outrage at executive pay levels, OBRA (P.L. 103-66) added section 162 (m), titled “Certain Excessive Employee Remuneration,” to the Internal Revenue Code. It imposes a $1 million cap on the deductibility of compensation that applies to the CEO and the four next highest-paid officers. (Pay itself is not capped, only the deduction of pay from corporate income.) No tax deduction for compensation above the $1 million limit is permitted except for “performance-based” pay, such as commissions or stock options, where the ultimate compensation received by the executive depends on the stock price, reported sales or profits, or some other financial indicator. To qualify for the exception, the goals underlying the performance-based compensation must have been determined by a compensation committee that is comprised solely of two or more outside directors. The terms under which the performance-based compensation is to be paid, including the performance goals, must be disclosed to shareholders and approved by a majority shareholder vote.

Executives’ cash compensation, the type of pay most directly affected by OBRA, increased slowly after OBRA took effect. But this provision in OBRA is widely believed to have contributed to the growing importance of stock options in CEO compensation in the mid and late 1990s. As a result of this trend, overall compensation grew even more quickly than before, so OBRA may have had the unintended consequence of increasing CEO pay if stock options played the enabling role in excessive pay that critics claim.

The Sarbanes-Oxley Act

Enacted in the wake of accounting scandals at firms like Enron and WorldCom, the Sarbanes-Oxley Act of 2002 (P.L. 107-204) contains a broad range of corporate governance and accounting reforms, two of which are particularly relevant to executive pay:

- **Prohibition on Personal Loans to Executives.** Section 402 of the law makes it unlawful for any public company, directly or indirectly, to extend credit, maintain credit, or arrange for the extension of credit in the form of a personal loan to, or for the benefit of, any director or executive officer.

- **More Timely Reporting of Corporate Insider Stock-Based Transactions.** Section 403 of the law requires insiders (defined as

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69 Other factors, such as the wave of public offerings by cash-poor technology firms and the bull market itself, also increased the popularity of options during the 1990s.

70 For example, see SEC Chairman Christopher Cox, “Testimony Concerning Options Backdating before the U.S. Senate Committee on Banking, Housing and Urban Affairs,” Sept. 6, 2006.
Requirement that Shareholders Approve Equity-Based Compensation Plans for NYSE and Nasdaq Listed Firms

In 2003, the SEC approved changes to the listing standards for firms listed on the New York Stock Exchange (NYSE) and the NASDAQ Stock Market that require shareholder approval of almost all equity-based compensation plans. Firms must disclose the material terms of their stock option plans prior to the shareholder vote. The required disclosures include the terms on which stock options will be granted and whether the plan permits options to be granted with an exercise price that is below the market value of the company’s stock on the date of the grant. While the regulation requires shareholder approval of the overall compensation plan, it does not require shareholder approval of the specific amount of compensation received by individual executives.

Requirement that NYSE-Listed Companies Have Compensation Committees Solely Composed of Outside Directors

In 2003, the SEC also approved other changes to the listing standards for firms listed on the NYSE. The standards require companies listed on the NYSE to have a compensation committee that is entirely composed of outside directors. In addition, if a compensation consultant is to be used to assist in the evaluation of director, CEO, or senior executive officer compensation, the compensation committee is required to have the sole authority to retain the consultant and approve the consultant’s fees.

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73 Foreign private issuers, controlled companies (a company in which more than 50% of the voting power is held by an individual, group or another company), limited partnerships, companies in bankruptcy proceedings, and NYSE companies listing only preferred or debt securities are exempt from the requirement that they have a compensation committee.
FASB’s Options Accounting Rule

In 2004, the Financial Accounting Standards Board (FASB), a private sector entity that writes accounting standards, released accounting directive FAS 123R, which requires companies to “expense” (count as a cost) the value of employee stock option grants in their income statements in their next fiscal year, beginning in June 2005 for large companies and December 2005 for small companies. Recognition of the cost of options has the effect of reducing the corporation’s reported earnings, which may make granting options less desirable to companies. Previously, most companies had simply noted the value of options grants in the footnotes to the financial statements, which had no effect on earnings. Thus, FAS 123R may constrain executive pay even though that was not its primary intent.

SEC Rules on Disclosure of Executive Pay

The requirement that publicly traded companies disclose how much they pay top executives dates from the 1930s. The SEC has modified the disclosure format several times, as the forms of CEO pay have become more varied and complex. In 1992, the SEC required that proxy statements include tables setting out several categories of pay for the top five executives. These included base salaries, bonuses, deferred, and incentive-based compensation, including stocks and stock options. Corporations were required to place an estimated value on options granted to executives.

By 2006, the SEC had concluded the 1992 disclosure rules were, in the words of SEC Chairman Christopher Cox,

out of date.... [They] haven’t kept pace with changes in the marketplace, and in some cases disclosure obfuscates rather than illuminates the true picture of compensation.... We want investors to have better information, including one number — a single bottom line figure — for total annual compensation.

In July 2006, for the first time since 1992, the SEC adopted major changes to executive disclosure rules contained in public companies’ registration and proxy statements. The disclosure requirements apply to the CEO, the chief financial officer (CFO), and the next three most highly-compensated executive officers. The rules require the disclosure of the executives’ total compensation, the fair value of their stock option grants, estimates of potential post-employment payments and benefits, and tabular disclosure of director pay. It requires that statements include a Compensation Discussion and Analysis (CD&A), which is a narrative that must explain the objectives and implementation of a company’s executive pay program.

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74 While federal securities law gives the SEC authority to set accounting standards for publicly-traded companies, the SEC generally defers to the standards established by FASB. For more information, see CRS Report RS21392, Stock Options: The Accounting Issue and Its Consequences, by Bob Lyke and Gary Shorter.

And in response to the stock option grant backdating controversy, the rules require detailed information about a company’s option grant practices in the both the CD&A and a supplemental table. The rules also require the disclosure of directors’ compensation figures for the preceding fiscal year. The disclosure requirements went into effect in 2007.

SEC officials have said that the central contribution of the disclosure reform is the provision of enhanced transparency with respect to executive pay. They may also be intimating that the new disclosure requirements could at least indirectly help improve shareholders’ ability to exert pressure on management to temper executive pay:

By restraining executives from self-indulgent behavior — and using salary, bonuses, options, long term benefits, and other financial incentives in very purposeful ways — compensation committees acting on behalf of the shareholders can increase management’s incentives to improve corporate performance. So our purpose in this very aggressive new executive compensation rule is very straightforward: It is to protect and advance the interests of shareholders.

But those who would hope that the reform will have a dampening effect on executive pay levels may not be encouraged, at least so far: a survey of directors at 110 firms, conducted at the conclusion of 2006 by Mercer Human Resource Consulting, found that 70% planned only minimal changes to their executive compensation programs as a result of the new SEC rules. Only 15% of the directors said that the reform would have a substantial impact on their approach to executive compensation.

### Policy Options

In the theoretical neo-classical world, executive pay would be determined by marginal product. Since the outcome would already be economically efficient, any policy response that created a wedge between executive pay and executives’ marginal product would reduce economic efficiency. Those who believe that market forces are the best curb on excessive pay argue that government should be doing less, not more, in this area because government cannot determine appropriate levels or forms of executive pay more accurately than shareholders or boards.

The managerial power critique makes the case that executive pay is not determined by arm’s length contracting. It suggests a number of reforms to bring executive pay closer to an arm’s length contracting ideal. These reforms could be

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promoted by shareholders, board members, or in some cases, mandated by the
government, through legislation or regulation. They fall under three broad
categories: improving the transparency of executive pay, strengthening board
independence to reduce the potential for board capture, and strengthening shareholder
control over the board and management. Proponents often argue that they are not
trying to interfere with market forces, but to level the playing field for shareholders
in their interactions with management. Some of the reforms they promote do not
affect executive pay directly (e.g., not allowing the CEO to be chairman of the
board); rather, their stated intent is that reforms that strengthen shareholders’ rights
or board independence should lead to lower pay (or pay that is more sensitive to
performance). But a few proposals do affect executive pay directly, and are analyzed
below.

Maintain the Status Quo

Some observers favor the status quo, arguing that Congress should continue to
defeer to more specialized regulatory bodies, such as the SEC, with an expertise in
corporate governance. The regulatory bodies have focused on making occasional
minor policy modifications to enhance transparency and align boards’ incentives
more closely with shareholders’ interests. In this view, hasty policy changes in
reaction to rising pay levels would risk undermining the current system that, on the
whole, is effective at rewarding good executive performance.

Eliminating or Significantly Restricting OBRA

In 1993, OBRA added Section 162(m) to the Internal Revenue Code, which
limited a company’s tax deduction for what it pays each of its top executives to $1
million, but exempted “performance-based” pay like stock options. Supporters of the
neo-classical model argue that the million dollar deduction limit is a good example
of how government intervention in markets can have unintended consequences that
cause a policy to backfire. Despite the deduction limit, overall executive
compensation continued to rise rapidly, and the limit may have contributed to the
rapid growth of executive stock options, which critics argue are at the heart of the
corporate scandals. Supporters see this as an example of a policy with unintended
consequences, in which government regulation encourages behavior that circumvents
the regulation’s original intent. Tax policy may be too blunt a tool to effectively
encourage these goals.

Since the deduction limit failed to curb the growth in executive pay, some would
argue that it should be eliminated or scaled back. Alternatively, if the purpose of the
deduction limit is to curb overall executive pay levels, others would argue the limit
would be more effective if expanded to cover all forms of pay (perhaps at a different
deduction level). Some research found that the deduction limit appears to have been

79 If one argues that the purpose of the cap is solely to encourage performance-based pay,
then the subsequent rise in overall compensation levels may be irrelevant.
a factor in the growth in executive stock options and overall executive pay.80 But
other research concluded that the statute had little to do with subsequent increases in
the sensitivity of overall executive pay to performance-based components like stock
options.81 Factors that may have played a larger role in the growth of stock options
include the bull market of the 1990s, not having to treat stock options as a corporate
expense, and pressure on firms to provide executive pay that better aligned their
interests with those of shareholders. Alternative research concluded that while the
million dollar cap may have initially helped to compress executive salaries around
the $1 million level, it did not appear to have had a significant impact on total
compensation and other components of pay, such as bonuses and stock option
awards.82

A Cap on the Deductibility of Executive Pay When It Exceeds a Certain Ratio of Non-Managerial Pay

Some critics of executive pay have advocated changing Section 162(m) of the
Internal Revenue Code to prohibit businesses from taking tax deductions for
compensation provided to executives when the ratio of executive pay to that of its
employees exceeds a certain level. The ratio could be set relative to, say, the average
employee’s pay or the lowest-paid employee’s pay. A very few firms have
voluntarily implemented such a policy. For example, the CEO of Whole Foods
Markets limits his pay to no more than 14 times the pay of the firm’s average
employee.

Using the tax code to mandate such a policy might arguably help address some
concerns with the erosion of pay equity and growing income inequality. Supporters
of this policy argue that discouraging excessive pay through tax disincentives is
preferable to — and less disruptive than — prohibiting excessive pay directly.
Critics could argue that the growing ratio between worker and CEO pay owes itself
in part to an unrelated development — the moribund growth in worker pay. Critics
could also argue that the reform could undermine the core investor concern of
whether a CEO receives compensation commensurate with his or her performance.
Furthermore, wage levels vary by company primarily because different companies
hire different types of workers. For example, the average pay at a software company
is likely to exceed average pay at a chain of fast food restaurants. Under this
proposal, the fast food company would face higher taxes if it wanted to pay its
executives a comparable wage to the software company. As with complaints about
the OBRA cap, such a cap could result more in maneuvering by businesses to avoid

80 For example, see Brian Hall and Kevin Murphy, “The Trouble with Stock Options,”
Zenner, Pay for Performance Government Regulation and the Structure of Executive

81 Marilyn Johnson, Susan Porter, and Margaret Shackell, “Stakeholder Pressure and the
Structure of Executive Compensation,” May 1997. Available at SSRN:

82 Nancy L. Rose, and Catherine Wolfram, “Has the ‘Million-Dollar Cap’ Affected CEO
the cap than fulfillment of its intended goal — for example, any such cap would have to delve into the complexities of what forms of employee and executive compensation should or should not fall under the cap, creating incentives for stealth pay. Detractors could also cite research that concluded that the tax deductibility of executive compensation tends to have a minimal impact on firm’s ultimate profitability, raising additional questions about the ability of such a policy to help constrain executive pay.83

Disclosure of Corporate Services Provided by Firms Affiliated with Compensation Consultants or a Ban on Such Services

Outside compensation consultants are generally hired to help boards craft the firm’s executive compensation packages. In a number of cases, the consultants are part of larger companies that furnish additional consultation services to the firms. It could be argued that when firms provide multiple consultancies to individual firms, there is a conflict of interest that makes it difficult for their compensation consultant subsidiaries to resist pressure to recommend favorable executive pay packages. Two possible options to address such concerns would be (1) an SEC requirement that a firm’s proxy statements disclose all of the services it receives from companies that offer it compensation consulting services; or (2) a law to ban outfits that furnish executive compensation consulting services to a firm from offering other consultant services to them, similar to the Sarbanes-Oxley Act of 2002’s proscription on auditors providing certain ancillary services to the firms they audit. If the latter alternative were pursued, some companies might stop offering compensation consulting services. These reforms might not lead to any change in behavior, however, because the basic incentive to recommend high pay remains even if compensation consulting is the firm’s sole business, for reasons discussed earlier.

Increase Shareholder Roles in the Election of Board Members

While directors must be approved by shareholders, the nominees are typically chosen by the board or management. At present, shareholders can nominate directors, but the process is arduous, expensive (estimates range up to $1 million), and thus rarely pursued. To ease the process, the SEC proposed a rule in July 2003 that would have allowed shareholders with more than 5% of a company’s voting securities to have their board nominees included in a company’s proxy materials under certain conditions.84 A response to widespread concerns over the

84 “Proposed Rule: Security Holder Director Nominations, Release nos. 34-48626; IC-26206; FILE NO. S7-19-03, Securities and Exchange Commission,” Oct. 17, 2003. At least one of two things would have had to have taken place in the previous year’s board election to trigger the requirement: 1) 35% or more of shareholders voted to withhold support for at least one director at the company’s annual meeting; or 2) a stockholder or a group of shareholders with at least 1% of the company’s stock put a proposal on the proxy (continued...)
accountability of corporate directors after a number of corporate scandals, the proposal received the support of various observers, including some institutional investors. They argued that the integrity of corporate boards would be enhanced because the reform would result in boards being populated with a greater number of outside directors who are less beholden to management and better able to provide independent oversight and scrutiny of executive compensation practices and excesses, such as backdating. Although publicly-listed firms are required to have outside directors, some critics have questioned the independence of outside directors recommended by management. For example, one study found that large numbers of outside directors inexplicably appear to have been the beneficiaries of options manipulation. Opponents of shareholder access reform argue that it could potentially result in antagonistic directors, and thus dysfunctional boards. Shareholders may also be less able to identify the most qualified candidates for the position.

In the end, the SEC did not adopt the proposed 2003 shareholder proxy reform rule. But the issue re-emerged in August 2006, when the United States Court of Appeals for the Second Circuit reached a decision in American Federation of State, County and Municipal Employees Pension Plan v. American International Group, Inc. This ruling was the appeal’s courts response to an earlier petition by the American Federation of State, County and Municipal Employees (AFSCME) to reverse the American International Group’s (AIG) rejection of its effort to place a binding shareholder proposal in the company’s proxy materials that would have changed its bylaws to facilitate shareholder nomination of directors. Historically, the SEC has generally allowed firms to exclude shareholder proposals relating to an election from their proxies, as it did in this case. However, the Second Circuit found the SEC’s policy in this area to be inconsistent and asked the agency to clarify it. Although the SEC said it would reply to the Second Circuit’s request, it has not done so as of March 2007. There have been no subsequent judicial actions.

Meanwhile, Representative Frank, Chairman of the House Financial Services Committee, reportedly has been urging the SEC to promulgate a new policy that would be more accommodating to activist institutional investors like AFSCME who are interested in gaining access to the proxy with respect to director nominations. Chairman Frank has suggested that Congress might need to intervene in this area in the event that the SEC does not.

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84 (...continued)
statement seeking the right to nominate a director, and the proposal was approved by a majority vote.


Give Shareholders a Non-binding Vote on Executive Pay

While shareholders are required to vote on a company’s overall equity-based compensation programs, they do not vote on pay packages for individual executives. The managerial power critique has fueled growing interest in giving shareholders a non-binding vote on individual executive pay packages. Along these lines, Representative Frank has introduced the “Shareholder Vote on Executive Compensation Act” (H.R. 1257). Furthermore, in anticipation of the 2007 annual corporate meetings, activist investors have submitted shareholder proposals at about 60 companies seeking the right to have a non-binding vote on executive pay.88

Proponents believe that votes against individual pay packages, or merely the threat, could raise outrage costs, thus prompting directors to exercise greater restraint in pay setting and to be more conscientious in linking pay to performance. They argue that the vote would not overly burden or restrict the board since the vote would be non-binding. Several countries, including the United Kingdom, Australia, and Sweden, have given their shareholders the right to such a non-binding vote. Domestically, at least one firm, the insurer Aflac, has reportedly agreed to provide its shareholders with such a vote.89 Many other firms, however, are publicly opposed to the idea.

Two main arguments are made in opposition to a mandatory non-binding shareholder vote on pay. First, to the extent that current levels of executive pay are largely explained by legitimate market forces, as some have argued, giving shareholders a non-binding vote on pay might inject undesirable distortions into the pay setting process and the demand and supply of CEOs. Second, the minutiae of CEO compensation packages can be difficult enough for corporate directors to master. Thus, it has been argued that expecting shareholders with relatively limited resources available for comprehending such things to be a knowledgeable presence in the pay setting process would be unrealistic.

Increase the Progressivity of the Tax Code

If the underlying concern with executive pay is equity, not efficiency, then the policy goal may be to reduce inequality in the least economically costly way. A more progressive tax system is widely considered to be the least costly way to redistribute income, in terms of lost economic efficiency. Of course, the tax code cannot target executives specifically without also affecting other high income individuals. Thus, while progressive taxation can be viewed as an effective way to promote equity goals, it is not well targeted toward reducing potential efficiency losses that result from the principal-agent problem that affects executive compensation.


Given the importance of stocks and stock options in executive pay, policymakers attempting to increase the tax code's progressivity could consider reducing the tax preference currently given to capital income compared to labor income. For example, capital gains and dividends are taxed at a lower marginal rate than labor income and a sizeable portion of capital income tax can be deferred through tax-preferred savings vehicles. Stock options are taxed at regular income rates but receive favorable treatment because tax liability is deferred until gains are realized. Economists are divided over whether taxing labor and capital at the same rate would be economically efficient, but given the unequal distribution of financial assets in the United States, it would undoubtedly increase the tax code's progressivity.

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90 For an explanation, see CRS Report RL32603, The Flat Tax, Value-Added Tax, and National Retail Sales Tax: Overview of the Issues, by Gregg Esenwein and Jane Gravelle.
Appendix. A Primer on Stock Options

A stock option allows the holder the right to buy a company’s stock at a predetermined fixed price, called the strike price, regardless of the stock’s price at the date of purchase. The holder exercises the option when he subsequently buys the stock. After the option is granted, the company’s stock could either rise above or fall below the strike price. If the market price fell below the strike price, the option would have no value and would not be exercised (because the holder could buy the stock for less on the open market). An option with a strike price above the market price is said to be under water. If the market price rose above the strike price, the value of the option would be equal to the difference between the strike price and the actual price (because the holder can buy the stock at the strike price and then sell it at the market price). For example, if a person was granted an option to purchase company X’s stock in one year at $100, and the stock turns out to be worth $125 in one year, then he would earn $25 by exercising the option in a year. Alternatively, if the stock turns out to be worth $75 in one year, he would not exercise the option and would neither gain nor lose any money. Thus, the option’s value can never fall below zero. Because the future is uncertain, economists and accountants must use complex formulas to place a value on an option when it is granted that takes into account how much value, if any, the option is expected to have when it is ultimately exercised. There is a consensus among economists that the expected value at issuance is the amount that should be included in measures of executive pay. The value of the option when it is ultimately exercised is unlikely to be the same as its expected value when it is issued, however.

Generally, stock options can be bought and sold on the open market by anyone. There are a subset of stock options called employee stock options in which firms issue their own stock to their workers and executives. Employee stock options cannot be sold to others, and often the holder must wait until a vesting period is over before being able to exercise them in order to encourage employees to stay with the firm. Usually, the strike price for employee stock options is set at the firm’s current price. The firm does not have to outlay any cash when it grants employees stock options. For this reason, employee stock options are particularly popular with start-up firms with limited cash flow and high growth prospects. However, when the options are exercised, new stock is created, which dilutes the ownership of the existing stockholders. The firm can offset this dilution by buying back an equivalent amount of outstanding stock from the open market, which would require a cash outlay at that point.

The prevalence of employee stock options is somewhat puzzling to economists because if employees, firms, and shareholders acted rationally, they would each have reasons not to prefer them. Employees should prefer cash wages to options since the options expose them to risk, and people are generally risk averse. (Options do have tax advantages for the executives, however, which are particularly valuable for executives facing high marginal tax rates.) For firms, options can be thought of as a loan from employees (in the form of forgone wages) that must be paid back when

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the option is exercised. If capital markets are efficient, it should be cheaper for the firm to borrow on the open market than through their employees. For shareholders, options are undesirable since they dilute their ownership position. In light of these drawbacks, BF see the popularity of options as evidence of their “managerial power” theory. Alternatively, some economists have argued that the popularity of employee stock options is the result of the perceived cost of options being lower than their actual cost, because they require no cash outlay and because until recently they did not have to be expensed (were not counted as a cost) on the firm’s balance sheet.\footnote{Brian Hall and Kevin Murphy, “The Trouble with Stock Options,” \textit{Journal of Economic Perspectives}, vol. 17, no. 3, summer 2003.}