



**WHAT'S RIGHT,
WHAT'S WRONG,**

AND WHAT'S FIXABLE

**A Dispassionate Look at
Executive Compensation**

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EXECUTIVE COMPENSATION HAS SUDDENLY BECOME a high-profile topic about which almost everyone has an opinion. Many shareholders, workers, and politicians believe that the entire system is broken and requires a substantial overhaul. The purpose of this piece is to take a hard look at the facts and assess whether the situation is as bad as some people fear. It also proposes the “Incentive Account” as a new way to improve contracts, which, compared to current proposals, may be a superior solution for any problems that do exist.

In theory, pay should be designed by boards to maximize value on behalf of shareholders, that is, to attract talented CEOs and induce them to exert effort, while minimizing the cost of doing so. However, many real-world practices appear inconsistent with the idea that contracts are set efficiently. For example, many CEOs are richly paid, even if their performance has been poor, and many receive a significant amount of compensation that is hidden from shareholders. As a result, a number of commentators, such as Lucian Bebchuk and Jesse Fried in this issue, argue that because pay is instead set by CEOs themselves—who seek to maximize their personal wealth rather than shareholder value (“stealing,” or “rent extraction”)—government intervention is necessary to reform compensation.

But intervention can do more harm than good if the current system is not broken. Thus, before engaging in reform, it is important to critically assess the above claims. Empirically, are the above practices widespread across the economy, or are they restricted to a few high-profile anecdotal examples? Theoretically, can these practices (even if they are widespread) actually be consistent with efficient contracting? In particular, while simple models may be unable to justify them, it may be that more realistic frameworks that incorporate real-life complexities of the CEO’s job can explain the facts.

This is the purpose of this essay. We first argue that many existing practices—the level, sensitivity, and structure of pay—are generally consistent with efficiency. But we highlight two main areas for improvement: the short horizon of incentives and the need for incentives to keep pace with a firm’s changing conditions. We propose a solution, Incentive Accounts, to address these issues. Moreover, our solution does not require a marked departure from the current building blocks of cash and stock, and it can be implemented at little cost.

The Level of Pay

Trends in the level of pay are perhaps the most commonly cited statistics in support of the stealing view. For example, the 250th best-paid U.S. CEO earned \$9 million in 2008. This is substantially higher than in other countries and represents a sixfold increase since 1980. The level of CEO pay and its rise over time, however, can be justified by the competition for managerial talent becoming fiercer in recent years. As an analogy, take the baseball industry. Derek Jeter is probably a similar talent to Babe Ruth, but he earns substantially more, even when controlling for inflation. This is because the stakes in the baseball industry are much higher now than they were in the 1920s. Successful clubs can make millions from TV rights, replica merchandise, and sponsorship, so it is well worth offering lucrative contracts to attract the best players. The same is true in the corporate arena. Average firm size has also experienced a sixfold increase since 1980, which raises the stakes in the CEO talent market. Even if the best CEO only adds 1 percent more value than the second-best CEO, in a \$10 billion firm, this translates into a \$100 million difference. This “superstar” effect means it is worth paying top dollar for great talent.

The Sensitivity of Pay

Of course, it is not sufficient to simply attract talented managers; it is also necessary to motivate them. This underpins the controversy surrounding the apparently low sensitivity of CEO wealth to performance. An early study by Michael Jensen and Kevin Murphy found that the CEO loses only \$3.25 for every \$1,000 decline in firm value, an effective equity stake of only 0.3 percent. It also found that this sensitivity was even lower in larger firms, perhaps because governance is particularly weak in these firms, allowing managers to negotiate contracts that do not punish them for poor performance.

However, it is not clear that the above statistics are focusing on the relevant measures. Consider the CEO of GM, who is deciding whether to work an extra week to design a more efficient way to organize auto production or to take a week’s vacation. This CEO will weigh the effect of restructuring on the firm’s value against the lost holiday. Thus, measuring incentives by the dollar change in wealth for a dollar change in firm value (“dollar-dollar” incentives) only makes sense if the CEO’s actions improve firm value by a fixed dollar amount regardless of how big the firm is, and the holiday is worth a fixed dollar amount to him—for instance, it is worth \$10,000 to him regardless of how wealthy he is.

This assumption is misleading because most CEO actions can be “rolled out” across the entire firm and thus have a percentage, rather than dollar, effect on firm value. A more efficient production technique can be implemented firm-wide, and thus has a greater effect on a larger firm. For example, if the technique reduces costs by 1 percent, and total production costs are \$1 billion, the total savings are \$10 million. In an equivalent firm twice the size, the savings are \$20 million. In addition, a CEO’s actions have a percentage effect on his utility—a week’s holiday is particularly valuable to CEOs who are rich and thus can enjoy their wealth during it. Thus, the relevant measure of incentives is “percent-percent” incentives—the percentage change in CEO wealth for a percentage firm. In turn, dollar-dollar incentives equal percent-percent incentives multiplied by the CEO’s wage and divided by firm size. This identity can reconcile both of the above facts. First, since firm size is substantially larger than the CEO’s wage, low dollar-dollar incentives can translate into high percent-percent incentives. Simply put, even if the CEO earns only \$3.25 for increasing firm value by \$1,000, he may still have incentives to exert effort—because it can increase firm value by a large dollar amount. If redesigning production has only a 1 percent effect on firm value, in a \$10 billion firm this translates into \$100 million. Thus, even if the CEO only has a 0.3 percent stake, this nets him \$325,000, which is likely a sufficient incentive. Second, since effort has an even greater dollar effect in a large firm, the required equity stake is even smaller in large firms. The simple conclusion: The pay-performance relationship can remain strong and properly incentivize good behavior even when the CEO has a small stake.

While CEOs are believed to be insufficiently punished for the poor performance of their own firms, which is likely under their responsibility, an additional concern is that they are rewarded

for general market upswings outside their responsibility, that is, paid for luck. The idea here is that windfall compensation sometimes accrues to CEOs whose firms are doing well simply because the market is going up and raising the value of most every firm. This outcome has motivated some scholars to advocate “relative performance evaluation,” or the filtering out of movements in the broader market, or the company’s industry, that are outside the manager’s control.

There are three main reasons why such “filtering out” may be counterproductive. First, if the CEO’s outside opportunities are more attractive in market upswings, an increase in pay will still be necessary to persuade him to stay with the firm. Second, tying the CEO to industry performance induces him to choose which industries to operate in correctly. Third, calculations have shown that the quantitative efficiency gains from moving to relative performance evaluation from indexing the CEO are very small—in particular because insuring the CEO against market risk can reduce his effort incentives. Taken together, these three considerations suggest that “relative performance evaluation” may entail correcting for a problem that does not exist and thus generate inefficiencies rather than efficiencies.¹

The Structure of Pay

We now turn from the level and sensitivity of compensation to the structure of pay packages. Particularly since the 1990s, options have become increasingly popular as compared to stock. One interpretation of the rise of options is that this constitutes another form of stealing, since most options did not have to be reported in income statements until 2006. As Bebchuk and Fried argue, they could thus be partially hidden from shareholders, in turn allowing the manager to pay himself more. Indeed, in a standard model in which the CEO chooses effort, stocks are more efficient than options at motivating the manager. But richer models are able to justify the high prevalence of options. For example, options are efficient if the CEO values downside protection or improving firm value requires undertaking desirable, but risky projects (such as investing in a new drug). Since the CEO can simply choose not to exercise his options if the stock price falls sharply, giving options rather than stock reduces his downside risk and in turn encourages him to undertake risky, valuable projects.²

Like options, defined benefit pensions and deferred compensation were largely hidden from shareholders until recent changes in disclosure requirements, and thus these forms of pay may also be viewed as stealing. Indeed, many standard models advocate the exclusive use of equity-like compensation such as stocks and options. However, the advantage of pensions and deferred compensation is that they are debt-like. If the firm goes bankrupt, the CEO loses them. Thus, they deter the CEO from taking actions to harm debtholders, such as paying excessive dividends or taking risky projects that do not add value. This in turn reduces the return demanded by creditors, which ultimately helps shareholders.

Finally, another controversial aspect of executive contracts is severance pay, which appears to reward managers for failure

and is difficult to reconcile with standard models. However, as with options, severance pay can be reconciled with richer frameworks that better capture the complexity of the CEO’s job. For example, severance pay can encourage a CEO to step down if a more able replacement is available. In addition, insuring the CEO against bad luck may induce him to undertake more innovative strategies.³

Incentive Accounts: A Proposal for Compensation Reform

Our review of existing theory and evidence therefore suggests that, in general, the level and sensitivity of pay, as well as the components of compensation contracts, are not necessarily inconsistent with optimal contracting. However, we do not claim that all existing practices are fully efficient. Indeed, we see two main problems with current compensation schemes. First, stock and options typically have short vesting periods, allowing executives to “cash out” early. For example, Angelo Mozilo, the former CEO of Countrywide Financial, made \$129 million from stock sales in the 12 months prior to the start of the subprime crisis. This encourages managers to pump up the short-term stock price at the expense of long-run value, since they can sell their holdings before a decline occurs. Managers can also take on excessive risks, such as making subprime loans and cashing out before they become delinquent. In addition to inducing undesirable short-term actions, short vesting periods can also deter desirable long-term actions, such as investing in R&D or human capital, because they are costly in the interim and only pay off in the long run. This is particularly a problem in the modern economy, in which intangible investment is increasingly critical to success. Long-term incentives must be provided for the manager to maximize long-term value, which we call the “long-horizon principle.”

Second, current schemes often fail to keep pace with a firm’s changing conditions. If a company encounters difficulties and its stock price plummets, an executive’s stock options become close to worthless and lose much of their incentive effect—precisely at the time when managerial effort is particularly critical. This problem may still exist even if the executive has all stock and no options in his compensation scheme. Consider a CEO who is paid \$4 million in cash and \$6 million in stock. If the share price halves, the CEO’s stock is now worth \$3 million. Exerting effort to improve firm value by 1 percent is now only worth \$30,000 rather than \$60,000 to him and therefore may provide insufficient motivation. To maintain incentives, the CEO must be forced to hold more shares if firm value falls. As stated earlier, our research has shown that, to motivate a manager, a given *percentage* increase in firm value (say by 10 percent) must generate a sufficiently high *percentage* increase in pay (say by 6 percent). In the above example, this is achieved by ensuring that, at all times, 60 percent of the manager’s pay is in stock. We call this the “constant percentage principle.” The appropriate proportion will vary across firms, depending on their industry and life cycle, but we estimate 60 percent as a ballpark number for the average firm.

These two principles can be achieved by giving the executive a scheme we call an Incentive Account, which we are developing together with Tomasz Sadzik and Yuliy Sannikov. The Incentive

Account contains two critical features: rebalancing to address the constant percentage principle and gradual vesting to satisfy the long-horizon principle. Each year, the manager's annual pay is put into a portfolio, to which he has no immediate access. In the above example, 60 percent of the portfolio is invested in the firm's stock and the remainder in cash. As time passes and firm value changes, this portfolio is rebalanced quarterly so that 60 percent of the account remains invested in stock at all times. In the above example, after the stock price decline, the Incentive Account is now worth \$7 million (\$4 million cash and \$3 million of stock), requiring the CEO to hold \$4.2 million of equity. This is achieved by using \$1.2 million of cash to buy stock. This satisfies the "constant percentage principle" and maintains the manager's incentives, even if firm value falls. Importantly, the additional stock is accompanied by a reduction in cash; it is not given for free. This addresses a major concern with the repricing of stock options after firm value falls—the CEO is rewarded for failure.

Each month, a fixed fraction of the Incentive Account vests and is paid to the executive. Even when the manager leaves, he does not receive the entire value of the account immediately. Instead, it continues to vest gradually; full vesting will occur only after several years. By then, the long-run consequences of any actions will have come to the fore and affected the stock price, and in turn, the account's value. Because the manager will have significant wealth tied to the firm even after departure, he has fewer incentives to manipulate earnings in the short-term.

The Incentive Account shares some features with schemes currently seen in practice but improves upon them significantly. Performance-based vesting, in which stock and options only vest when the stock price rises above a certain threshold, is an increasingly popular way to ensure that the CEO can only cash out upon good performance. However, this may encourage the manager to pursue short-term actions to pump up the stock price so it crosses the threshold; even if the stock price later crashes, he does not mind because he has already managed to sell. In contrast, the cash proceeds from the equity sale remain in the account, thus deterring such behavior. Clawback provisions, in which the board can recoup any bonuses paid to the CEO for initially good performance that later turns out to be short-lived, can also deter manipulation and achieve similar results to gradual vesting. However, clawing back bonuses paid out prematurely is like shutting the barn door after the horse has bolted—prevention is better than cure and can be achieved by not paying out the bonuses in the first place.

Note that Incentive Accounts can be approximately implemented using standard compensation instruments without setting up special accounts. In each period, the board pays the CEO a mix of deferred cash compensation and restricted stock. If performance is poor, the next period the CEO's salary is paid

exclusively in restricted stock; upon strong performance, it is paid exclusively in deferred cash.

We recognize that gradual vesting is not without cost. Compared to short-term vesting, it imposes some risk on the manager, and he may require a higher salary as compensation. For example, if the CEO is not allowed to sell stock for five years, the CEO is exposed to events that may occur in the next five years that are out of his control—for example, if the government introduces new regulation which reduces industry profitability. However, if the board wishes to reduce his exposure to risk, this can be done by indexation; the Incentive Account is a basic framework that can be enhanced by additional features, such as benchmarking to industry peers (although, as argued above, the desirability of relative performance evaluation is unclear). Moreover, the benefits of a high-powered incentive scheme are much greater than its costs. Even if an optimal contract induces the CEO to increase firm value by only an additional 5 percent, this is \$500 million when applied to a \$10 billion firm, which vastly exceeds any required compensation for risk. Similar to investing in a risk management system, the Incentive Account may have a small cost but will pay off in better incentives and better risk-taking. In any case, for a given vesting period and target incentive level, we calculate that Incentive Accounts are always *less* costly than stock options or restricted stock.

While this discussion has centered around top management, the Incentive Account may also be applicable to employees with significant profit impact (e.g., traders) and deter problems similar to those that afflicted AIG. While a lower-level trader may not have a significant effect on an entire firm's stock price, he will have much greater control over the profit and loss of his desk, and so the stock in the account could be replaced by a bonus tied to that profit or loss.

We should also highlight that Incentive Accounts need not be imposed by regulators (although if regulators do wish to make prescriptions, Incentive Accounts are worth considering). Even in the absence of regulation, shareholders typically have sufficient incentives to implement any new scheme that is appropriate for their specific firm. Instead, we advocate that regulation should remove distortions, particularly in the tax and accounting systems, that would favor some forms of compensation over others. (The recent requirements for stock option expensing are a positive development in this light.) By removing such distortions, it will allow compensation schemes to compete on a level playing field, and the best should win the market test.

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¹ These three justifications were introduced by Paul Oyer; Radhakrishnan Gopalan, Todd Milbourn, and Fenghua Song; and Ingolf Dittmann, Ernst Maug, and Oliver Spalt, respectively.

² Each of these studies of stock versus option compensation was written by (a subset of) Ingolf Dittmann, Ernst Maug, Oliver Spalt, and Ko-Chia Yu.

³ Andres Almazan and Javier Suarez, and Roman Inderst and Holger Mueller have separate models justifying severance pay to encourage the CEO to step aside. Gustavo Manso models the effect on innovation.