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What Public Companies Can Learn from Private Equity Pay Plans

by Stephen F. O'Byrne, Shareholder Value Advisors

A few years before he became an SEC commissioner, Robert Jackson wrote a paper on the lessons public companies could learn from CEO pay practices in companies owned by private equity.¹ His main conclusion was that private equity owners forced their managers to hold their equity compensation for longer periods and, by so doing, created stronger incentives to increase efficiency and value without having to provide higher overall levels of pay.

In this paper, I will argue that there is another critical advantage of private equity CEO pay—but also a major shortcoming. The key advantage comes from PE's *front-loading* of equity compensation, which enables private equity owners to create consistently strong performance incentives. Such front-loading is important because giving executives—and in many cases, requiring them to buy—large amounts of company stock at the start of their tenures largely eliminates the negative effects of the “competitive pay policy” that has long dominated U.S. public company CEO pay. Competitive pay policy views managers and directors as entitled to competitive target compensation at the start of *every year* and *without regard for their past performance*. And as I explain in more detail below, translating market compensation into a fixed value of new share grants each year creates what amounts to a systematic *performance penalty*; that is, poor stock price performance is effectively rewarded with more shares, while superior performance is penalized with fewer shares. And this performance penalty undermines the performance incentives of managers and directors.

What's more, in this article, I will present evidence that the performance penalty in public company equity grant practices has actually been growing larger, not smaller, during the past two decades. And making matters worse, the public company embrace of competitive pay policy for directors, as well as managers, has given directors little cause to strengthen management incentives by dropping competitive pay policy.

Executive pay in PE portfolio companies, by contrast, has been guided to a far greater extent by partnership and fixed-sharing concepts than by competitive pay concepts. One common design is to give the management team a 10%-15% share of value creation through a combination of required upfront stock purchase and an upfront option grant on some multiple—three times is probably the standard—of the number of shares purchased.

What most people seem to have forgotten, however, is that the reliance on partnership and fixed-sharing concepts makes PE executive pay the spiritual heir to the value-sharing plans that dominated *public* company pay in the first half of the 20th century. A look back at the history of public company executive pay highlights some key lessons for PE and public company executive pay:

(1) fixed sharing can work over far longer horizons than the typical PE firm contractual ownership period of five to eight years;

(2) it is possible to increase executive stock ownership without abandoning fixed sharing;

(3) it is critical to develop a mechanism to accommodate poor industry performance without sacrificing fixed sharing; and

(4) the creative effort needed to make partnership pay work over the long term is far more likely when directors have strong financial incentives to look out for shareholder interests. Going beyond these history lessons, I will also show that it's possible to provide strong performance incentives without the front-loaded equity compensation heavily used by PE firms.

¹ Jackson, Robert J., Jr., *Private Equity and Executive Compensation*, 60 *UCLA Law Review* 638 (2013).

But for all its advantages, PE executive pay does have a key shortcoming: little if any effort is made to isolate management's contribution to value by using vesting to take out the market and industry components of the stock return. This leads to excessive costs that take the form of managerial "windfalls" in rising markets, and the imposition of undeserved penalties in declining ones. Public companies, pushed by proxy advisors and institutional investors, have made extensive, although generally misguided, efforts to use the vesting process to remove the effects of market and industry swings from stock returns. But a growing number of critics argue that such public company performance conditions work so poorly that time-based restricted stock is better than performance shares.² In the closing section of this article, I will show how the use of a simple performance condition—one generally ignored by public companies—that takes out the industry component of the stock return could be used to improve PE (as well as public company) executive pay. Unfortunately, the fee structure of private equity funds, which gives the general partner a fixed share of value appreciation regardless of market and industry performance, gives PE owners little reason to make management incentives more efficient by limiting participation in the industry return.

More broadly, a critical challenge for both private equity and public companies is the need for better measurement of key compensation dimensions, particularly incentive strength and cost. Private equity uses target value share as a proxy for incentive strength and stock compensation dilution as a measure of compensation cost, while public companies use percentage of pay at risk as a proxy for incentive strength and target pay percentile as a proxy for compensation cost. The private equity measures do little to contribute to public and investor understanding of the positive features of PE executive pay. The value-sharing percentages used in PE don't translate into meaningful measures of incentive strength for public companies because such measures are so sensitive to company size. Stock compensation dilution is a poor measure of cost because it too is highly sensitive to company size and measures the cost of management pay in relation to changes in total value instead of *management's contribution* to such changes. Private equity firms would do well to measure and disclose to their limited partners the executive "wealth leverage" of their portfolio companies—a measure of incentive strength I discuss at length below.

The public company measures tell us little about how to improve compensation design. Percentage of pay at risk is an

almost completely unreliable indicator of incentive strength, and the target pay percentile is a poor proxy for the actual cost of a company's executive pay—what I call its "pay premium at industry average performance." As I have argued in these pages and elsewhere, public companies should measure and report on three key dimensions of their executive and director pay: (1) *pay leverage*, (2) *pay alignment*, and (3) *the pay premium at industry average performance*.

Wealth leverage and pay leverage are both "elasticity" measures that provide the ratio of percentage changes in wealth or pay to percentage changes in relative shareholder wealth. Academic work on executive pay has a long history of reliance on what I view as poorly designed measures of incentive strength—of which the best known is the Jensen-Murphy measure of the executive wealth gain per \$1,000 of shareholder wealth gain.³ Such measures have made little contribution to improving the measures that have long dominated discussions of executive pay in public companies, and I explain why in the pages that follow.

Private Equity Pay Practices

Robert Jackson studied 108 PE-backed companies that were taken public during the five-year period in 2000-2004 by their PE owners. He looked at CEO pay for the year before the IPO and for several years after the IPO.⁴ He compared this sample with the public companies in Standard & Poor's Execucomp database, excluding all companies larger than the largest company in his PE sample and limiting his public company sample to firm-years within seven years of the company's IPO.

He found no statistically significant difference in total compensation levels, after adjusting for differences in company size. But he did find that private equity CEOs had stronger incentives, as measured by the dollar change in stock and option value associated with a 1% increase in company stock price. What's more, the wealth increase was \$758,446 for the average private equity CEO, and thus almost 50% more than the increase for the average public company CEO of \$516,204, again after adjusting for size differences.

A study of private equity pay by Phillip Leslie and Paul Oyer of Stanford Business School used a similar data collection strategy,⁵ looking at the pay of the three highest-paid

³ Jensen, Michael C., and Kevin J. Murphy, "CEO Incentives: It's Not How Much You Pay, But How," *Harvard Business Review* (May-June 1990).

⁴ His private equity data sample is 487 firm-years, an average of 4.5 years per firm.

⁵ Leslie, Phillip, and Paul Oyer, *Managerial Incentives and Value Creation – Evidence from Private Equity* (2009), available at ssrn.com, abstract = 1341889. They, like Jackson, use a comparison group drawn from the Execucomp database. Their comparison group of 2,555 companies is restricted to smaller companies, but is not limited by years since an IPO.

² See Edmans, Alex (2020), *Growing The Pie: How Great Companies Deliver Both Purpose and Profit*, Cambridge University Press, Cambridge, UK, and the executive pay guidelines of the Council of Institutional Investors at www.cii.org.

executives at 144 companies taken public in 1996-2005 by private equity owners. Using the required disclosure of pay for the two years prior to the IPO to give them a picture of private equity pay,⁶ Leslie and Oyer found that the stock ownership of the firm's highest-paid executive was 2.3 percentage points higher in PE than in comparable public firms; whereas the highest-paid executive at the average public company owned 3.4% of the outstanding shares, the highest-paid executive at a comparable PE-backed firm owned 5.7%. They also found that PE ownership was associated with lower salaries and a higher percentage of variable cash compensation. But these differences quickly disappeared after the PE-owned companies went public, with the levels of managerial ownership falling almost immediately after the IPO to levels similar to those in already public companies.⁷



Public companies, guided by “competitive pay policy,” have created a huge performance penalty in equity compensation: shares fall by 7% when the price rises by 10%. The front-loaded option grants used by PE firms provide five times more pay leverage than a public company's future equity grants.



The data collection strategies of Jackson, and Leslie and Oyer provide documentation on the “back-end” years of PE executive pay but none on the “front end.” Interviews with PE fund executives by Leslie and Oyer, as well as several books about the growth of private equity, suggest that the front end of PE executive pay is far more distinctive than the back end. Leslie and Oyer report that it is common for PE funds to require portfolio company executives to make a substantial investment in common stock and to provide accompanying option grants on two to three times the number of shares the executive purchases.⁸ In his book *Merchants of Debt: KKR and the Mortgaging of American Business*, George Anders writes that “at the start of every buyout, the KKR partners regularly set aside 10 to 15 percent ownership in a company

to be acquired by that company's top management.”⁹ George Baker and George Smith, in *The New Financial Capitalists: Kohlberg Kravis and Roberts and the Creation of Corporate Value*, quote a Duracell vice president to show that private equity firms competed by offering higher multiples for their matching option grants: “We know that Clayton, Dubilier would probably be on the low side, maybe two to one. We would have guessed that Forstmann and KKR probably would have offered three to one. With KKR it turned out to be five to one!”¹⁰

Public Company Pay Practices

Public company executive pay in the first half of the 20th century was based largely on value-sharing concepts. In 1918, General Motors adopted a plan that established a formula bonus pool equal to 10% of corporate-wide profits in excess of a 6% return on capital.¹¹ The pool funded both stock and cash incentive compensation and covered everyone at GM who received a bonus. In 1922, GM raised the capital charge to 7% and used the new formula without any change until 1947, and the same basic structure remained intact until 1977. And far from being an outlier, GM's approach was broadly adopted by others and became the dominant approach for the next 50 years. A 1936 study by John C. Baker of Harvard Business School showed that 18 of 22 companies studied used similar formulas.¹²

After the Second World War, however, public company executive pay began to shift its focus from value-sharing concepts to competitive-pay concepts. The American Management Association, working with McKinsey partner Arch Patton, conducted the first executive pay survey in 1950. The Hay Job Evaluation System, which was designed to measure differences in relative market value, was introduced in 1951; and by giving companies market rates for every management job, the Hay System made it much easier for companies to use market rates to manage pay.

In the mid-1960s, for example, IBM undertook a major project to redesign its executive pay program. Prior to the study, IBM CEO Tom Watson had a 5% share of after-tax profit and 90 other executives had individual shares of corporate profit. After the study, each executive had a *target*

9 Anders, George (1992), *Merchants of Debt: KKR and the Mortgaging of American Business*, Basic Books: New York, NY, p. 161.

10 Baker, George P., and George David Smith (1998), *The New Financial Capitalists: Kohlberg Kravis and Roberts and the Creation of Corporate Value*, Cambridge University Press: Cambridge England, p. 116.

11 See Sloan, Alfred P. (1963), *My Years with General Motors*, Doubleday: New York, NY.

12 Baker, John Calhoun (1936), “Incentive Compensation Plans for Executives,” *Harvard Business Review* Vol 15 (Autumn) 44-61.

6 They also identify a sample of 89 public companies that are later taken private by PE firms. They use this sample to show that companies acquired by PE firms are little different from other public companies in terms of stock ownership, CEO salary and variable cash compensation percentage.

7 Leslie and Oyer (2009), p. 23. They note that “salary levels take longer (three to four years) to reach public company levels than stock ownership does.”

8 Leslie and Oyer (2009), p. 5.

annual bonus, expressed as a multiple of salary, and a *target* annual option grant, expressed as a multiple of annual cash compensation. At the end of *every* year, option grant shares were reset—and in a way that, as discussed below, undermined and subverted the desired effect of the system.

This evolution of public company executive pay reflected a broad shift in the view of the best way to achieve the three basic objectives of executive pay: (1) providing strong incentives to increase efficiency and value; (2) retaining key management talent; and (3) limiting total compensation costs to levels that maximize the wealth of existing shareholders. Strong incentives require close alignment of “incentive” or “variable” pay with changes in shareholder value, as well as a high ratio of such pay to “fixed” pay such as salary. With partnership concepts, it’s easy to achieve the first and third of these objectives, but difficult to achieve the second—for example, when times get tough, and option grants are all well under water, it may be hard to retain talented executives who become demoralized. Competitive pay concepts easily achieve the second and third objectives, but struggle to deliver on the first and arguably most important.

The fixed-sharing element in the GM bonus plan is particularly effective in promoting the alignment of manager and investor interests because executives can increase their pay only by increasing aggregate “economic” profit, which in turn increases shareholder value. And it provides strong incentives as long as the expected bonus is substantial in relation to base salary. Moreover, limiting the fixed share to 10%, as GM did, caps the cost of executive pay at levels that are unlikely to undermine shareholder returns. The biggest challenge with fixed sharing, as suggested, is managing retention. The answer to that challenge involves taking a multiyear approach: the plan needs to build up a reserve in good times in order to provide more competitive pay in periods of poor performance caused by market and industry factors.

Competitive pay targets, such as those designed to keep their top executives at 50th percentile total compensation by making annual adjustments, make it easy to retain key talent because expected pay never falls below the target pay percentile. They also control cost because expected pay doesn’t rise above the targeted pay percentile. The daunting challenge in these compensation programs is creating strong incentives. Translating dollar pay targets into shares creates the unfortunate (for shareholders) and presumably unintended effect of *penalizing superior performance with a reduction in shares, while effectively rewarding substandard performance with an increase in shares.*

To illustrate with a simple example, if target pay is \$100,000 and the share price is \$20, then 5,000 shares are

required to provide competitive pay. But if the stock price increases to \$40, the number of shares awarded in the following year will fall to 2,500; and if the stock price drops to \$10, the number of shares granted will rise to 10,000. In the former case, executives are penalized in the form of lower grant shares because of a higher share price; in the latter case, they are rewarded with higher grant shares because the share price went down.

Measuring the Performance Penalty in Public Company Equity Grants

While almost all public companies describe competitive target pay as a key compensation objective, evidence of performance penalties in grant practices has been largely anecdotal or indirect. Among the most infamous cases is that of John Akers of IBM. In 1986, the year he became CEO, Akers received an option on 19,000 shares exercisable at \$145. In each of the next four years, the stock price declined and the IBM directors lowered the exercise price and granted more shares to offset the decline in the option value per share. In 1990, he received an option on 96,000 shares exercisable at \$97. By the time he was forced out in 1992, the board had put him in a position to make \$17.6 million just for getting the stock price back to \$145.¹³

But how widespread is such behavior, and how representative the case? To answer this question, in a 2013 article in this journal, Mark Gressle and I presented a list of 15 CEOs who stood to make almost \$70 million each as a result of just the additional shares and lower exercise prices they received in a five-year period as a result of declines in the stock price.¹⁴

In the same article, Gressle and I also presented the findings of a Monte Carlo simulation of cumulative five-year pay from competitive annual stock grants.¹⁵ We assumed annual competitive pay of \$4 million and a beginning stock price of \$50, so that each scenario started with a grant of 80,000 shares. But when we compared total shares for all five years, the scenarios at the 90th percentile—*those in which stock performance is worst in the earliest years*—received 755,000 shares, an average of 169,000 a year for years 2-5, while the scenarios at the 10th percentile—those in which early performance is strong—received only 245,000 shares, an average of just 41,000 a year for years 2-5. Assuming a year 6 stock price

13 See O’Byrne, Stephen F. (1995), “Total Compensation Strategy”, *Journal of Applied Corporate Finance*, Vol. 8, No. 2 (Summer).

14 O’Byrne, Stephen F., and E. Mark Gressle (2013), “How Competitive Pay Undermines Pay for Performance (and How to Fix That),” *Journal of Applied Corporate Finance*, Vol. 25, No. 2 (Summer), p. 30. The gain is calculated at the highest stock price in the 5 year period following the initial grant.

15 We simulated annual stock prices and calculated competitive grant shares for each year, i.e., the number of shares needed to provide target pay of \$4 million.

of \$80, the lucky executives at the 90th percentile—executives who managed to double their annual grant shares despite (or actually because of) poor performance, realized a total gain of \$60 million, more than three times the gain realized by the unlucky executives at the 10th percentile, who cut their own annual grant shares in half with good performance. Using competitive annual *option* instead of share grants, our simulations showed an executive wealth difference of 11 times given a year 6 stock price of \$80.

We also find indirect evidence of the subverting effects of competitive pay policy when we look at the performance sensitivity of the *grant date pay* reported in proxy statements. Grant date pay is clearly expected to show greater sensitivity than target pay to shareholder performance if only because grant date pay includes the actual, not the targeted, bonus awards and stock grants. As I will explain in more detail below, the most useful measure of pay-performance sensitivity is what I call *pay leverage*; it is the ratio of the percentage change in pay to the percentage change in shareholder wealth. For example, an annual grant of a *fixed* number of shares should result in pay leverage of 1.0. Competitive pay policy, by contrast, is *expected* to result in pay leverage of 0, precisely *because* an increase in stock price is expected to be completely offset by a reduction in the number of granted shares, leaving target pay unchanged.

In a study some years ago, I found that the median grant date pay leverage of S&P 1500 CEOs was in fact only 0.19—and thus much closer to zero than 1.0. What this says is that for each 1% increase in shareholder wealth, the CEO experienced—and could be expected to experience in the future—an average increase in grant date pay of just 0.19%.¹⁶

More recently, I conducted a study that provides a more direct estimate of the performance penalty in public company equity grants. For the five highest-paid executives in S&P 1500 companies during the years 1992–2019, I compared the three-year change in grant shares¹⁷ with the three-year change in stock price, controlling for changes in market pay and the shortfall from market pay at the start of the three-year period. If companies fully embrace competitive pay policy, the three-year price change should fully offset the three-year share change and the percentage change in share grants should be equal to -1 times the change in share prices. So, if the three-year change in the share price is a positive 30%, the

expected percentage change in the number of share grants under a fully competitive pay policy would be a negative 30%. The multiplier on the percentage change in price can be seen as capturing the extent of the performance penalty, with a multiplier of -1.0 indicating a 100% performance penalty, a multiplier of -0.5 tantamount to a 50% performance penalty, and so forth.¹⁸

What I found is that, although the multiplier on the percentage change in price was not -1.0, it was substantially negative—around -0.5 before 2007—and getting worse—roughly -0.7—since 2007.¹⁹

The good news, then,—if one can call it that—is that the average U.S. public company does not fully embrace competitive pay policy. The bad news is that the performance penalty in U.S. public companies is very much alive, showing no sign of disappearing—and, in the process, it is providing public company incentives to create efficiency and value that are much weaker than those at PE-owned companies. The price change multiplier of -0.7 that appears to have been in effect since 2007 suggests, for example, that the incentive provided by the front-loaded option grants of a PE-owned company is roughly *five times greater* than the incentive provided by the future equity grants of a public company. The best measure of incentive strength, as I mentioned above, is *pay leverage*, which again is the ratio of the percentage change in pay to percentage change in shareholder wealth.²⁰ If an executive receives a stock grant upfront, the pay leverage of that stock is 1.0 since a 10% increase in shareholder wealth provides a 10% increase in stock value. If the executive receives an option grant upfront, the pay leverage of that option is roughly 1.5 since a 10% increase in shareholder wealth provides a 15% increase in the value of the option.²¹

18 A multiplier of 0.0 would be no performance penalty, i.e., grant shares are unaffected by the stock price, so expected grant shares are prior grant shares. A positive multiplier, e.g., 0.5, would be a sign of high pay leverage, i.e., pay leverage above 1.0, where superior performance is rewarded with more shares and poor performance is penalized with fewer shares.

19 I use a log-log model to show how percentage changes in stock price affect shares granted. My dependent variable is the share change, i.e., $\ln(\text{shares granted}[0]/\text{shares granted}[-3])$, and my independent variables are the price change, i.e., $\ln(\text{price}[0]/\text{price}[-3])$, the executive's shortfall from market at the start of the three-year period, i.e., $\ln(\text{market pay}[-3]/\text{total compensation}[-3])$ and the change in market pay for the executive's position from year [-3] to year [-1]. I split the price change into two variables, one for 1992–2006 and one for 2007–2019, so we can see whether the performance penalty is getting bigger or smaller over time. The year 2006 is the last year of the old, less detailed, proxy disclosure rules and splits the 28 Execucomp data years roughly in half.

For the history years through 2006, our share change equation is: $\text{shares}[0]/\text{shares}[-3] = 1.00 \times (\text{market pay}[-3]/\text{actual pay}[-3])^{0.66} \times (\text{market pay}[-1]/\text{market pay}[-3])^{0.97} \times (\text{price}[0]/\text{price}[-3])^{-0.50}$.

For the history years since 2006, our share change equation is: $\text{shares}[0]/\text{shares}[-3] = 1.00 \times (\text{market pay}[-3]/\text{actual pay}[-3])^{0.66} \times (\text{market pay}[-1]/\text{market pay}[-3])^{0.97} \times (\text{price}[0]/\text{price}[-3])^{-0.71}$.

20 Pay leverage is calculated as $\ln(\text{pay}[0]/\text{pay}[-3])/\ln(\text{price}[0]/\text{price}[-3])$.

21 Option leverage of 1.5 is the leverage of the Black-Scholes value for a 10-year at the money option using a typical stock volatility of 0.4.

16 O'Byrne, Stephen F. (2011), "Assessing Pay for Performance," *Conference Board Director Notes*, Vol. 3, No. 19 (October).

17 Each grant pair was equity compensation in a year compared to equity compensation for the same executive three years earlier. In each year, I used company fair values to convert option and performance share grants to equivalent common stock shares, so I have a single share total for each year, covering restricted share grants, option grants, and performance share grants.

Figure 1

Relative Pay vs. Relative TSR

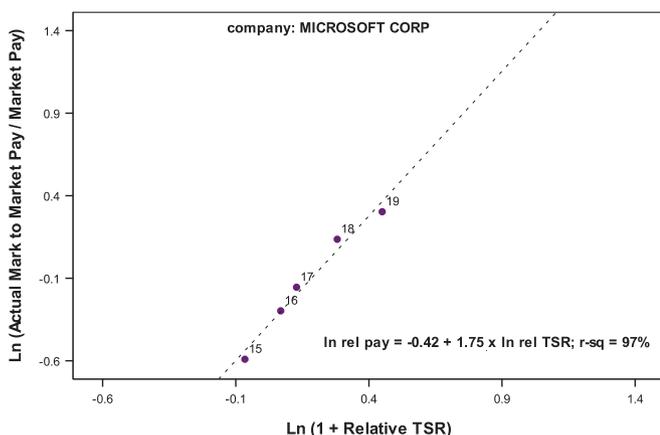
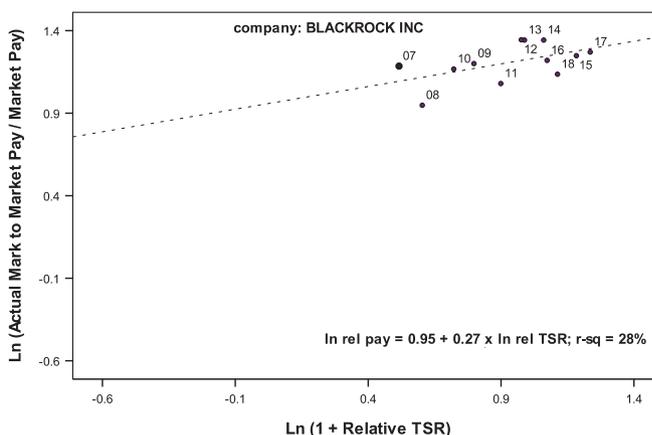


Figure 2

Relative Pay vs. Relative TSR



But if the executive of a public company has *only the expectation* of a *future* grant, the pay leverage of that future stock grant drops to just 0.3.²² This effectively makes the pay leverage of a front loaded option grant by a PE firm roughly *five times* (1.5/0.3) that of the pay leverage of a public company’s future equity grants.²³

Better Measures of the Key Dimensions of Executive Pay

Measuring the performance penalty helps us understand the problems created by competitive pay policy, but doesn’t give us a measure of a company’s success in achieving the three basic objectives of executive pay. Figures 1 and 2, which represent the pay and performance of Microsoft CEO Satya Nadella and BlackRock CEO Larry Fink, respectively, show how to measure the three basic objectives. Both exhibits cover the executive’s CEO years reported in the Execucomp database: 2015-2019 for Nadella and 2007-2018 for Fink. The vertical axis measures relative pay and the horizontal axis measures relative performance, both using natural log scales. Relative pay is cumulative “mark to market” pay divided by cumulative market pay. (Mark-to-market pay, often called “realizable”

pay, values equity compensation based on the ending stock price and estimated vesting percentage.) Cumulative pay is measured from the start of the first year (2015 for Nadella, 2007 for Fink) through the end of the indicated year. Relative performance is relative TSR, calculated to take account of each company’s “industry beta.”²⁴

The regression trendline can be viewed as providing measures of each company’s success in achieving the three basic objectives of executive pay. The slope of the line is our measure of incentive strength “pay leverage”—again, loosely speaking, the ratio of percentage change in relative pay to the percentage change in relative shareholder wealth.²⁵ As suggested by the Figures, Nadella has a much stronger incentive than Fink. Nadella’s pay leverage is 1.75, or more than six times Fink’s pay leverage of 0.27. This means that a 1% increase in relative shareholder wealth increases Nadella’s pay by 1.75% and Fink’s pay by only 0.25%.

The intercepts in the two figures, which represent a measure of the “pay premium at industry average performance,” serve as both a measure of the retention incentive and shareholder cost. Whereas Nadella is paid 34% below average at average performance, Fink is paid 159% above average at average performance.²⁶

This analysis provides two other measures that are useful in thinking about executive pay. One is the correlation of relative pay and relative performance, which is a measure of

22 To see this, note that a 10% increase in share price increases the price per share by a factor of 1.1, but the performance penalty reduces the number of shares awarded by a factor of (1.1)^{-0.7}, so the grant value, i.e., price x shares, changes by a factor of only 1.1 x (1.1^{-0.7}) = 1.1^{0.3} = 1.03 and pay leverage is only 0.3.

23 In a study published in this journal in 1999, “The Design of Multi-Year Stock Option Plans,” *Journal of Applied Corporate Finance* Vol. 12 No. 2 (Summer), Harvard professor Brian Hall analyzed 2,280 stock option grants received by 478 CEOs over the years 1980-1994 and found option grant pay leverage of 0.96. While Hall did not take account of shortfalls from market pay or changes in market pay, his analysis implies that there has been a remarkable decline in equity grant pay leverage over time: from 0.96 in 1980-1994 to 0.5 in 1992-2006 to 0.3 in 2007-2019.

24 Industry beta is the sensitivity of the company stock to the industry return.

25 Pay leverage is the ratio of ln (natural log) change in relative pay to the ln change in relative shareholder wealth. For small changes, the ln ratio is very close to the ratio of the percentage changes.

26 For Nadella, exp(-.42) – 1 = -34%. For Fink, exp(0.95) – 1 = 159%.

pay alignment; the second, which is the slope divided by the correlation, is a measure of relative pay risk. The graphs show that whereas relative performance explains 97% of the variation in Nadella's relative pay, it accounts for just 28% of the variation in Fink's relative pay. All of which is to say that, whereas Nadella is highly exposed to the risks of his company's performance—Fink's exposure is quite modest.

And there is, of course, major irony in all this: The leading proxy advisor Institutional Shareholder Services (ISS), while having never voiced objections to Fink's pay, recommended a "no" vote on the 2019 Say on Pay vote at Microsoft, arguing that the increase in Nadella's base salary from \$1.5 to \$2.5 million was unjustified.²⁷ ISS said that "while some year-over-year increases in base pay may be reasonable with the backdrop of strong long-term performance, any substantial increases should be strongly performance-based."

The ISS no vote recommendation is a telling commentary on the dismal state of executive pay analytics. Besides lacking meaningful measures of pay leverage or pay alignment, ISS seemed completely unaware that Nadella was paid far below average at average performance.

One major contributor to the sorry state of executive pay analytics is a long line of academic papers with poorly designed measures of incentive strength. The 1990 paper by Michael Jensen and Kevin Murphy has had huge influence on subsequent work, but its measure of incentive strength—the executive's dollar gain per \$1,000 of shareholder wealth gain—is useful for analyzing decisions about perquisites but for little else. Jensen and Murphy reported finding, for example, that a \$1,000 increase in Exxon shareholder wealth increased then CEO Lawrence Rawl's wealth by only 25 cents. The shortcoming of this measure is apparent if we compare the purchase of an executive jet with a major acquisition. In both cases, there is a personal benefit to the executive and, for an unneeded jet and bad acquisition, a cost to the shareholder. For the jet purchase, the benefit to the executive is essentially the same as the cost to the shareholder—namely, the lease cost of the jet. In the case of the bad acquisition, the personal benefit to the executive, the additional pay and prestige that come with running a larger company, is likely to be a small fraction of the cost to the shareholders—shareholder wealth losses from bad acquisitions have run to 10% of firm value and larger. The Jensen-Murphy sharing ratio fails to provide an effective incentive measure in the case of acquisitions and other large strategic investments—the things that really make a difference for shareholders—because of its failure to take account of

the disparity between executive benefit and shareholder cost, and thus of the possibility that the executive's small share of a very large cost may well exceed his large share of the much smaller benefit.

To understand the incentives of top managers in very large public companies, percentage ownership is not likely to be meaningful; it's more important to understand his pay and wealth leverage, how his income and wealth are affected by changes in the value of the company. Microsoft CEO Satya Nadella has pay leverage of 1.75 even though his stock ownership percentage is only .012%.²⁸ The measure used by Robert Jackson—the executive's dollar gain from stock and option holdings for a 1% increase in shareholder wealth—suffers from much the same limitations as Jensen and Murphy's: it is biased by company size, and so requires a size adjustment for cross-company comparisons; and it ignores a key component of executive wealth—namely, the present value of expected future compensation.²⁹

Four Lessons from the Executive Pay History of General Motors

The value-sharing period in public company executive pay provides four lessons that I will argue can be used to strengthen pay in not only public companies, but in PE portfolio companies as well. These lessons are all drawn from a brief history of executive pay at General Motors that David Young and I published in this journal in 2017.³⁰

The first lesson is that fixed sharing programs can last a very long time, much longer than the common eight-year horizon of PE funds. General Motors used the same basic bonus pool formula from 1918 to 1977, a total of 60 years. The formula was never sacrosanct but the changes the board thought desirable were quite modest. In 1922, the board raised the capital charge from 6% to 7%. In 1947, the sharing percentage was increased from 10% to 12% and the capital charge was reduced from 7% to 5%. These changes were a

28 Nadella owns 951,502 shares, or .012% of Microsoft's 7.6 billion shares.

29 In a remarkably perceptive 2012 paper, "Dynamic CEO Compensation," Alex Edmans and Xavier Gabaix argue for wealth leverage—the ratio of percentage change in executive wealth to percentage change in shareholder wealth—saying that "percentage incentives are relevant because effort has a multiplicative (i.e., percentage) effect on both CEO utility and firm value" and rebut Kevin Murphy's argument that "elasticities have no corresponding agency-theoretic interpretation." Edmans, Alex, Xavier Gabaix, Tomasz Szadzik, and Yuliy Sannikov (2012), "Dynamic CEO Compensation," *Journal of Finance*, Vol LXVII, No. 5 (October), p. 1619. Nevertheless, in a new book aimed at a much broader audience, Edmans makes no mention of the "Dynamic CEO Compensation" plan, presents no measures of wealth leverage, and advocates pay in long vesting restricted shares without any discussion of grant guidelines or evidence on wealth leverage. Edmans, Alex (2020), *Grow the Pie: How Great Companies Deliver Both Purpose and Profit*, Cambridge University Press: Cambridge, UK.

30 O'Byrne, Stephen F., and S. David Young (2017), "The Evolution of Executive Pay Policy at General Motors 1918-2008", *Journal of Applied Corporate Finance*, Vol. 29 No. 1 (Winter).

27 Institutional Shareholder Services, Proxy Alert on Microsoft Corporation, 14 November 2019.

response to the sharp increase in corporate tax rates during World War II, which significantly raised the pretax performance needed to maintain the bonus pool. It was approved by a special committee made up entirely of large shareholders, or those who represented large shareholder interests. The special committee felt that this share transfer to managers was in the interest of shareholders because it would prevent a substantial decline in bonus payouts relative to salary, and so maintain the strength of the incentive provided by the plan. This new formula was used, without any change, until 1962.

The second lesson is that it is possible to increase wealth leverage without abandoning the fixed sharing partnership. PE portfolio companies have typically increased management's wealth leverage at the time of the acquisition by getting the management team to buy stock and then granting options that match the manager's share purchase 3 to 1. This provides a one-time boost in wealth leverage that dissipates after the companies goes public in an IPO. As Leslie and Oyer note, "managerial ownership is very high before the IPO and at the time of the IPO, but quickly drops to levels similar to public firms."³¹

Twice in its history, General Motors chose to use leveraged stock purchases to increase management stock ownership and wealth leverage expressly in order to avoid changing the bonus formula or granting stock or options outside the bonus formula. In 1923, in what might be viewed as the first partial management buyout of a public company, 80 GM managers put up \$5 million to invest in a separate legal entity called the Managers Securities Company (MSC) that acquired \$33.8 million in GM common stock from large GM shareholders Pierre duPont and John Raskob. The GM managers paid DuPont and Raskob the then market price of \$15 per share and financed the purchase with \$5 million in cash and \$27.8 million in 7% cumulative preferred stock.³² As part of the transaction, GM agreed to pay half of the bonus pool to MSC for eight years and the managers agreed to forgo their bonuses during that period. In essence, a group of GM managers put up 15% of the purchase price and used their bonuses for the next eight years to cover the dividend and repayment of the preferred stock. The bonus pool allocated to MSC grew so rapidly in the years after 1923 that MSC was able to retire the preferred stock by April 1927.

The third and fourth lessons come from the demise of the GM fixed-sharing partnership in 1977. In 1977, the board

abandoned the single-pool concept and granted options that were not paid out of the pool. In justifying its decisions, the board said that "the fact that options could only be granted in relation to bonus awards places GM's Plan at a distinct disadvantage compared to option plans at other firms." The GM plan had always relied on board judgment to build up a reserve in good times that would provide flexibility for payouts in periods of poor performance. But the board had made a series of short-sighted decisions that reduced the reserve available in 1977. In 1957, \$19 million of bonus reserve was used to boost net income; and during the period 1962-66, only 68% of the formula amount was credited to the bonus reserve. In 1967, the sharing percentage above 15% ROIC was reduced from 12% to 6%. And in 1972, the sharing percentage above 15% ROIC was further reduced to 5%, and the sharing percentage from 7% to 15% ROIC was reduced from 12% to 8%. So, when faced in 1977 with a much depleted bonus reserve, the board decided that it needed to raise additional compensation dollars by granting options *outside the Bonus Plan* while making no apparent effort to find a solution that maintained the fixed-sharing partnership.

The board could instead have chosen to reverse the prior givebacks, borrow from future bonus pools, or add a formula adjustment for industry performance. Earlier GM boards had gone to great lengths to achieve key compensation objectives while preserving the fixed sharing partnership. For example, in 1947, when Congress approved tax qualified stock options and competitors were rushing to grant options outside their bonus formulas, the GM board developed a very thoughtful structure of "contingent credits" that allowed it to grant tax-qualified stock options while still charging them against the bonus pool.

The third lesson, then, is that the long-term survival of a fixed-sharing partnership requires a means for accommodating poor industry performance. A great attraction of competitive pay concepts is that they spare the board the challenging task of distinguishing poor performance attributable to industry-wide factors from poor performance attributable to management. Competitive pay automatically increases share grants for all poor performance regardless of its source.

A much better solution to the industry downturn and retention problem—one that effectively distinguishes between poor performance attributable to industry-wide effects and substandard management—can be created within fixed-sharing systems. In fact, the pay leverage analysis illustrated in Figures 1 and 2 leads to a surprisingly simple way to adjust for industry performance. I refer to it as the "perfect" pay plan because it puts all the observations on a trendline with a slope of 1, a correlation of 1.0, and an intercept of zero. In

31 Leslie and Oyer (2009), p. 23.

32 Pierre duPont had just retired as the president of GM. Raskob was the CFO of DuPont and General Motors. The transaction allowed them to sell a large block of stock without depressing the market price, in addition to strengthening management incentives.

such a plan, annual grants of performance shares are designed to provide a perfect correlation with pay leverage of 1.0 and a zero pay premium at industry average performance—that is, to provide industry average pay at industry average performance.³³

Such a “perfect” pay plan departs from public company practice in three important ways. First, target pay is calculated as market pay adjusted for trailing relative performance—and by adjusted, I mean increased (not penalized) for superior performance and reduced for poor performance.³⁴ Second, the vesting multiple is calculated as $1/(1 + \text{the industry return from the date of grant})$; this has the effect, as discussed below, of removing the industry component of the stock return. Third, all cash distributed prior to retirement is treated as a draw against the value of the performance shares.

The perfect pay plan rewards managers for the cumulative excess return over the life of the plan. It does this by tying target pay—that is, grant value—to the trailing excess return and by using vesting to limit the stock gain, post-grant, to the excess return. Public companies do little to tie target pay to the trailing excess return because they embrace competitive pay policy, which as we have seen eliminates any link between target pay and the trailing excess return. Nevertheless, many public companies do try to link the stock gain, post-grant, to the excess return, typically by tying the vesting multiple to relative TSR—say, by making the vesting multiple equal to $(1 + r\text{TSR})$. For example, a vesting multiple of $1 + r\text{TSR}$ effectively rewards a 50% excess return with 150% vesting, and punishes a -50% excess return with only 50% vesting.

On the surface, this looks like an effective way to reward the excess return and superior performance. In reality, it not only allows the manager to participate in the industry return, but actually leverages that return. For example, it's easy to show that the manager effectively is credited for 100% of the industry return when relative TSR is zero, and rewarded with a higher multiple of the industry return when relative TSR is positive.³⁵ This is not an effective way to tie pay to relative performance. The perfect pay plan offers a solution to this problem by adjusting for industry performance.³⁶

The fourth lesson of the GM pay history is that creative problem solving to retain key managers while still protecting shareholder interests requires a board with strong financial incentives to look out for shareholder interests. The median member of the 1977 GM board that dropped the single-pool concept owned 500 shares worth \$34,000 and received an annual director's fee of \$47,000. The median member of the 1947 board that developed the creative contingent credit scheme owned 28,524 shares worth \$1.65 million and received a director's fee of \$900. In thinking about the director's incentive to look after labor providers (i.e., managers and directors) vs. capital providers, consider that, in 1947, the median GM's director's fee was .006x his expected stock return. By 1977, the director's fee was almost 14 times the expected stock return (assuming a 10% expected return). And the pay of GM's top managers had become similarly divorced from the fortunes of GM stockholders.

Conclusion

Private equity is a modern voice repeating two key lessons from executive pay history. Unlike the competitive pay practices that have been undermining performance incentives at public companies since the 1970s, the fixed-sharing and partnership concepts that inform PE compensation plans provide managers and directors with strong financial incentives to increase shareholder value. But perhaps because private equity has made little effort to limit fixed sharing to the “excess” as opposed to the “total” return, its positive impact on public company pay has been modest; PE continues to speak the hard-to-translate language of sharing percentages and percentage dilution instead of the clear language of wealth and pay leverage.

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33 See O'Byrne, Stephen F. (2014), “Three Versions of Perfect Pay for Performance (Or The Rebirth of Partnership Concepts in Executive Pay),” *Journal of Applied Corporate Finance*, Vol. 26, No. 1 (Winter).

34 For pay leverage of 1.0, target pay = market pay x (1 + relative TSR) where relative TSR is measured from the start of the plan.

35 When the vesting multiple is $(1 + r\text{TSR})$, the vesting stock value is equal to grant value x $(1 + \text{TSR}) \times (1 + r\text{TSR})$. Since $(1 + \text{TSR}) = (1 + i\text{TSR}) \times (1 + r\text{TSR})$, we can express the vesting stock value as grant value x $(1 + i\text{TSR}) \times (1 + r\text{TSR}) \times (1 + r\text{TSR})$.

36 The formula, $1 + \text{TSR} = (1 + i\text{TSR}) \times (1 + r\text{TSR})$, shows that the right way to isolate the excess return is to divide by $(1 + i\text{TSR})$, not to multiply by $(1 + r\text{TSR})$. This is exactly what the perfect pay plan does.

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