Should public company executive pay mirror private equity compensation?

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SHAREHOLDER VALUE ADVISORS

Should public company pay be more like private equity fund pay? This analysis compares incentive structures, retention, and shareholder cost, exploring how formula-based pay plans improve alignment, leverage, and value creation for investors in both corporate models

Public companies and private equity funds have many common investors, and these investors share common goals for their asset managers' pay. They aim to create strong incentives to enhance shareholder value, retain key talent, and minimise shareholder costs. And the teams managing their assets in public companies and private equity funds face similar demands; they need to monitor their business units to ensure they add value, and they buy and sell business units to add value. But despite common ownership, shared pay objectives, and similar management responsibilities, public companies and private equity funds have very different pay systems.

Public companies are focused on maintaining target dollar pay that is competitive in the labour market, aiming for a high percentage of pay at risk and limiting the impact of market and industry factors on pay. Private equity fund pay is focused on fixed sharing and front-loaded incentives. It typically provides for an annual fee of 2% of committed capital and a 20% carried interest, that is, a 20% share of the gains achieved by the fund.

This paper presents a common framework for measuring the success of the two approaches in achieving the three basic objectives.

A new framework to measure 3 objectives

Our framework for measuring success in achieving the three basic objectives of management compensation was originally developed for public companies more than ten years ago. [(1)] It plots relative market-to-market pay vs relative TSR for each company using 5+ years of data and then calculates the regression trendline. The slope of the trendline, what we call "pay leverage", is a measure of incentive strength, the first of the three basic objectives. It measures the percent change in relative pay associated with a 1% change in relative shareholder wealth. The intercept, where the trendline crosses the vertical axis at zero relative TSR, is a measure of performance-adjusted cost. It measures the pay premium at peer group average performance. It provides a negative measure of retention risk, that is, the risk of not retaining key talent – the second basic objective - and a positive measure of shareholder cost – the third basic objective. [(2)] This analysis originally required complex and time-consuming estimates of mark-to-market pay calculated from the grant data reported in the proxy statement. Now, the analysis can be done easily using the mark-to-market pay data reported in a public company's proxy statement disclosure of Pay Versus Performance.

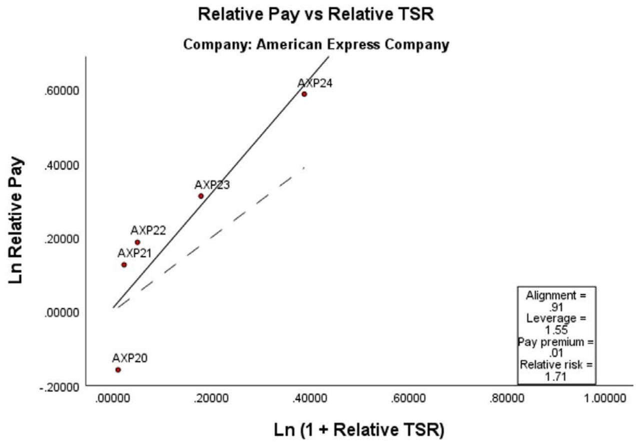
We have extended our pay vs. performance analysis to private equity fund pay in two ways. First, we simulate pay for public company CEOs using the pay mix and structure of private equity funds. In these simulations, we assume that the CEO has "x and 10x" pay, i.e., annual fixed pay of $x and a ten-year upfront at-the-money option on $10x of stock. We solve for x to ensure that the present value of expected future pay for the CEO equals the present value of market pay for the CEO. We measure relative TSR using peer group performance, adjusted for the company's industry beta. Second, we simulate the full 2 and 20 formula and assume that the private equity fund CEO gets the same share of total payroll, i.e., the total fee generated by the 2 and 20 formula, as a public company CEO in capital markets (GICS industry group 4020) receives of an equally large payroll. For these simulations, we assume that the fund has a portfolio of ten similarly sized companies, and we measure relative TSR using market performance, adjusted for the company's market beta.

Our key findings

Public companies often struggle to achieve the three basic objectives. Median public company CEO pay leverage is only 0.5, and relative TSR only explains 37% of the variation in relative pay for the median public company CEO. Only 13% of companies have high alignment with limited retention risk and limited shareholder cost.

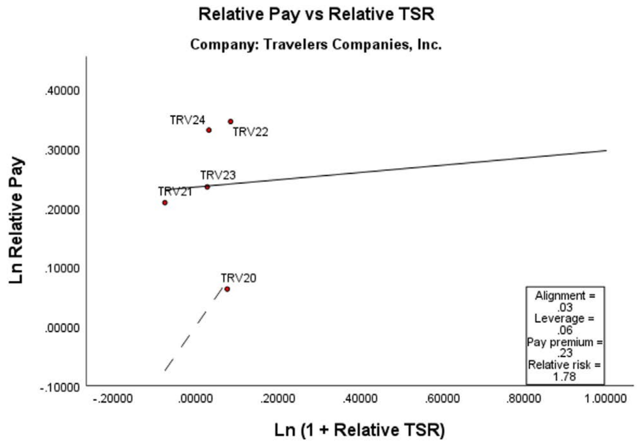
It is possible to design a formula-based pay plan for public companies – one that can be compared with formula-based private equity fund pay – that provides a perfect correlation of relative pay and relative TSR and gives the CEO the same pay leverage, pay alignment and performance-adjusted cost across all

Figure 1



Solid line is the company trendline. Dashed line is leverage = 1.0 with pay premium of zero

Figure 2



Solid line is the company trendline. Dashed line is leverage = 1.0 with pay premium of zero

performance outcomes. This perfect correlation pay plan, which provides annual grants of performance shares, departs from conventional CEO pay practice in two ways. First, target pay is market pay adjusted for trailing relative performance, not market pay regardless of trailing relative performance. Second, vesting takes out the industry component of the stock return. (3) Conventional vesting measures, such as [1 + relative TSR], amplify the industry component of the stock return instead of removing it. (4)

Private equity fund pay, despite using the same formula for all funds, fails to provide the same pay leverage, pay alignment and performance-adjusted cost across all performance outcomes. Pay dimensions vary with TSR and TSR volatility. Pay leverage at the 90th percentile is 20x greater than it is at the 10th percentile, and pay leverage at the 75th percentile is 2.8x greater than it is at the 25th percentile. But, despite this variability, private equity fund pay provides more consistent incentives than public companies do. The public company CEO pay leverage at the 75th percentile is 9.5 times greater than it is at the 25th percentile.

The pay mix and structure of private equity fund pay does a better job than the average public company of achieving the three basic objectives. 39% of the simulated x and 10x plans provide high alignment with limited retention risk and limited shareholder cost, while only 13% of public companies do the same. (5) The x and 10x pay plan does this even though it rewards the gross return, not the relative return, and has a lower percent of pay at risk than the median public company. It provides a strong incentive and high alignment because the carried interest is front-loaded. An x and annual 1x pay plan that provides an annual grant of carried interest on stock reduces pay leverage by half and pay alignment (r-sq) by three-quarters. The x and 10x pay plan would be even more cost-efficient if it provided a carried interest in the relative return.

The full 2 and 20 formula has a very high cost. At the 90th percentile, our 2 and 20 pay plan simulations indicate that the CEO pay premium at expected performance is 127% higher than that of public companies and 409% higher than that of x and 10x pay plans. (6)

Public company pay used to be more like private equity fund pay

While public company and private equity fund pay are currently quite different, one focusing on target dollar pay and the other on a target share of value added, public company pay in the first half of the twentieth century was much more like current private equity pay. In 1922, General Motors adopted an incentive plan that made the bonus pool equal to 10% of profits exceeding a 7% return on capital. GM used this plan without any change for 25 years and used the basic concept of fixed sharing in an economic profit pool from 1918 to 1982. The bonus pool covered both cash and stock incentive awards for everyone who received a bonus at GM. GM executives also received base salaries, so executive pay at GM was similar to private equity pay in having “fixed” pay and a fixed share of a value-added measure. Most other public companies had similar plans.

Our framework for evaluating public company pay

Figure 1 shows relative pay and relative TSR for American Express CEO Stephen Squeri for the years 2020-2024. The vertical axis shows the natural log of relative cumulative pay for each of the five years 2020-2024. Relative cumulative pay is mark-to-market pay divided by the future value of cumulative market pay. Mark to market pay values unvested equity compensation based on the year-end stock price and the number of shares expected to vest. The mark-to-market pay for 2020-2024 comes from American Express's "Pay Versus Performance" disclosure in its 2024 proxy statement. Market pay is average pay for the same position, industry, and company size, measured at the start of the five-year period. We estimate market pay for Squeri, $26.4 million, using a regression that relates the natural log of total compensation to the natural log of company revenue. (7) American Express's GICS industry is Consumer Finance. Market pay is a present value number, while mark-to-market pay is a future value number; therefore, we need to increase market pay to account for its expected annual accretion. Our annual accretion factor for American Express is 4.3%. (8)

The horizontal axis in Figure 1 is the natural log of (1 + relative cumulative TSR). The plot points show cumulative performance for each of the five years, 2020-2024. Relative TSR is [(1 + company TSR)/ (1 + peer group TSR)] – 1. Company TSR and peer group TSR are both reported in American Express's Pay Versus Performance disclosure. American Express's peer group is the S&P Financial Index, a sub-sector of the S&P 500. (9)

Figure 2 shows the same graph for Travelers' CEO Alan Schnitzer. (10) Market pay for the Travelers CEO position is $24.0 million. Travelers' industry is Insurance, and its peer group is a group of 13 financial, predominantly insurance, companies selected by Travelers.

The slope of the trendline shows the sensitivity of pay to performance, what we call "pay leverage". Figure 1 shows that Squeri has a pay leverage of 1.55, while Figure 2 shows that Schnitzer has a pay leverage of only 0.06. This means that a 1% increase in relative shareholder wealth increases Squeri's pay by 1.55% but only increases Schnitzer's pay by 0.06%. In other words, the financial incentive provided by pay is 26x greater for Squeri than it is for Schnitzer. The correlation between relative pay and relative TSR, which we refer to as "pay alignment," is much higher for Squeri, 0.91, than it is for Schnitzer, 0.03. This means that relative TSR explains 83% (= 0.91 x 0.91) of the variation in relative pay for Squeri, but 0% (= 0.03 x 0.03) for Schnitzer. The intercept, that is, the point where the trendline crosses the vertical axis arising at zero, measures the pay premium at industry-average performance. It's 0.01 for American Express and 0.23 for Travelers. Both premiums are stated in natural logs, but we can easily convert them to percentage premiums, 1% for American Express and 26% for Travelers. (11)

While the differences between Squeri and Schnitzer are substantial, the two executives are far from representing the extremes of the distribution of leverage, alignment, and the pay premium at industry-average performance. Figures 3 and 4 show the distribution of CEO pay leverage and pay alignment (r-sq) for 930 companies with the same CEO for the five years 2020-2024. (12) Squeri's pay leverage of 1.55 falls at the 85th percentile, while Schnitzer's pay leverage of 0.6 falls at the 20th percentile, so 35% of the sample have pay leverage greater than Squeri or lower than Schnitzer. Similarly, Squeri's pay alignment of 0.91 falls at the 85th percentile, while Schnitzer's pay alignment of 0.03 falls at the 20th percentile, so, again, 35% of the sample have pay alignment greater than Squeri or lower than Schnitzer. Their difference in the pay premium at peer group average performance is much smaller. Squeri's pay premium of 0.01 falls at the 50th percentile, while Schnitzer's pay premium of 0.23 falls at the 65th percentile.

The conventional wisdom that the three basic objectives of executive pay can be achieved by having a high percentage of pay at risk, while maintaining target pay at the 50th percentile, is widely accepted. The low level of median alignment (r-sq) and the wide dispersion in the pay premium at industry average performance suggest that the conventional wisdom is not effective for most companies. Only 41% of the 930 companies have alignment (r-sq) greater than 50% (13), and only 13% of the 930 companies have high alignment with limited retention risk, i.e., a pay premium at industry average performance no lower than -25%, and limited shareholder cost, i.e., a pay premium at industry average performance no greater than +25%.

Figure 3

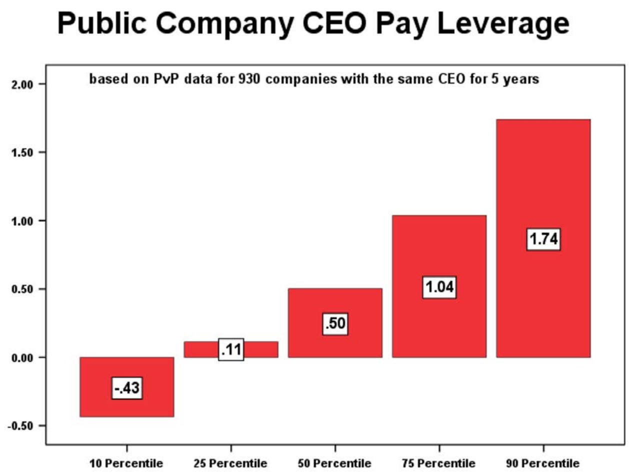
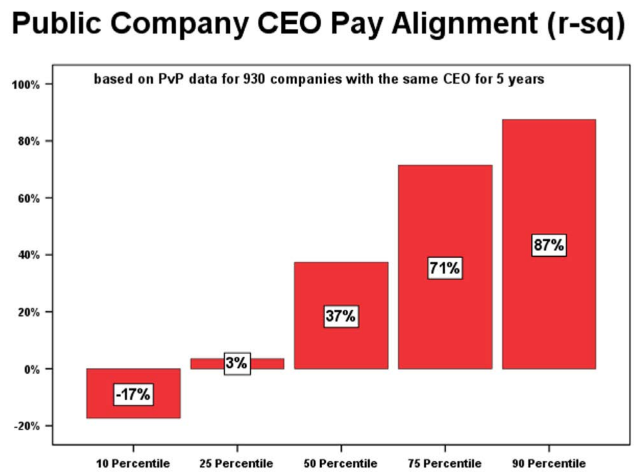


Figure 4



The perfect correlation pay plan says that target pay should be perfectly correlated with trailing relative performance and that the difference between the vesting stock value and the granted stock value should be perfectly correlated with the relative return from the grant date. The relative pay versus relative performance framework enables us to measure these two correlations and better understand where conventional wisdom falls short. To measure the correlation between target pay and trailing relative performance, we use grant date pay – the pay reported in the Summary Compensation Table – as a proxy for target pay and measure the correlation between relative grant date pay and relative TSR. To measure the correlation of the difference between vesting and granted stock value and relative TSR, we use the difference between relative mark-to-market pay and relative grant date pay and measure the correlation between the difference and relative TSR.

The median correlations with relative TSR are 0.61 for mark-to-market pay, 0.25 for SCT pay and 0.37 for post-grant date pay changes. At the median, mark-to-market pay alignment is roughly the sum of its two components, SCT pay alignment and post-grant date pay change alignment, since 0.25 + 0.37 = 0.62. The theory of the conventional wisdom is that a company can achieve perfect alignment with relative TSR through perfect alignment of post-grant date pay changes with relative TSR; the correlation of target pay with relative TSR can, and should, be zero to ensure that the company achieves its retention and cost objectives. In other words, the conventional wisdom expects the mark-to-market pay alignment = 0 x SCT alignment + 1 x post-grant date pay change alignment.

The data show that it's difficult to achieve the conventional wisdom that SCT pay alignment should be zero and post-grant date pay change alignment should be 1.0. 64 of 930 companies have post-grant date pay change alignment greater than 0.9, with an average of 0.94. But the average mark-to-market pay alignment of these companies is only 0.71. This means that relative TSR explains only 50% (= 0.71 x 0.71) of the variation in relative pay, even though post-grant date pay change alignment is 0.94. The problem with these 64 companies is that their SCT pay alignment is much lower than zero. They have a median SCT pay alignment of -0.55 and a mean SCT pay alignment of -0.30.

Empirical analysis of correlations for the 930 companies shows that the best fit formula for mark-to-market pay alignment is 0.77 x SCT pay alignment + 0.87 x post-grant date pay change alignment. This formula shows that the mean negative SCT alignment of the 64 companies, -0.30, reduces their expected mark to market pay alignment by -0.23 (= 0.77 x -0.30), bringing it down to their actual mean mark to market pay alignment, 0.71 = (0.94 – 0.23). When we use this formula to calculate the SCT alignment companies need to achieve a mark-to-market pay alignment of 1.0, given their actual post-grant date pay change alignment, we find that the median company needs SCT alignment of 0.68 to achieve perfect mark-to-market pay alignment. This is 2.7 times greater than the median company's actual SCT pay alignment of 0.25. This shows that companies will struggle to achieve high levels of mark-to-market pay alignment unless they abandon their competitive pay policies and make target pay more performance-sensitive.

Adapting our pay vs performance analysis to x and 10x

We'll use American Express and Travelers as examples again and model the x and 10x pay plan for the ten years 2014-2023. [14] At the end of 2013, the market pay for the American Express CEO was $24.8 million, based on American Express's market equity value of $97.8 billion, and the ten-year present value of market pay is $170.3 million. [15] We can solve for the asset fee (AF) and carried interest that have the same present value if we know the Black-Scholes ratio value, i.e., the ten year at the money option value as a percent of the beginning stock price, 0.55 for American Express in 2013, and the present value of an annual payment of $1 for ten years, 6.86. [16] The annual asset fee is $13.8 million, and the carried interest provides a ten-year at-the-money option on $137.8 million in stock. The expected value of the carried interest is $75.8 million (= $137.8 million x 0.55), so the x and 10x pay plan has only 45% (= 75.8/170.3) of pay at risk on a present value basis.

Figures 5 and 6 show x and 10x pay dimensions for American Express and Travelers measured against gross, not relative, TSR. Both simulations use the same payment formula, so it's surprising that pay leverage for American Express, 0.95, is almost twice as great as pay leverage for Travelers, 0.50. This shows that x and 10x pay don't provide the consistency of the perfect correlation pay plan. It does not provide the same leverage and alignment regardless of performance.

Our simulations, which utilise 21,453 ten-year periods, show that gross return pay leverage ranges from 0.31 at the 10th percentile to 0.88 at the 90th percentile, while gross return alignment ranges from 0.57 at the 10th percentile to 0.98 at the 90th percentile. Performance has a big impact on gross return leverage and alignment. One easy way to see this is to compare gross return pay leverage for companies where the carried interest is never in the money with all other companies. Median pay leverage for "never in the money" carried interest companies is only 0.22, compared to 0.65 for companies where the carried interest is in the money at the end of at least one year. The impact of performance on pay leverage is complicated because better performance has both positive and negative effects on pay leverage. Better performance has a positive effect because it increases the expected value of the carried interest, and hence, increases the weight of performance-sensitive pay relative to fixed pay. But better performance also has a negative effect on pay leverage because the carried interest is an option. Option leverage is 1.6 for a ten-year at-the-money option for a company with median volatility (0.32), but this leverage declines to 1.1 if the stock price is 10 times the exercise price after 5 years.

Figure 5

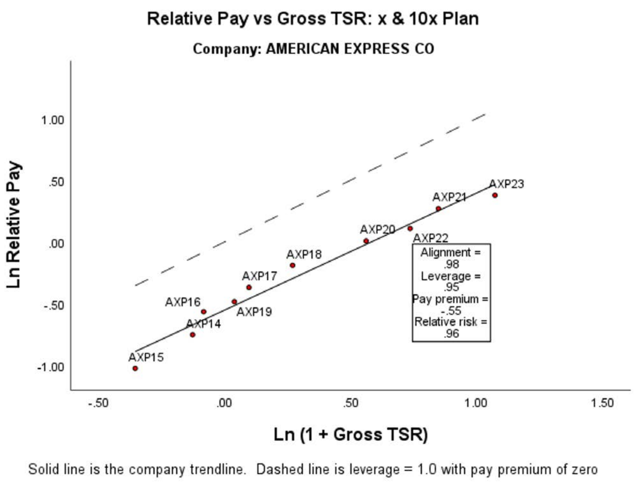


Figure 6

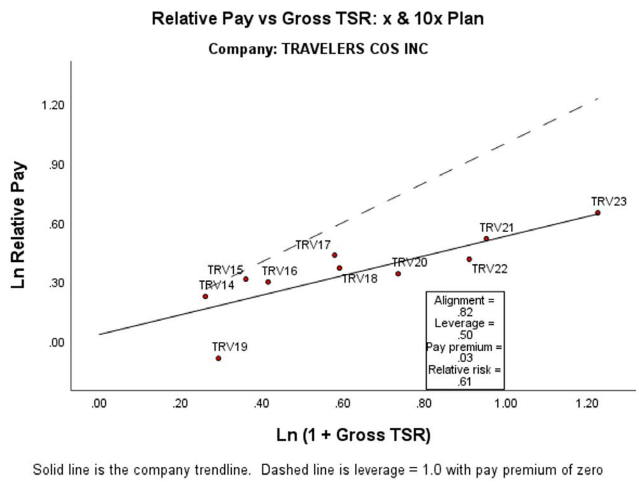
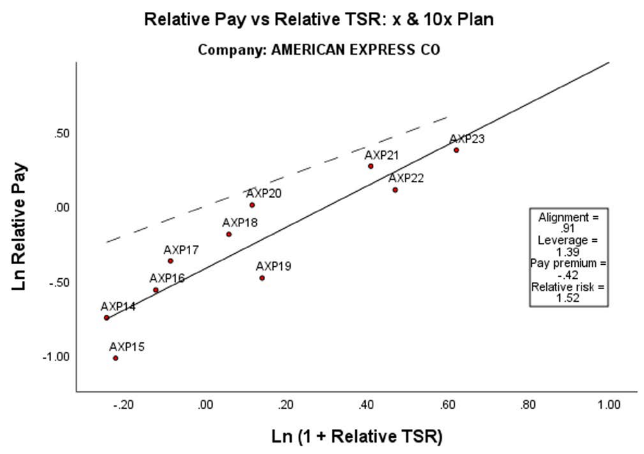
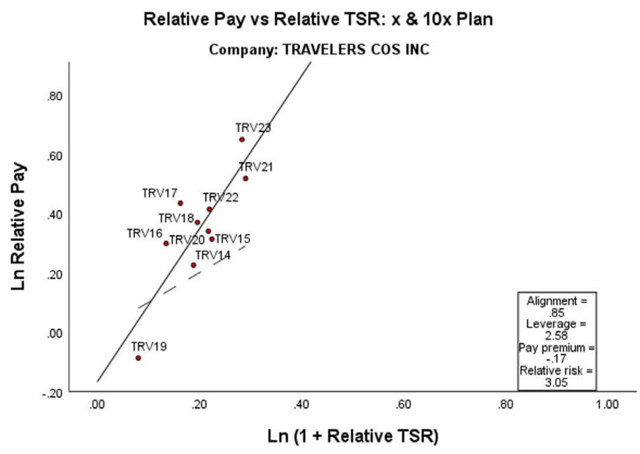


Figure 7



Solid line is the company trendline. Dashed line is leverage = 1.0 with pay premium of zero

Figure 8



Solid line is the company trendline. Dashed line is leverage = 1.0 with pay premium of zero

Figures 7 and 8 show x and 10x pay dimensions for American Express and Travelers measured against relative TSR. Relative TSR is measured against the market-weighted return of each company's GICS industry, adjusted for the company's industry beta. (17) American Express's GICS industry is Consumer Finance (402020), and its industry beta is 0.65. Travelers' GICS industry is Insurance [403010], and its industry beta is 0.85. We need to measure pay leverage versus relative TSR to have a meaningful measure of incentive strength. The CEO has no control over industry performance, so pay sensitivity to the industry component of the stock return provides no incentive. Comparing these graphs with Figures 3 and 4 shows that American Express's pay leverage and pay alignment (r-sq) are above the 75th percentile of public companies, and that Travelers' pay leverage is above the 90th percentile, and its pay alignment (r-sq) is above the 75th percentile of public companies.

Figures 9 and 10, which show the distributions of pay leverage and alignment (r-sq) for the x and 10x simulations, demonstrate that the median x and 10x plan provides significantly higher pay leverage and alignment (r-sq) than the median public company achieves. Median pay leverage is 0.71, more than 40% higher than median public company CEO pay leverage (0.50). Median pay alignment (r-sq) is 60%, more than 60% higher than median public company CEO pay alignment (r-sq) (37%). 39% of the x and 10x simulations achieve alignment (r-sq) of 50%+ with limited retention risk, i.e., a pay premium at industry average performance no lower than -25%, and limited shareholder cost, i.e., a pay premium at industry average performance no greater than 25%. Only 13% of public company CEOs do as well in achieving the three basic objectives of management compensation.

It may seem surprising that x and 10x pay are more closely aligned with relative TSR than public company pay because x and 10x pay only rewards gross TSR, while many public companies' pay plans are designed to pay for relative TSR. x and 10x pay is aligned with relative TSR only because the gross return is highly correlated with relative TSR for most companies. If "icorr" is the correlation of the gross return with the industry return, then 1-icorr*icorr is the gross return variance explained by the relative return, and √(1-icorr*icorr) is the gross return correlation with the relative return. For the median S&P 1500 company, the correlation of monthly TSR with industry TSR is 0.56. This means that industry explains 31% (= 0.56 × 0.56) of the variation in TSR, but it also means that relative TSR explains 69% of the variation in TSR, and that the correlation between relative and gross TSR is 0.83.

It may also seem surprising that x and 10x pay leverage to relative TSR is higher than pay leverage to gross TSR. For all 21,453 ten-year periods in our analysis, the difference is modest. The median x and 10x pay leverage to relative TSR, 0.71, is approximately 11% higher than the median x and 10x pay leverage to gross TSR, 0.64. But the differences are much bigger for American Express and Travelers. American Express's pay leverage to relative TSR, 1.39, is 46% higher than its pay leverage to gross TSR, 0.95, even though its pay alignment with

Figure 9

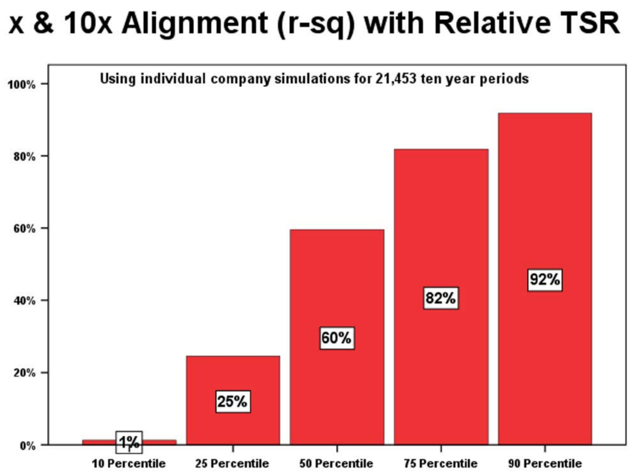
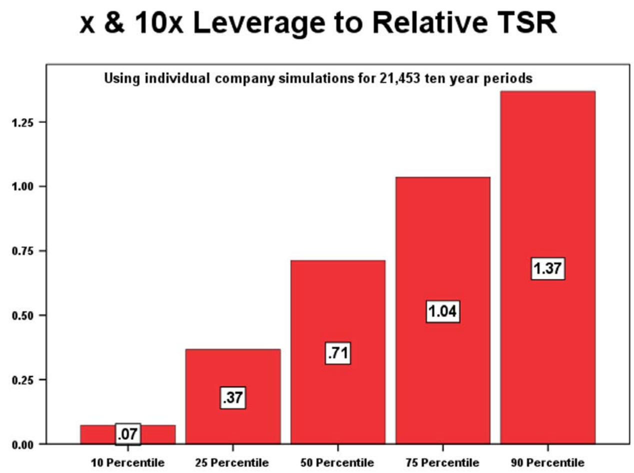


Figure 10



relative TSR, 0.91, is less than its pay alignment with gross TSR, 0.98. Pay leverage to relative TSR is higher because pay leverage is the product of relative pay risk and correlation, and the increase in relative pay risk more than offsets the decline in correlation. [18] For American Express, the switch from gross to relative TSR increases relative pay risk by 58%, so the net effect is +46% (= (0.91/0.98) x (1.58)). Relative pay risk is the variability of log relative pay divided by the variability of log relative performance. Log relative pay is the same in both graphs because pay depends only on gross TSR, but the variability of ln (1 + relative TSR) is less than the variability of ln (1 + gross TSR) because controlling for industry reduces variability. The reduction in log relative performance increases relative pay risk.

While many public companies' pay plans are explicitly designed to pay for relative TSR, public companies have other policies, particularly competitive pay policy, that undermine their alignment with relative (and gross) TSR. Competitive pay policy, which maintains target pay at the 50th (or another) percentile, creates an inherent "performance penalty". When the stock price rises, maintaining target dollar pay at the 50th percentile requires a reduction in grant shares to avoid exceeding target dollar pay, so the company must penalise good performance by reducing the number of grant shares. When the stock price declines, maintaining target dollar pay at the 50th percentile requires an increase in grant shares to avoid falling short of the target. Therefore, the company has to reward poor performance by increasing the number of shares granted. The x and 10x plan eliminate the performance penalty by granting the entire carried interest upfront.

Granting the carried interest upfront greatly increases leverage and alignment. We can see this by simulating a "x and annual 1x" plan, where the company grants a carried interest each year on an amount of stock equal to the annual asset fee. Annual grants reduce gross TSR pay leverage for the median company by 52% (from 0.64 to 0.31) and reduce gross TSR pay alignment (r-sq) by 74% (from 76% to 20%).

Modelling the x and 10x pay plan highlights an important methodology issue. Our pay versus performance analysis compares relative pay with relative performance. Relative pay is cumulative actual pay divided by the future value of cumulative market pay. Actual pay in an x and 10x pay plan is heavily front-loaded because the entire carried interest is awarded in the first year. In our simulation for American Express, we observed that the carried interest accounted for 45% of the present value of expected future payments at the start of the fund. When we add in the first-year asset fee, we can see that more than 50% of the total pay is awarded in the first year. If we assume that market pay is a constant annual flow, our opportunity cost charge is poorly matched with the fund's resource utilisation. Front-loading market pay to match the front-loading of actual pay is better because it matches opportunity cost with resource utilisation. It also greatly increases measured leverage and alignment.

Across 21,453 ten-year histories, median gross TSR pay leverage is 0.64 when we front-load market pay, but -0.19 when we use constant annual market pay. Median gross TSR pay alignment is 0.87 when we front-load market pay, but -0.16 when we use constant annual market pay. When we measure pay leverage using the PvP data, we check for significant lumpiness in grant-date pay. When this is the case, we adjust the timing of market pay to reflect the lumpiness of actual pay.

Not only are the x and 10x pay plans significantly better than actual CEO pay plans, but the x and 10x pay plans could be materially improved by providing a carried interest in the excess return, not the gross return. An x and 10x pay plan with a carried interest in the relative return raises median pay alignment (r-sq) from 60% to 75%. This is 103% greater than the median public company pay alignment (r-sq) of 37%.

Adapting our pay vs performance analysis to 2 and 20

Our analysis of the x and 10x pay plan has shown that the structure and pay mix of private equity fund pay provides higher pay leverage and alignment than the median public company pay plan. But the x and 10x pay plan is calibrated to market pay for public company CEOs, so our x and 10x analysis doesn't demonstrate that a 2 and 20 formula provides reasonable CEO pay for private equity funds. Our x and 10x simulations also fail to capture two key aspects of private equity funds: they invest in a portfolio of companies, not a single company, and their choice of industry is a management decision intended to maximise investor value, not an exogenous factor beyond management control.

We make five refinements to our x and 10x simulations to simulate CEO pay with a 2 and 20 formula. First, we measure ten-year performance for portfolios of ten similarly sized companies. [19] Second, we calculate a total fee of 2% of the beginning market equity value plus 20% of the ten-year increase in shareholder wealth. Third, we estimate the CEO's share of the total fee based on an analysis of top management sharing in public companies in Capital Markets (GICS 4020). Fourth, we use the sharing equation to derive a market pay trendline for the CEO. This ensures that our sharing and market pay assumptions are consistent. Fifth, we measure relative TSR controlling for market risk, not industry. Since a private equity fund selects the companies and industries in which it invests, the industry of investment is a factor within management control, not a factor beyond management control (as we normally assume for public companies). To isolate management's contribution to value, we control for market risk, not industry. Higher market risk can improve fund performance, but it does not reflect superior management performance. We measure peer performance as the performance of a market portfolio with the same risk, as measured by beta, as the fund's portfolio.

We estimate the CEO's share of the total fee using a regression where the dependent variable is the natural log of the CEO's share of total payroll and the independent variable is the natural log of the inflation-adjusted total payroll. The sample comprises 1,048 annual observations of CEO pay and total payroll for companies in the Capital Markets industry group (GICS 4020). Total payroll explains 64% of the variation in CEO share and a doubling in total payroll reduces the CEO's share by 33% on average. When we multiply the share equation by total payroll, we get a new equation that expresses CEO pay as a function of total payroll. [20] This is a market pay equation and it fits the data well. Predicted CEO pay explains 50% of the variation in actual CEO pay, and the equation shows that a doubling in total payroll increases CEO pay by 35%.

Our pay versus performance analyses show that the 2 and 20 plans have lower gross TSR leverage and alignment than the x and 10x plans. Median leverage for 994 2 and 20 plan simulations is 0.48, while median leverage for 21,453 x and 10x plan simulations is 0.64. [21] Median alignment (r-sq) for the 994 2 and 20 plan simulations is 59%, while median alignment (r-sq) for the 21,453 x and 10x plan simulations is 76%. These differences look large, but differences in volatility account for the full difference in alignment (r-sq). The ten company portfolios in the 2 and 20 simulations have a median volatility of 0.36, while the individual companies in the x and 10x simulations have a median volatility of 0.47. A regression analysis relating alignment (r-sq) to volatility for the 994 portfolio simulations shows that volatility explains 62% of the variation in alignment (r-sq) and that an increase in volatility of 0.11 (i.e., from 0.36 to 0.47) increases alignment (r-sq) by 31 percentage points. This would increase median

Figure 11

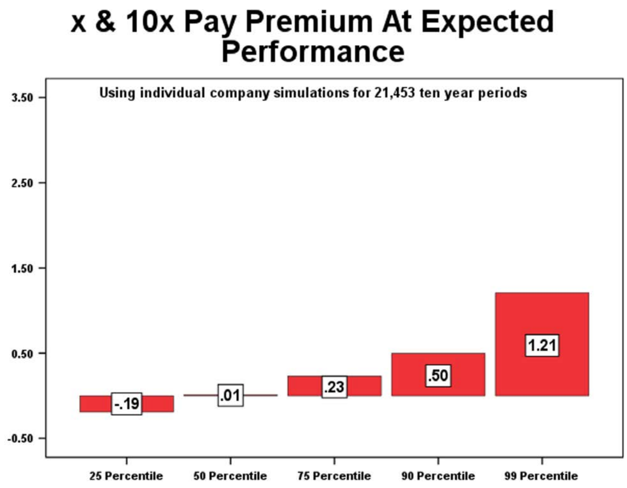


Figure 12

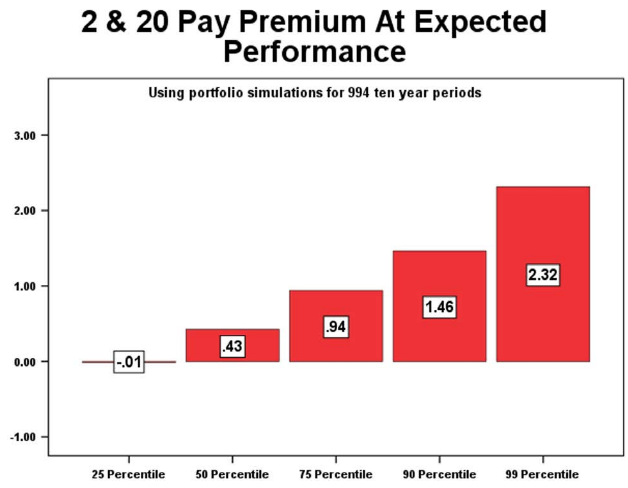
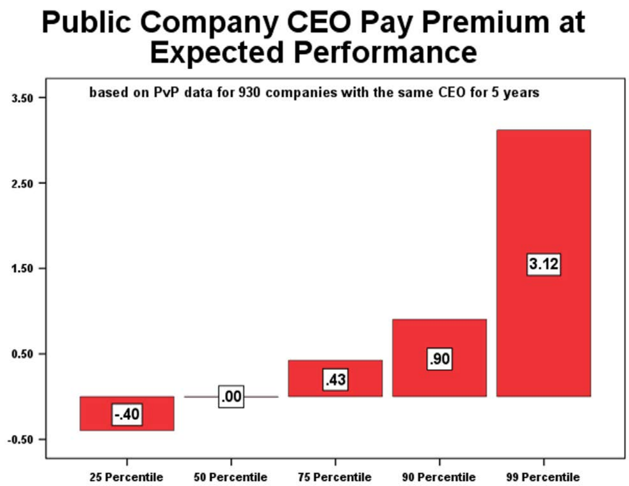


Figure 13



alignment (r-sq) for the 2 and 20 plan simulations from 59% to 80%, making it larger than the median alignment (r-sq) of the x and 10x simulations.

Our pay versus performance analyses also show that the 2 and 20 plans have lower relative TSR leverage and alignment than the x and 10x plans. Median leverage for the 994 2 and 20 plan simulations is 0.56, while median leverage for the 21,453 x and 10x plan simulations is 0.71. Median alignment (r-sq) for the 994 2 and 20 plan simulations is 40%, while median alignment (r-sq) for the 21,453 x and 10x plan simulations is 60%.

When we examine the cost, i.e., the pay premium at expected performance, there is very strong evidence that the 2 and 20 formula leads to high costs. Figures 11-13 show the distribution of the pay premium at expected performance for the x and 10x simulations, the 2 and 20 simulations and public company CEOs. Expected performance for the x and 10x simulations is industry performance (adjusted for the company's industry beta). Expected performance for the 2 and 20 simulations is market performance (adjusted for the portfolio's market beta). The median pay premium at expected performance is .01 for the x and 10x pay plans, but 0.43 for the 2 and 20 pay plans. These are the log premiums. The percentage premiums are 1% and 54%. The 90th percentile pay premiums at expected performance are 0.50 (65%) and 1.46 (331%). The 99th percentile pay premiums at expected performance are 1.21 (235%) and 2.32 (918%). 15% of the 2 and 20 pay premiums are above the 99th percentile of the x and 10x simulations.

Conclusion

Our analysis has three key lessons for institutional investors and their proxy advisors. First, it's vital to have an analytical framework for measuring key pay dimensions, i.e., incentive strength, pay alignment and performance-adjusted cost. Simple rules of thumb, such as that a high percentage of pay at risk ensures a strong incentive, are a very poor substitute for measured pay dimensions. Second, the goal of institutional investors should be a pay plan that provides consistent pay leverage, pay alignment and performance-adjusted cost across all performance outcomes. Third, institutional investors and proxy advisors must understand the negative consequences of competitive pay policies and the benefits of front-loaded incentive pay.

Despite the weaknesses of competitive pay policies, the leading proxy advisor, Institutional Shareholder Services (ISS), advocates competitive pay policy, and one study finds evidence that CEO pay has moved markedly closer to the ISS market rate calculation since 2007. (22) Another study finds that a front-loaded equity award increases the likelihood of a negative "Say on Pay" recommendation by 39%. (23) There has long been a small group of dissenting public companies, comprising 9% in one study (24), that have granted front-loaded equity awards that breach ISS's pay guideline that annual pay should not exceed twice the median peer group pay. These companies have included Apple, Alphabet and Tesla, but none of them has used a quantitative measure of incentive strength to support their explanation to shareholders. They need to use the framework we have presented here.

Footnotes

1. See Stephen O'Byrne, "Achieving Pay for Performance", Conference Board Director Notes, Vol 4, No 24 (December 2012).

2. A pay premium at industry average performance means the company overpays for performance, and hence, reduces retention risk but increases shareholder cost.

3. The vesting measure is 1/(1 + the industry return from the date of grant). This vesting measure can also be expressed as the percentage of the stock value that is attributable to the grant value plus the subsequent excess return.

4. The stock price at vesting at be expressed as stock price at grant x (1 + iTSR) x (1 + rTSR) x vesting multiple where iTSR is the industry return and rTSR is the relative return. When the vesting multiple is (1 + rTSR), the stock price at vesting is stock price at grant x (1 + iTSR) x (1 + rTSR) x (1 + rTSR). This shows that the industry return is not eliminated but amplified by a factor of $(1 + rTSR)^2$.

5. We use alignment, rather than leverage, as a proxy for a strong incentive to increase shareholder value. Leverage is equal to alignment x relative pay risk. Companies have differing views of appropriate pay risk, and hence, differing views of what is an appropriately strong incentive. Using alignment as a proxy for incentive strength eliminates the need to make a judgment about appropriate pay risk.

6. John C. Baker, "Incentive Compensation Plans for Executives", Harvard Business Review, Fall 1936, shows that 19 of 22 companies surveyed had similar plans.

7. Our market rate regressions relate log pay to log revenue because that model reflects the assumption that a 1% increase in revenue increases pay by a constant percentage amount. A log-log model fits the data much better than a dollar-dollar model (which makes the assumption that a $1 in increase in revenue increases pay by a constant dollar amount). Log-log models have been used in executive pay analysis for more than 70 years. See Arch Patton, "Building On the Executive Compensation Survey", Harvard Business Review (1955)

8. We estimate the accretion factor by modelling the difference between mark to market pay and cumulative market pay as a function of time, relative TSR and industry TSR. The accretion factor is the expected difference due to time and industry TSR. We use each company's cost of equity as our estimate of expected industry TSR.

9. We assume that the industry betas for company selected peer groups are 1.0. When we use GICS industry performance to calculate relative TSR, as we do in the x and 10x simulations, we estimate industry betas using ten years of monthly returns.

10. The two graphs use different scales to reflect the range in each company's pay and performance. To make the graphs easier to compare, each graph shows a dashed line with a slope of 1.0 and an intercept of 0.0.

11. The natural log premium can be converted to a percentage premium by taking the anti-log. For Travelers exp(0.23) – 1 = 26%.

12. When the correlation is negative, we show the r-sq as negative so the reader can see that the correlation is negative.

13. We use alignment, rather than leverage, as a proxy for a strong incentive to increase shareholder value. Leverage is equal to alignment x relative pay risk. Companies have differing views of appropriate pay risk, and hence, differing views of what is an appropriately strong incentive. Using alignment as a proxy for incentive strength eliminates the need to make a judgment about appropriate pay risk.

14. We use 2014-2023, not 2015-2024, because 2024 data is not available for Travelers in the April 2024 Execucomp database.

15. Our analysis of public company CEO pay, using data from the new Pay Versus Performance disclosures, uses market pay based on revenue size. Market pay based on revenue size has been widely used by public companies for more than 70 years. We use market pay based on market equity value here so our simulations are like private equity fund pay in tying pay to beginning market value, i.e., fund size, not beginning revenue.

16. Using a discount factor of 0.93, $170.3 million = AF x 6.86 + stock under carried interest x Black-Scholes ratio value = AF x 6.86 + (10 x AF x 0.55) = AF x 12.36 => AF = $13.8 million. The Black-Scholes values we use for the x and 10x simulations assume that the dividend yield is zero because the plan provides a share of the total return, not just price appreciation.

17. The industry return indices are calculated separately for each company, using S&P 1500 companies excluding the subject company. Industry betas are calculated using 120 monthly returns, net of the t-bill return.

18. Any regression coefficient is equal to correlation x (dependent variable standard deviation/independent variable standard deviation), so pay leverage is equal to pay alignment x (relative pay standard deviation/relative performance standard deviation). The ratio of relative pay standard deviation to relative performance standard deviation is what we call relative pay risk.

19. We rank S&P 1500 companies by market equity value, split them into groups of ten (regardless of industry) and then track each group of ten companies over the subsequent ten years. These are the portfolios we use to model 2 and 20 pay.

20. The share equation is ln(whole number CEO share of payroll) = 3.868 – 0.572 x ln(payroll in $mil). When we take the anti-log of this equation and multiply through by payroll, we get a CEO pay equation that makes ln(CEO pay in $000) = 3.868 + ln(10) + (1 - .572) x ln(payroll). The ln(10) term adjusts for unit differences and the use of a whole numbered percentage. We add a "Smearing adjustment" to both equations to ensure that the average predicted value, in its original units – percentages or dollars, is equal to the average actual value. Log models shrink the dependent variable expressed in original units.

21. The number of cases for our 2 and 20 simulations is much smaller than the number of cases for our x and 10x simulations for three reasons. First, we limit the 2 and 20 portfolios to companies with fiscal years ending in December. This reduces the sample from 21,453 to 13,722. Second, we use 10 companies to provide a portfolio for each 2 and 20 simulation. This reduces the sample to 1,377 portfolios. Third, we drop portfolios with missing monthly return data (which is used for portfolio beta calculations). This reduces the sample to 994 portfolios.

22. Torsten Jochem, Gaizka Ormazabal, and Anjana Rajamani, "Why Have CEO Pay Levels Become Less Diverse?', available at ssrn.com/abstract=3716765. This 2024 study shows that the average deviation of CEO pay from the ISS calculated median of the company's size adjusted industry peer group has declined by 45% since 2007.

23. Rafael Copat and Sunil Parupati, "Front-Loaded Equity Awards: An Efficient Contracting or Rent Extraction Tool?", available at https://dox.utdallas.edu/pcv16475.

24. Copat and Parupati.

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