Knowledge Group Webinar

The SEC's New Pay versus Performance Rule: Guidance for Companies and Investors

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I'll show how the new PvP disclosures can be used to develop better measures of pay objectives and better pay plan designs

- The objectives of executive compensation have been the same for 100+ years: (1) providing strong incentives to increase shareholder value, (2) retaining key talent and (3) limiting shareholder cost.
- Effective pay design requires good measures of these basic objectives.
- Conventional pay design focuses on target pay mix and target pay percentile and conventional wisdom assumes that:
  - Percent of pay at risk is a good proxy for incentive strength, and
  - Maintaining a target pay percentile regardless of past performance ("competitive pay policy") limits retention risk and shareholder cost; targeting pay at the 50th percentile:
    - Limits retention risk because target pay doesn't fall below the 50th percentile, and
    - Limits shareholder cost because target pay doesn't rise above the 50th percentile.
- I'll first show that competitive pay policy leads to weak incentives and low alignment of pay and performance (even when 100% of pay is in equity).
- I'll then show how the new PvP disclosures can be used to develop much better measures of a company's success in achieving the three basic objectives, and how these measures can be used to design more effective pay plans, i.e., plans that provide a perfect correlation of relative pay and relative performance.

The objectives of executive pay have been the same for 100+ years, but plan design has moved from value sharing to competitive pay

- The objectives of executive compensation have been the same for 100+ years: (1) providing strong incentives to increase shareholder value, (2) retaining key talent and (3) limiting shareholder cost.
- Executive pay in the first half of the 20th century was based on value sharing in economic profit:
  - General Motors' bonus pool was 10% of profit above a 7% return on capital, a formula it used for 25 years (1922-1947) without any change in the sharing percentage or threshold return. Most big companies had similar plans.
  - These plans provide strong incentives and control shareholder cost, but managing retention risk is challenging.
- Executive pay since the 1960s has been tied to competitive pay concepts, e.g., 50th percentile target pay regardless of past performance, and the belief that a high percent of pay at risk provides a strong incentive.
  - Modern executive pay plans provide surprisingly weak incentives and low alignment of pay and performance because competitive pay policy creates a systematic "performance penalty".
    - If market pay is $1 million and the stock price is $100, 10,000 shares are needed to provide market pay, but
    - If stock price drops to $50, 20,000 shares are needed to provide to provide market pay.

The "performance penalty" in competitive pay policy leads to huge differences in pay for the same cumulative performance

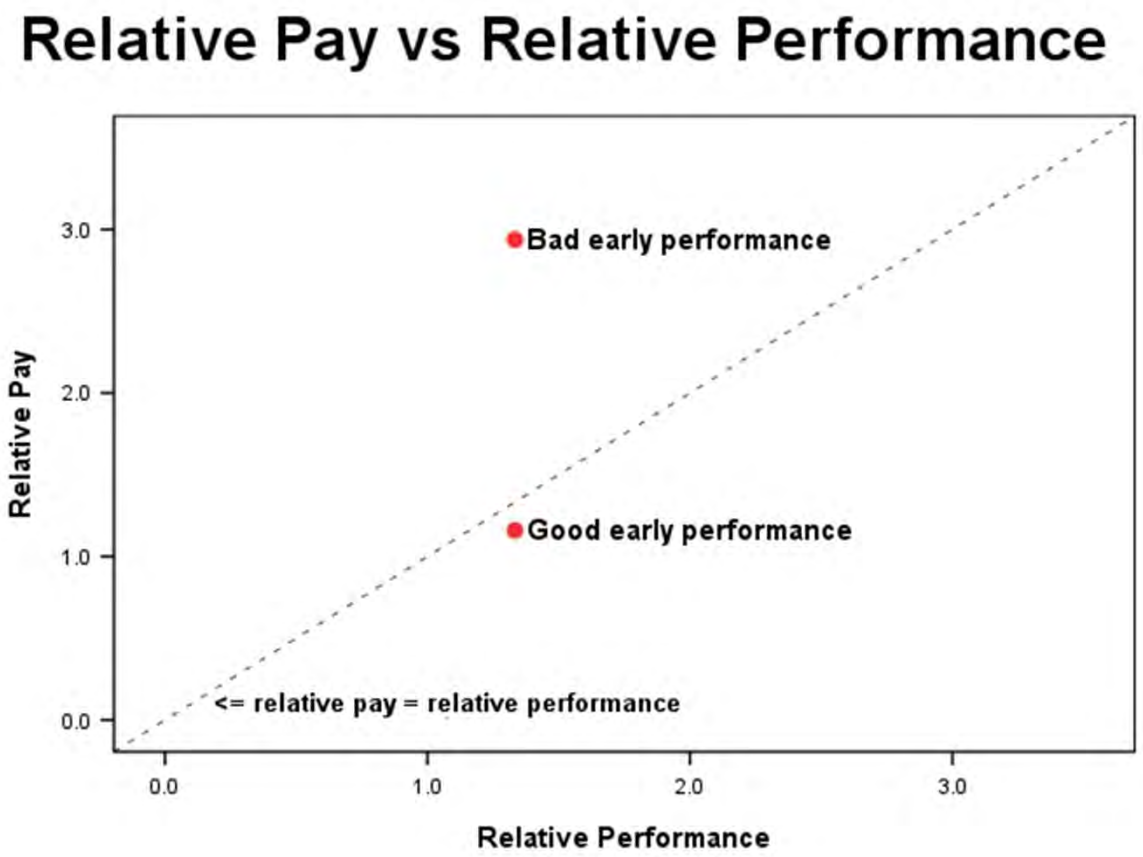
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Market pay		1,000	1,000	1,000	1,000	1,000
GOOD EARLY PERFORMANCE						
Stock price	10	15	20	25	30	20
Shares (= market pay / BOY stock price)		100	67	50	40	33
Cumulative shares		100	167	217	257	290
Ending wealth						**5,800**
BAD EARLY PERFORMANCE						
Stock price	10	7	6	5	8	20
Shares (= market pay / BOY stock price)		100	143	167	200	125
Cumulative shares		100	243	410	610	735
Ending wealth						**14,690**

TWO KEY TAKEAWAYS:

CONVERTING MARKET PAY TO SHARES MIS-ALIGNS PAY AND PERFORMANCE, CREATING, IN THIS CASE, A 153% PAY DIFFERENTIAL FOR THE SAME PERFORMANCE

A HIGH PERCENT OF PAY AT RISK (100% IN THIS CASE) PROVIDES NO ASSURANCE THAT PAY WILL BE ALIGNED WITH PERFORMANCE

Plotting relative pay vs relative performance for the two scenarios highlights the big disparity in pay for the same performance



We assume that the industry stock price goes from $10 to $15, so relative performance is [company wealth / industry wealth] = [20/15] = 1.33. Relative pay is [actual pay / cumulative market pay], so relative pay is 2.94 = [14,690/5,000] for bad early performance and 1.16 = [5,800/5,000] for good early performance.

The new PvP disclosures provide "mark to market" pay that shows the incentives provided by unvested equity

- Total compensation reported in the Summary Compensation Table reflects the value of current year equity compensation at the date of grant.
- The new PvP disclosures are designed to provide a measure of "mark to market" compensation that reflects the value of current and prior year equity grants at year end.
- The new PvP disclosures report "Compensation Actually Paid" ("CAP"). CAP adjusts the compensation reported in the Summary Compensation Table to reflect:
  - The year end market value, or market value at the date of vesting if earlier, of equity granted during the year [rather than the grant date value],
  - The change in market value during the year, or until the date of vesting if earlier, of unvested equity granted in prior years, and
  - The annual service cost of the executive's pension [rather than the annual change in the present value of the company's pension obligation to the executive].
    - The change in the present value of the pension obligation is more sensitive to changes in interest rates than the service cost, and
    - Interest rate changes often reverse over longer time horizons, so
    - This adjustment is designed to take out temporary value changes that obscure the relationship between pay and performance.

The PvP disclosure of Graphics Packaging – note that CAP is an annual value while company and peer group TSR are cumulative

2023 Pay Versus Performance Table

Year	Summary Compensation Table Total Compensation for PEO[1]	Compensation Actually Paid to PEO[2]	Average Summary Compensation Table Total Compensation for Non-PEO NEOs[3]	Average Compensation Actually Paid to Non-PEO NEOs[4]	Value of Initial Fixed $100 Investment based on Company Total Shareholder Return	Value of Initial Fixed $100 Investment based on Peer Group Total Shareholder Return	Net Income (in millions)	Adjusted EBITDA (in millions)
2023	$11,937,503	$19,418,337	$3,156,562	$4,447,314	158.66	118.91	$723	$1,876
2022	$11,644,401	$19,745,603	$3,401,061	$4,830,700	140.89	110.49	$522	$1,600
2021	$ 7,309,269	$11,860,514	$2,040,539	$2,934,498	121.60	134.41	$204	$1,056
2020	$ 8,009,101	$10,059,859	$2,217,803	$2,624,259	103.95	121.14	$167	$1,070

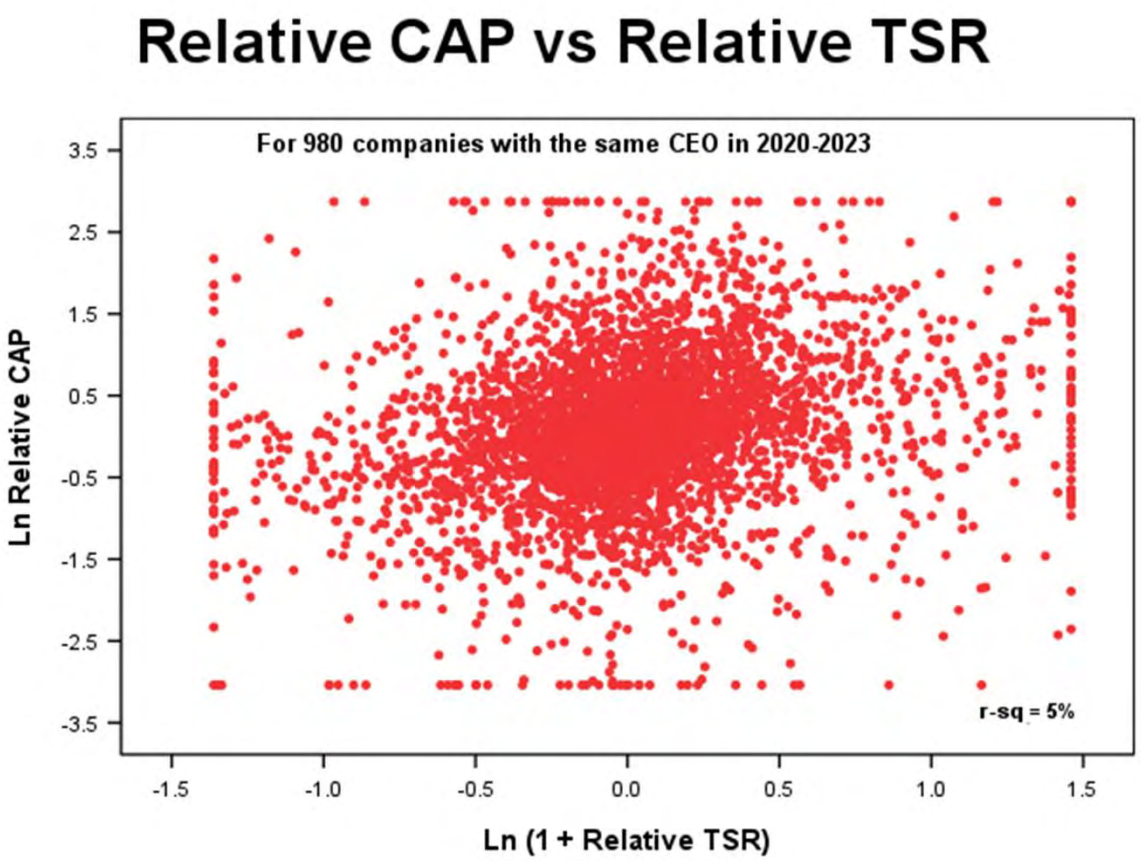
(1) The amounts shown in this column are the "Total" compensation amounts reported in the Summary Compensation Table ("SCT") for the Company's PEO for each corresponding year.

The reconciliation of CAP to SCT pay in the Graphics Packaging proxy

The adjustments made to the PEO's total compensation as set forth in the SCT to determine the CAP are set forth below.

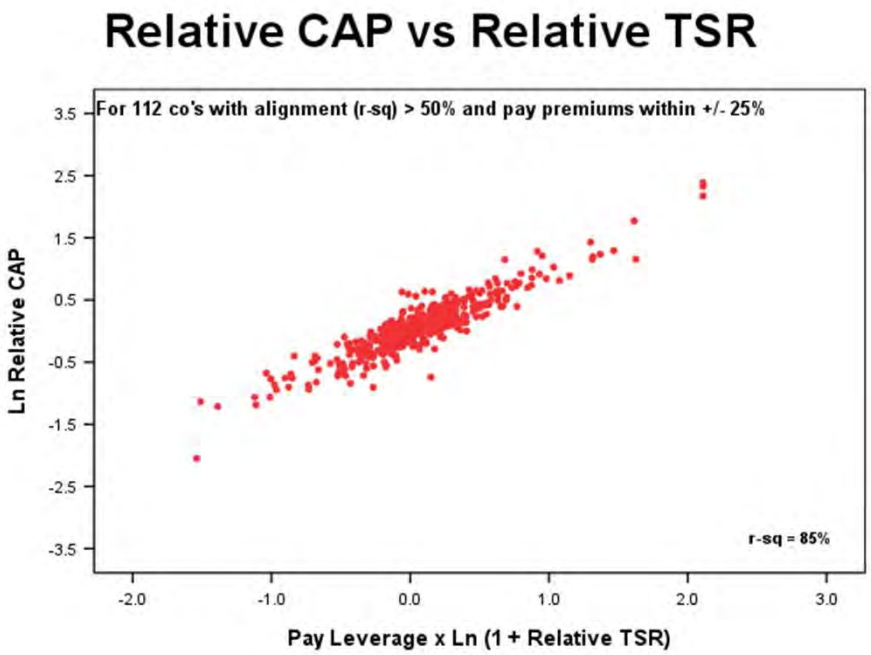
	Year			
	2023	2022	2021	2020
Total Compensation Reported in SCT	$11,937,503	$11,644,401	$ 7,309,269	$ 8,009,101
Less: Change in Pension Value and Non-Qualified Deferred Compensation Earnings Reported in SCT	$ 70,380	$ –	$ –	$ 190,604
Less: Fair Value of Stock Awards Granted during Year at Date of Grant Reported in SCT	$ 7,291,291	$ 6,756,267	$ 5,006,859	$ 5,030,321
Plus: Pension Value attributable to Service and Changes in Value due to Plan Amendments made during the Year	$ –	$ –	$ –	$ –
Plus: Fair Value of Equity Compensation Granted during Year at FYE	$ 7,656,892	$ 7,871,034	$ 6,086,639	$ 5,163,815
Plus: Change in Fair Value of Equity Compensation from the end of the Prior Year to Vesting Date for Stock Awards Made in Prior Years that Vested during Year Shown	$ 655,973	$ 400,333	$ (313,875)	$ (146,375)
Plus: Change in Fair Value of Equity Compensation from the end of the Prior Year to the end of the Year Shown for Stock Awards that were unvested at FYE	$ 6,529,640	$ 6,586,102	$ 3,785,341	$ 2,254,243
Plus: Dividends or Other Earnings paid on Stock Awards in the Year Shown prior to the Vesting Date not otherwise included in Total Compensation	$ –	$ –	$ –	$ –
Compensation Actually Paid	$19,418,337	$19,745,603	$11,860,514	$10,059,859

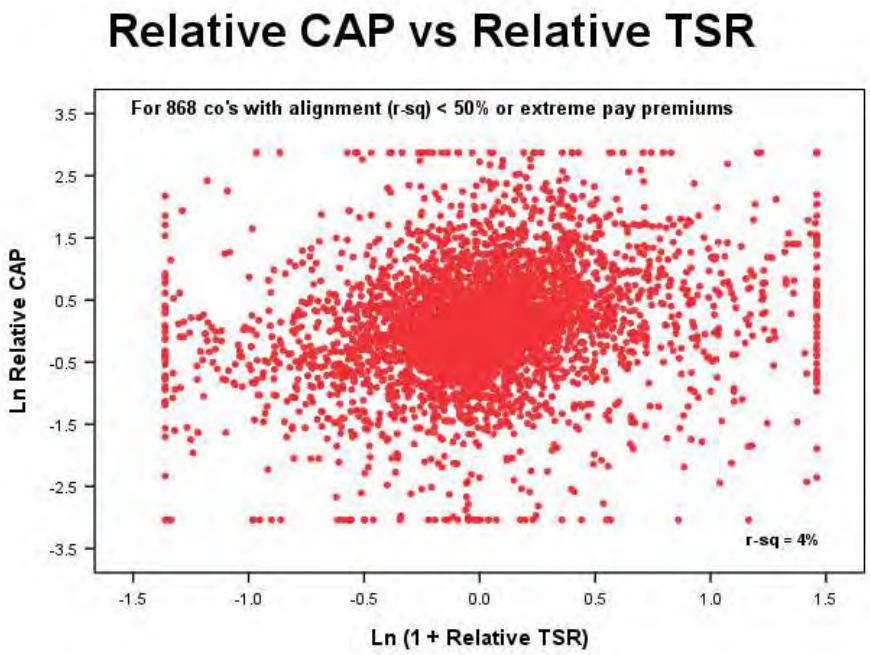
A plot of relative CEO CAP vs relative TSR shows very low alignment – consistent with our competitive pay example



The graph shows relative Compensation Actually Paid ("CAP") vs relative TSR for 980 public companies with the same CEO for 2020-2023. The initial sample is all public companies filing PvP disclosure data in XBRL with the SEC as of August 20, 2024. The sample includes 4 observations of relative cumulative CAP and relative cumulative TSR for each company (i.e., 1 yr, 2 yr., 3yr, 4yr). Relative CAP is cumulative CAP divided by cumulative market pay (adjusted to expected future value). Relative TSR is ([(1 + TSR)/(1 + peer group TSR)]-1).

10% of companies do a good job of aligning pay & performance and controlling cost and their alignment (left panel) is high



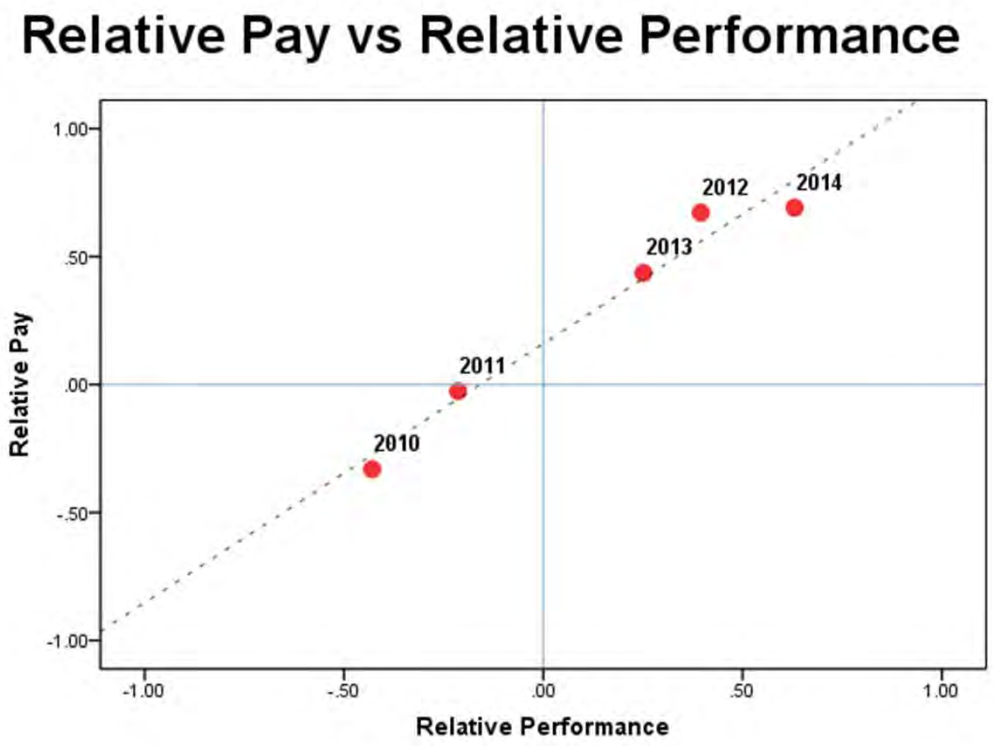


The four observations for each company in the prior slide graph can be used to measure that company's alignment, pay leverage and pay premium at industry average performance.

The left panel shows 112 companies (11%) that do a good job managing CEO pay. These companies have alignment (r-sq) > 50% and a pay premium within +/-25% at industry average performance. For these companies, relative TSR explains 85% of the variation in relative CEO pay. The independent variable is pay leverage x ln(1 + relative TSR) to recognize differences in pay leverage.

The right panel shows 868 companies (= 980 – 112) that don't do a good job managing pay. These companies have alignment (r-sq) <50% and/or pay "premiums" outside +/-25%. For these companies, relative TSR explains only 4% of the variation in relative CEO pay. Adjusting for leverage reduces the r-squared.

A single company plot of relative pay vs relative performance measures incentive strength, retention risk and shareholder cost



ISS, CalPERS and others use similar looking graphs, e.g., pay percentile vs TSR percentile, but they plot only one observation per company. These multi-company graphs provide little insight about individual company pay practices.

The dashed line is the regression trendline relating relative pay to relative performance. The trendline gives us measures of the three basic objectives of executive pay:

1. The slope of the line measures **INCENTIVE STRENGTH** or pay leverage, i.e., the ratio of relative pay change to relative performance change. Pay leverage is the product of pay alignment (or correlation) and relative pay risk.
2. The intercept, where the trendline crosses the light blue vertical axis, is a negative measure of **RETENTION RISK**, i.e., higher positive values mean lower retention risk. The intercept is the pay premium at industry average performance. Above average pay for average performance reduces retention risk.
3. The intercept is a positive measure of **SHAREHOLDER COST**. Above average pay for average performance increases shareholder cost.

The new PvP disclosures (and a little effort) provide the data for this highly informative graph

- We need to make two adjustments to the reported data:
  - The first adjustment is estimating and backing out pay attributable to grants before the (current) four year measurement period. This is needed to match pay and performance periods. The measurement period will be five years for 2025 and subsequent year disclosures.
  - The second adjustment is adding up the annualized CAP figures to get cumulative realizable (or "mark to market") pay for each year. This is needed to give the pay and performance periods the same duration.
- We need two pieces of supplemental information:
  - Market rates of pay.
    - My market rates are based on single regression trendlines relating the log of grant date pay to the log of revenue.
    - I do trendlines by industry and position/pay rank.
  - The expected annual accretion in pay.
    - Market rates are present value numbers, while mark to market pay is a future value number. The accretion factor is needed to convert market rates to future values.
    - Market rates and the accretion factor are needed to get an accurate estimate of the pay premium at industry average performance [which has a negative effect on future stock returns]. I use 5% as my estimate of the expected annual accretion in pay.

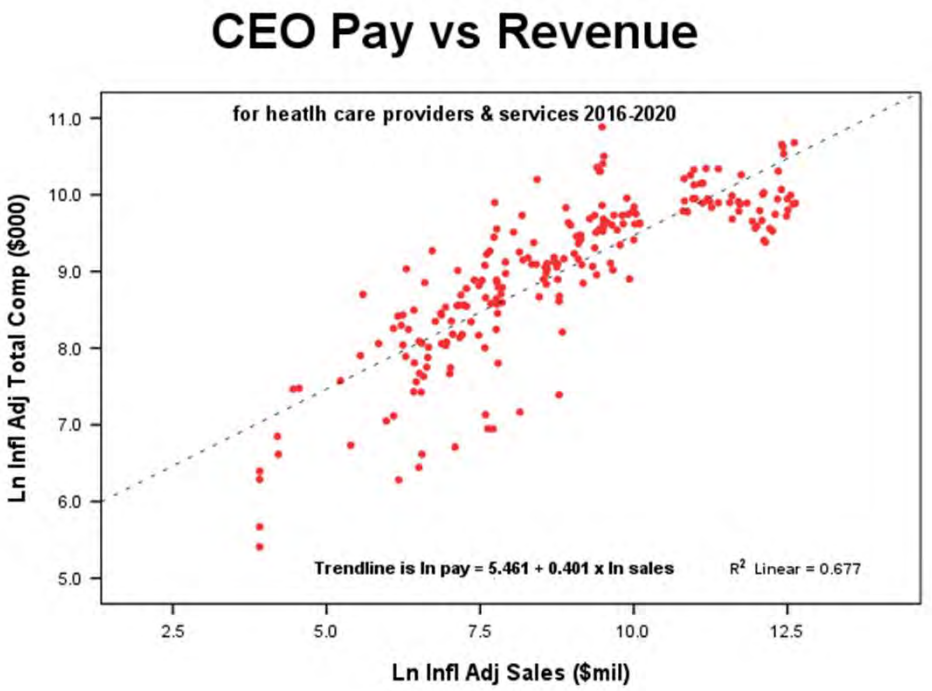
I use share data to estimate CAP attributable to grants awarded prior to the four year performance measurement period

- I start with unvested holdings at the end of the pre-performance measurement period ("PMP"), i.e., the number of unvested restricted shares, performance shares and stock option shares. This data is reported in the proxy (outside of the PvP disclosure).
  - At each year end, I update PMP holdings using proxy data on share and option vesting. I assume that PMP grants vest before performance measurement period grants.
  - The number of stock grant shares vesting each year is reported in the proxy and the number of option shares vesting is [ending exercisable options – (beginning exercisable options - option exercise shares)].
- I use the ratio of PMP holdings to total holdings [net of current year grants] to calculate the PMP portion of the value attributable to prior year grants that are unvested at year end as:
  - [PMP unvested restricted stock shares + PMP unvested performance shares + PMP unvested option equivalent shares]/[total unvested restricted stock shares + total unvested performance shares + total unvested option equivalent shares] where option equivalent shares = option value / stock price and total holdings are net of current year grants.
- I use the ratio of PMP vesting shares to total vesting shares to calculate the PMP portion of the value attributable to prior year grants that vest during the year. Total vesting shares are limited to total unvested shares at prior year end.

We need to calculate market rates of pay so we can plot relative pay vs relative performance

The trendline of a log-log regression is used to estimate a market rate of pay.

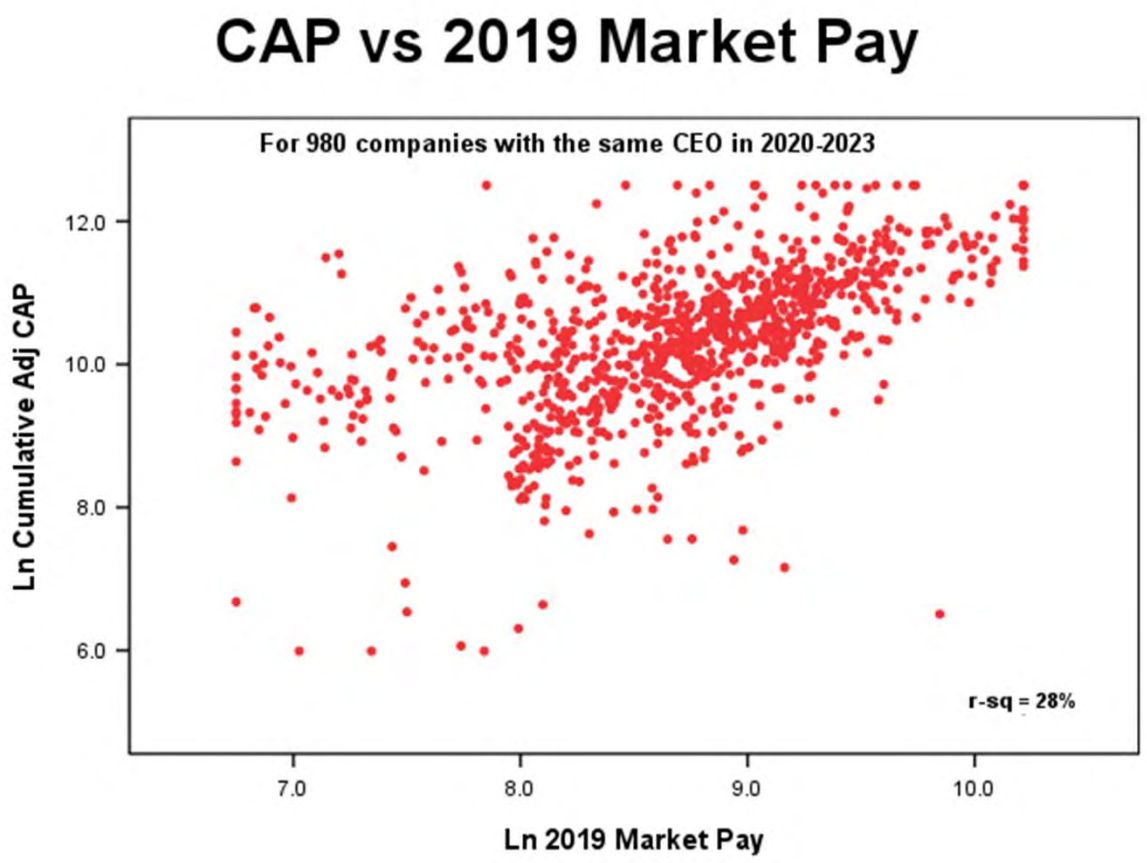
Market pay is an opportunity cost concept, just like cost of capital.



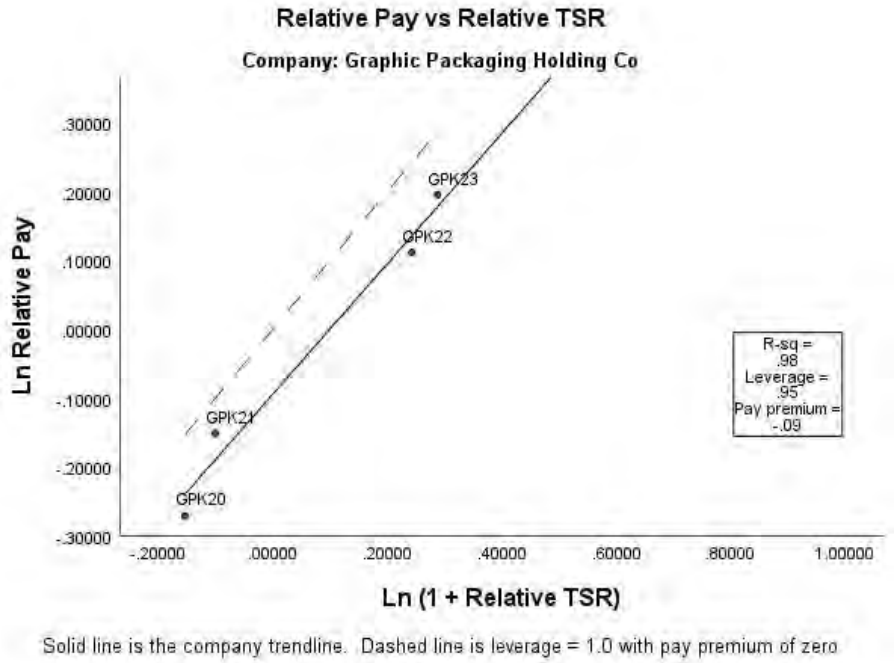
Log-log curves imply that a doubling in size is associated with a constant percentage increase in pay. In this example, the equation of the trendline is ln pay ($000) = 5.461 + 0.401 x ln revenue ($mil), or pay = exp(5.461) x revenue^0.401 = $235 x revenue^0.401. From this equation, we can see that a doubling in revenue increases pay by 32% since 2^0.401 = 1.32.

The market rates used in this report are based on data from S&P's Execucomp database using a methodology that gives a constant sales slope for all history years for each industry. The median industry slope is 0.44 with 0.37 at the 10th percentile and 0.53 at the 90th percentile. The initial market rate calculation is exp(mean ln total compensation + (sales slope x (ln sales – mean ln sales)) where the means are industry/position means of inflation adjusted pay and sales size for the trailing five years. Since log-log models shrink the total payroll, "Smearing" adjustments are used to increase the market rates so that the aggregate market rate payroll is equal to the aggregate actual payroll.

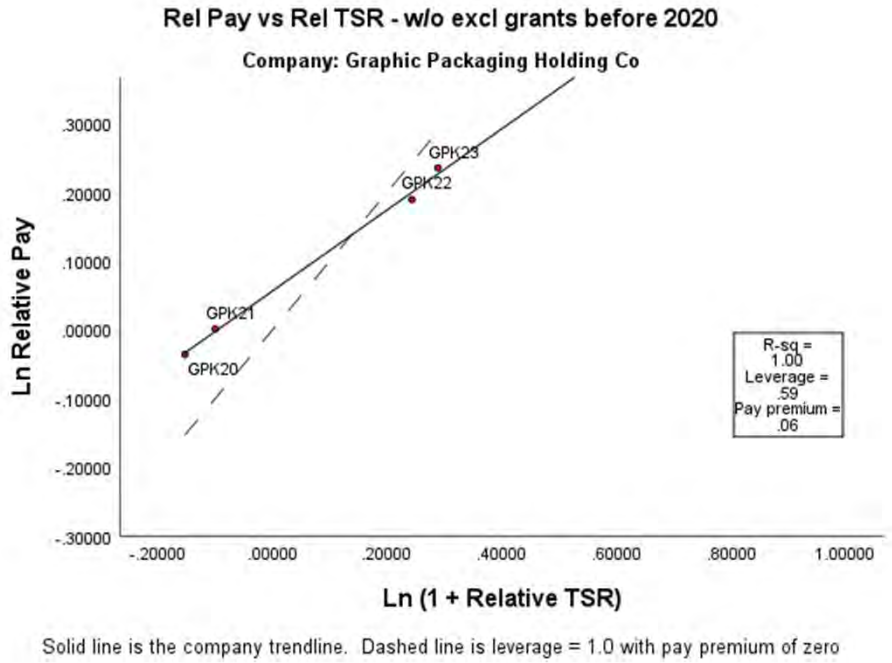
It's important to adjust for market pay – differences in opportunity cost explain 28% of the variation in cumulative CAP



Individual company graphs show key pay dimensions and highlight the importance of excluding prior period grants



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

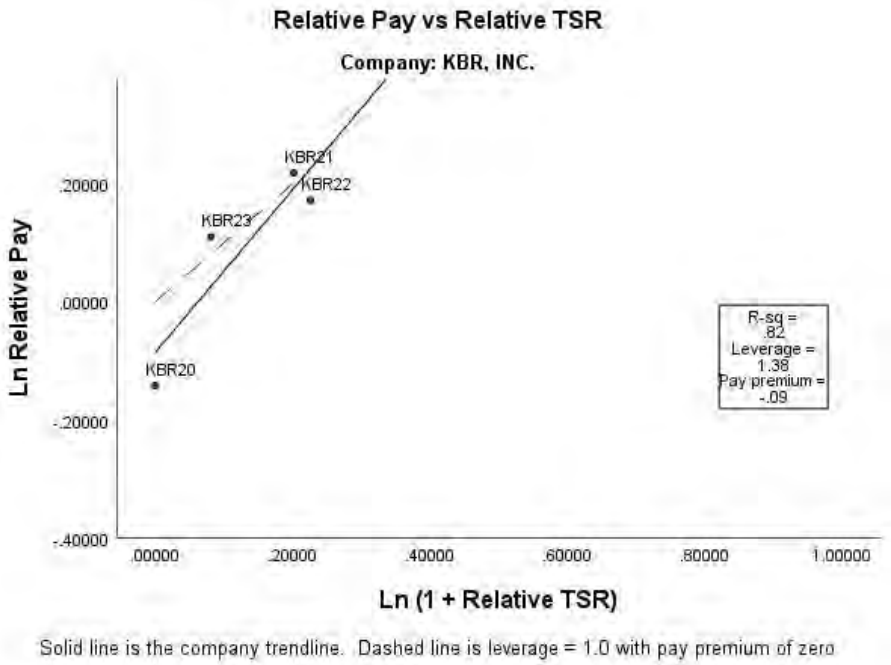


Solid line is the company trendline. Dashed line is leverage = 1.0 with pay premium of zero

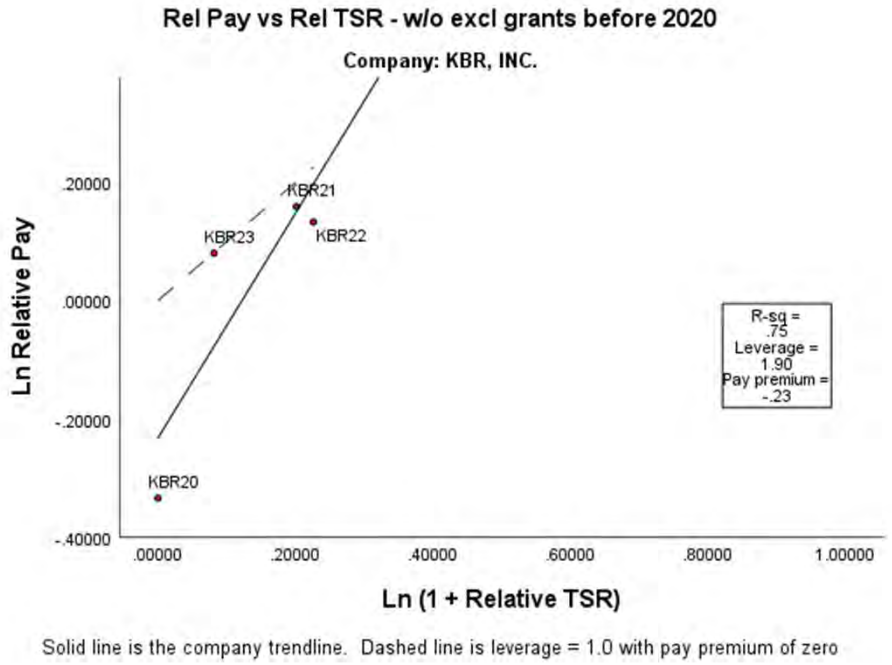
The left panel shows log relative pay vs log relative TSR for Graphic Packing CEO Michael Doss after excluding gains and losses from grants made prior to the performance measurement period 2020-2023. The regression trendline shows alignment (r-sq) of 96%, pay leverage of 0.95 and a ln pay premium at peer group average performance of -0.09. The percentage pay premium is -9% (= 100 * (exp(-.09) – 1)). The peer group used to compute relative TSR is the Dow Jones U.S. Container Packaging Index.

The right panel shows log relative pay vs relative TSR for Doss without excluding gains and losses from grant made prior to 2020-2023. The prior grants increased in value during 2020 and 2021, increasing Compensation Actually Paid for those poorer relative performance years and reducing pay leverage from 0.95 to 0.59, a decline of 38%.

Individual company graphs show key pay dimensions and highlight the importance of excluding prior period grants



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

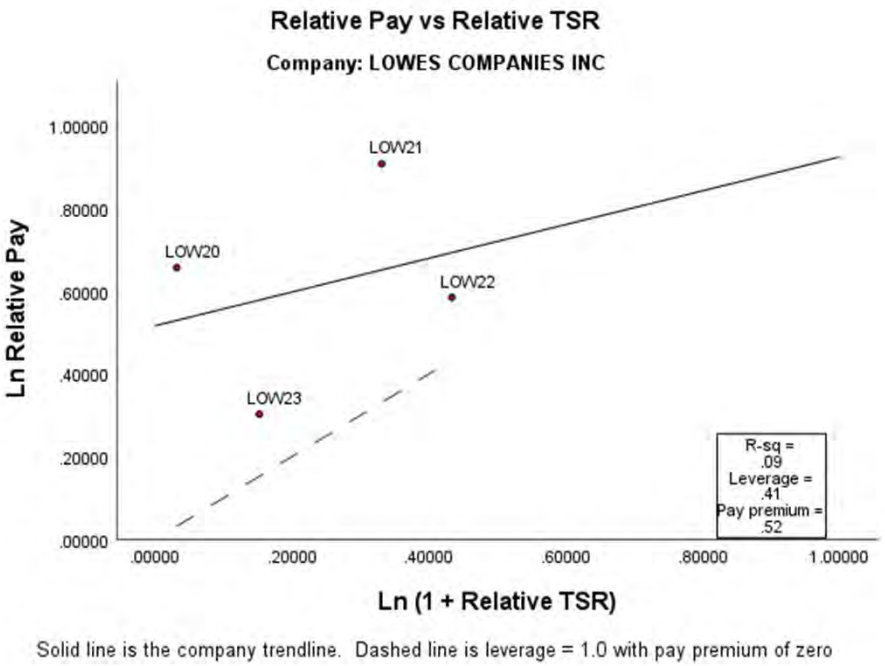


Solid line is the company trendline. Dashed line is leverage = 1.0 with pay premium of zero

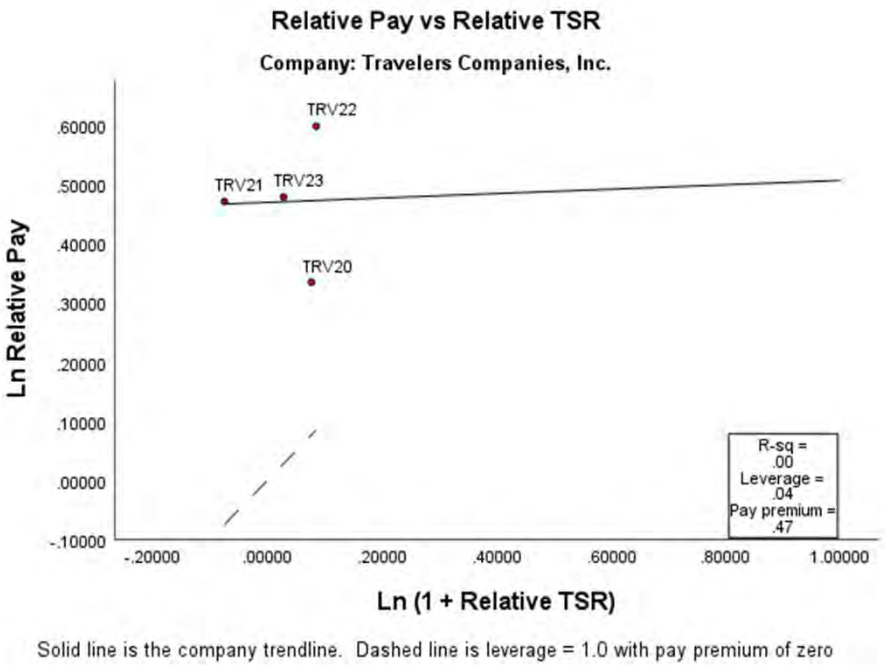
The left panel shows log relative pay vs log relative TSR for KBR CEO Stuart Bradie after excluding gains and losses from grants made prior to the performance measurement period 2020-2023. The regression trendline shows alignment (r-sq) of 82%, pay leverage of 1.38 and a ln pay premium at peer group average performance of -0.09. The percentage pay premium is -9% (= 100 * (exp(-.09) – 1)). The peer group used to compute relative TSR is a KBR selected group of 20 companies in similar businesses (i.e., construction and engineering, technology consulting, government services).

The right panel shows log relative pay vs relative TSR for Bradie without excluding gains and losses from grant made prior to 2020-2023. The prior grants declined in value during 2020, reducing Compensation Actually Paid for that performance year, and increasing pay leverage from 1.38 to 1.90, an increase of 38%.

Individual company graphs show low alignment and/or high cost for many companies



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

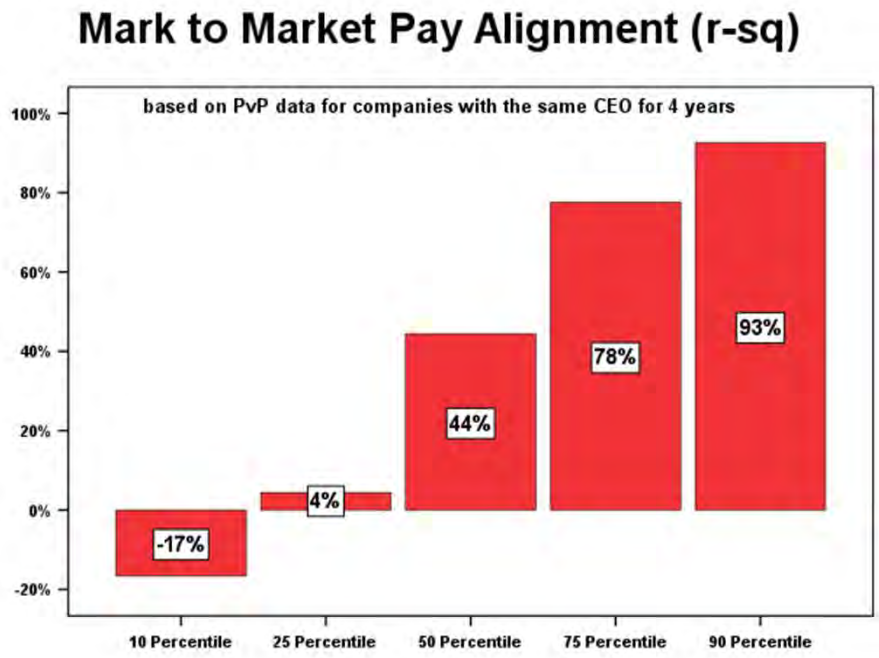


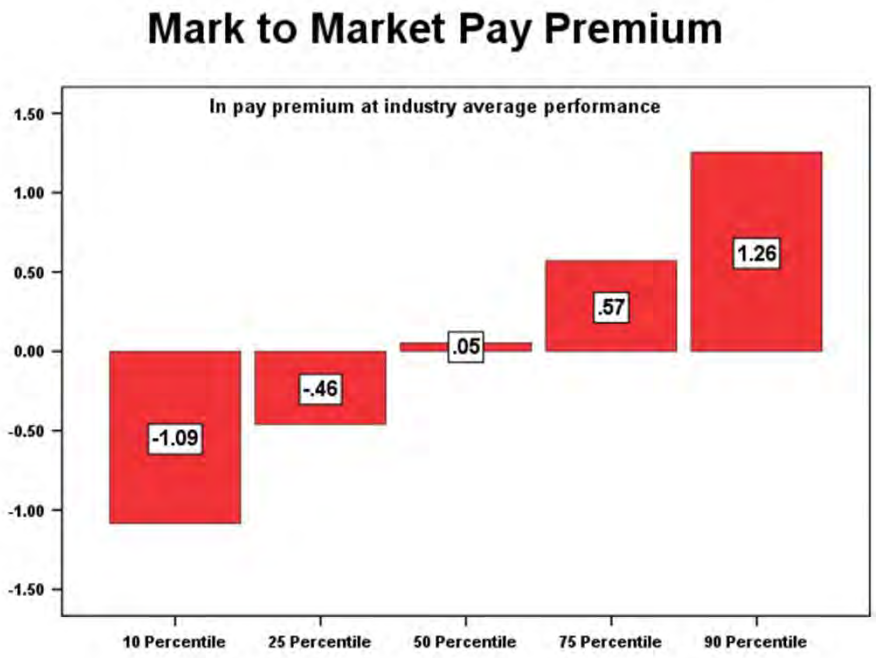
Solid line is the company trendline. Dashed line is leverage = 1.0 with pay premium of zero

The left panel shows log relative pay vs log relative TSR for Lowe's. The regression trendline shows alignment (r-sq) of only 9%, pay leverage of 0.41 and a ln pay premium at peer group average performance of 0.52. The percentage pay premium is +68% (= 100 * (exp(0.52) – 1)).

The right panel shows log relative pay vs relative TSR for Travelers. The regression trendline shows alignment (r-sq) of only 0%, pay leverage of only 0.04. and a ln pay premium at peer group average performance of 0.47. The percentage pay premium of +60% (= 100 * (exp(0.47) – 1)).

The new PvP disclosures can be used to benchmark multiple pay dimensions, not just pay level

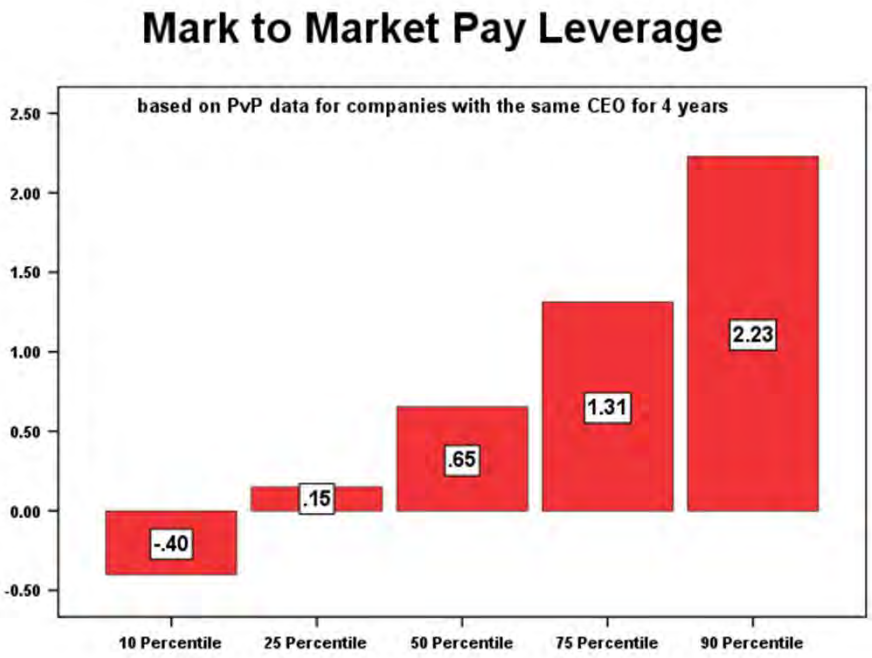


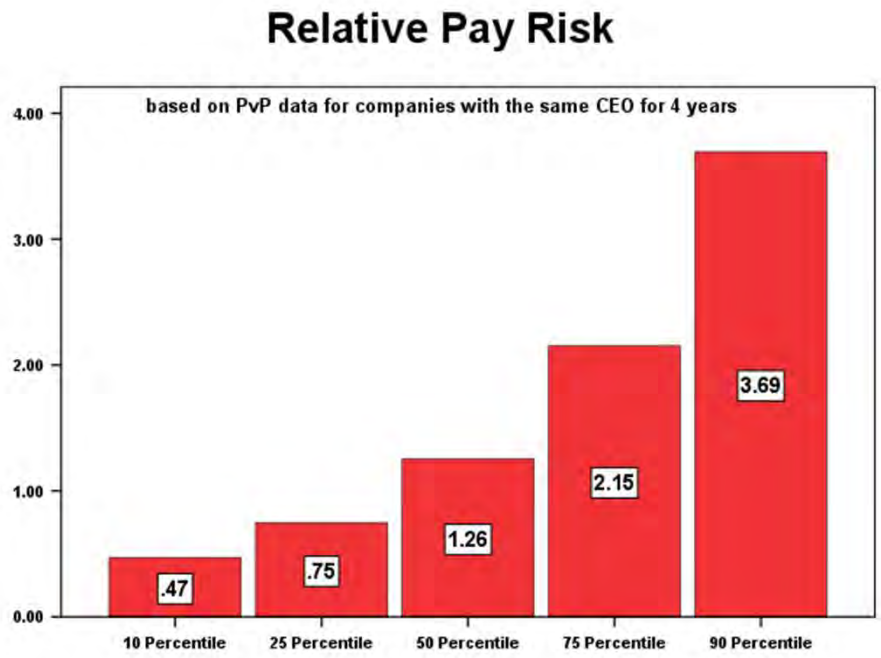


The left panel shows the distribution of alignment (r-sq) for CEOs of public companies filing their PvP disclosure in XBRL before August 20, 2024. The chart is limited to companies with the same CEO for 2020-2023. Alignment (r-sq) is the squared correlation of relative cumulative CAP and relative cumulative TSR. The r-sq for companies with negative correlations is shown as a negative so readers can see the magnitude and direction of the relationship.

The right panel shows the distribution of the log pay premium at industry average performance for the same sample. The percentage premium is equal to 100 x [exp(ln pay premium) – 1]. The percentage pay premium is -66% (= 100 * (exp(-1.09) – 1)) at the 10th percentile and 253% (= 100 * (exp(1.26) – 1)) at the 90th percentile.

The new PvP disclosures can be used to benchmark multiple pay dimensions, not just pay level (continued)

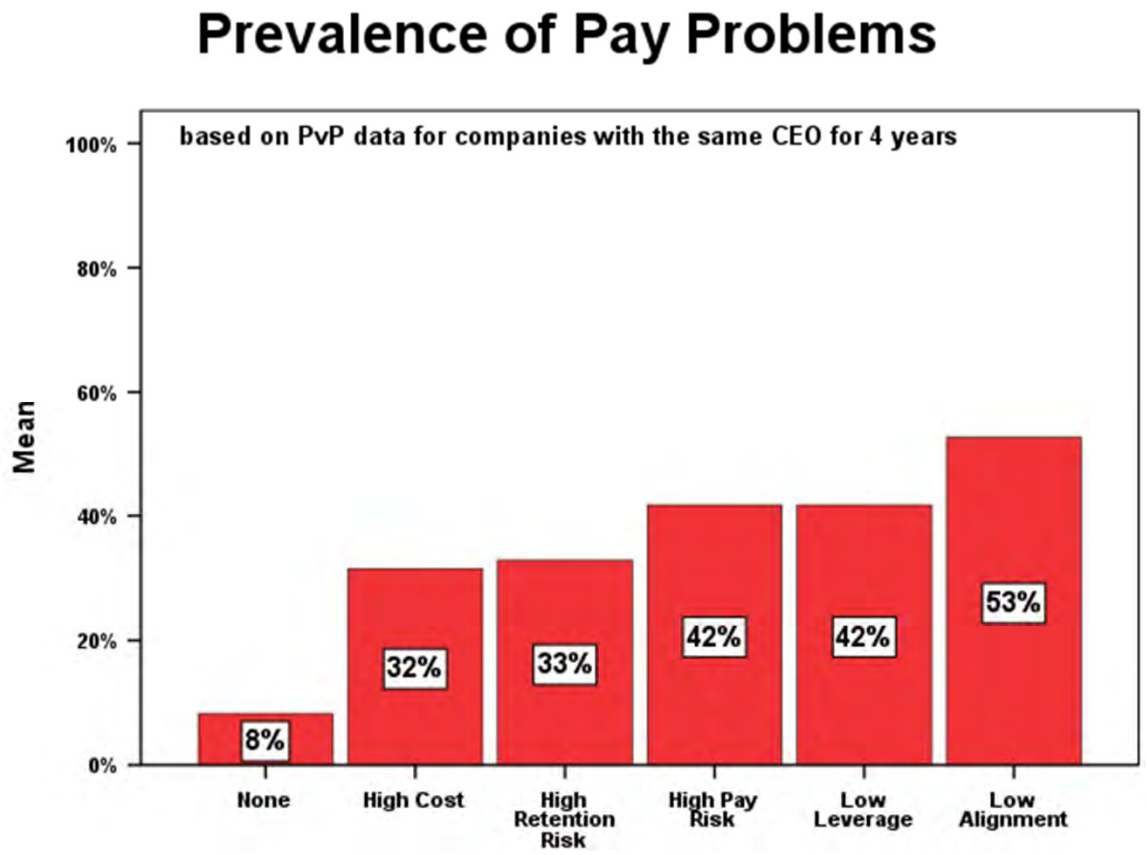




The left panel shows the distribution of pay leverage for CEOs of public companies filing their PvP disclosure in XBRL before August 20, 2024. The chart is limited to companies with the same CEO for 2020-2023. Leverage is the sensitivity of relative pay to relative performance. The median leverage of 0.65 means a 1% increase in relative shareholder wealth increases relative cumulative pay by 0.65%.

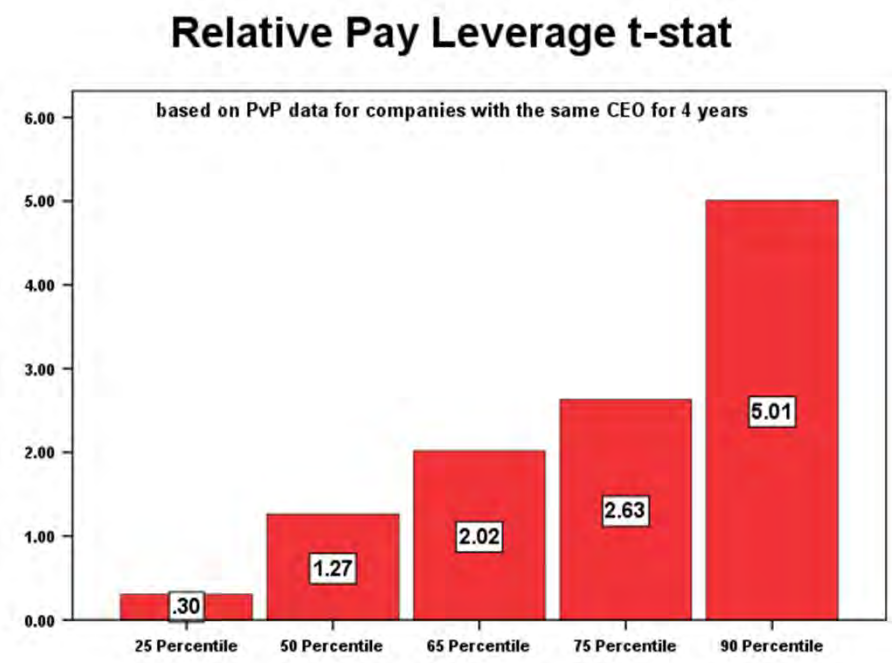
The right panel shows the distribution of relative pay risk for the same sample. Relative pay risk is the ratio of relative pay variability to relative performance variability (where variability is measured by standard deviation). It is calculated by dividing pay leverage by pay alignment. The 75th relative pay risk of 2.15 means that pay is more than twice as volatile as performance.

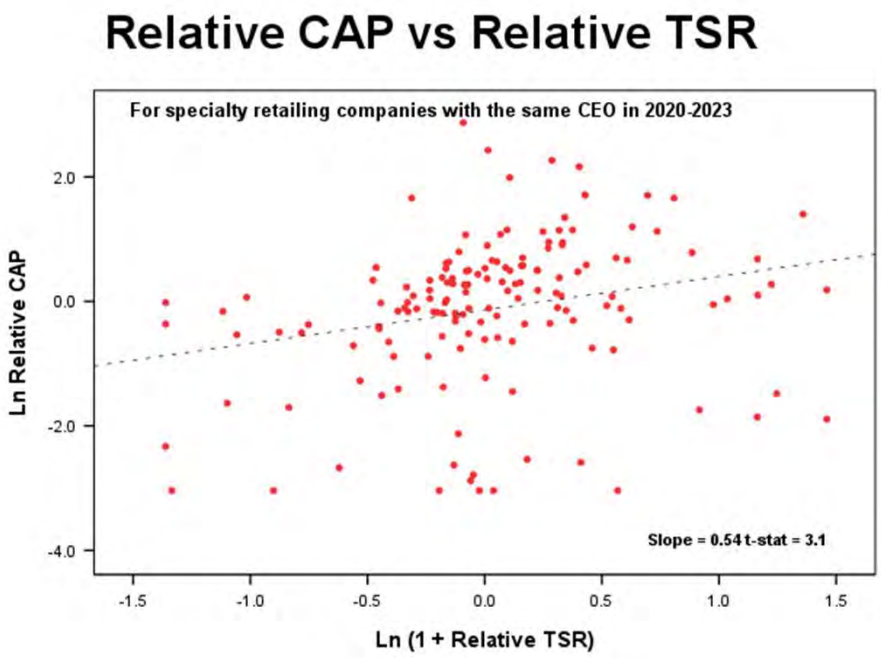
Companies can use the PvP data to test their relative success in achieving the three basic objectives of executive pay



High cost is defined as a 50%+ pay premium at industry average performance. High retention risk is defined as a pay "premium" of -33% or more negative. High pay risk is defined as relative pay risk of 1.5 or more, i.e., relative pay variability is 50% greater than relative TSR variability (or more). Low leverage is defined as pay leverage less than 0.5. Low alignment is defined as alignment (r-sq) less than 50%.

Only 35% of individual company pay leverages are statistically significant – industry trendlines can provide a more "SS" average

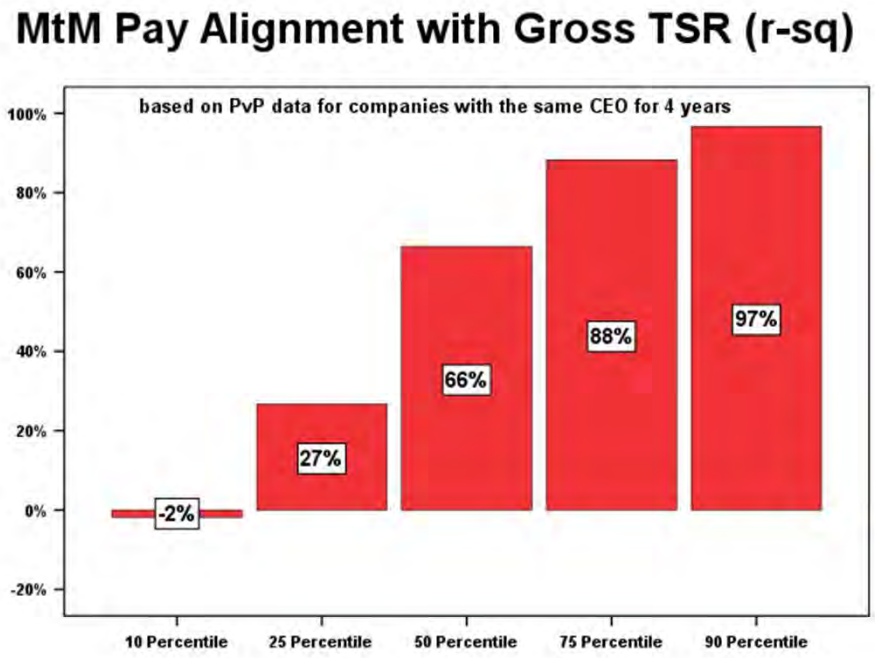


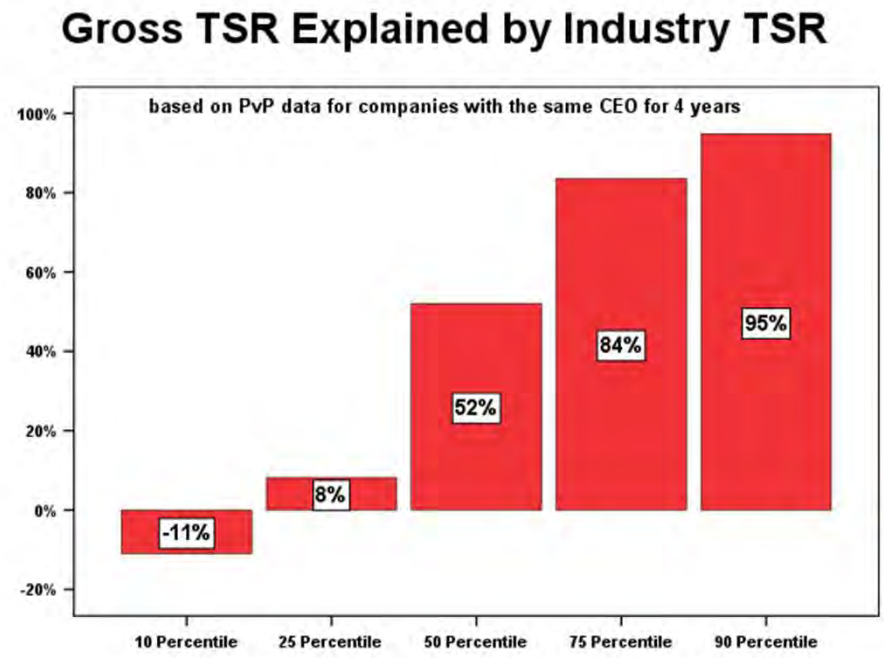


The left panel shows the distribution of the pay leverage t-stat for CEOs of public companies filing their PvP disclosure in XBRL before August 20, 2024. The chart is limited to companies with the same CEO for 2020-2023. In scientific convention, a coefficient – pay leverage in this case – is statistically significant if there is less than a 5% probability that a similar coefficient could arise by chance (from random sampling). This corresponds to a t-stat of 1.96, so slightly more than half of the CEOs have statistically significant mark to market pay leverage.

The right panel shows industry average pay leverage for CEOs in specialty retailing. With a larger sample (152 cases vs 4 for the individual company scatterplots), the pay leverage t-stat is 3.1, well above the threshold of statistical significance (1.96).

Alignment with gross TSR is higher but isn't pay for *management* perf since peer TSR explains 52% of gross TSR for the median co





The left panel shows the distribution of pay alignment (r-sq) for relative CAP vs gross shareholder wealth (i.e., 1 + TSR). The chart is limited to companies with the same CEO for 2020-2023. Median pay alignment (r-sq) with gross TSR, 66%, is 50% greater than median pay alignment (r-sq) with relative TSR, 44%. Alignment with gross TSR is not evidence of pay for *management* performance because industry TSR explains 52% (or more) of the variation in gross TSR for half of the companies, as the right panel shows.

The right panel chart also shows that industry (or peer group) TSR has little explanatory power for a quarter of all companies. This highlights the importance of taking account of "industry beta" in calculating relative TSR. I use 60 monthly returns to estimate industry betas and then estimate the expected zero beta return at the company's industry beta. The expected company return is [zero beta return + (industry beta x peer group return)], not the peer group return, and the company's relative return is ([(1 + TSR)/(1 + expected company return)] – 1]).

The relative pay vs perf graph leads to "perfect" pay concepts (where alignment with relative pay is 100%) – here's step one

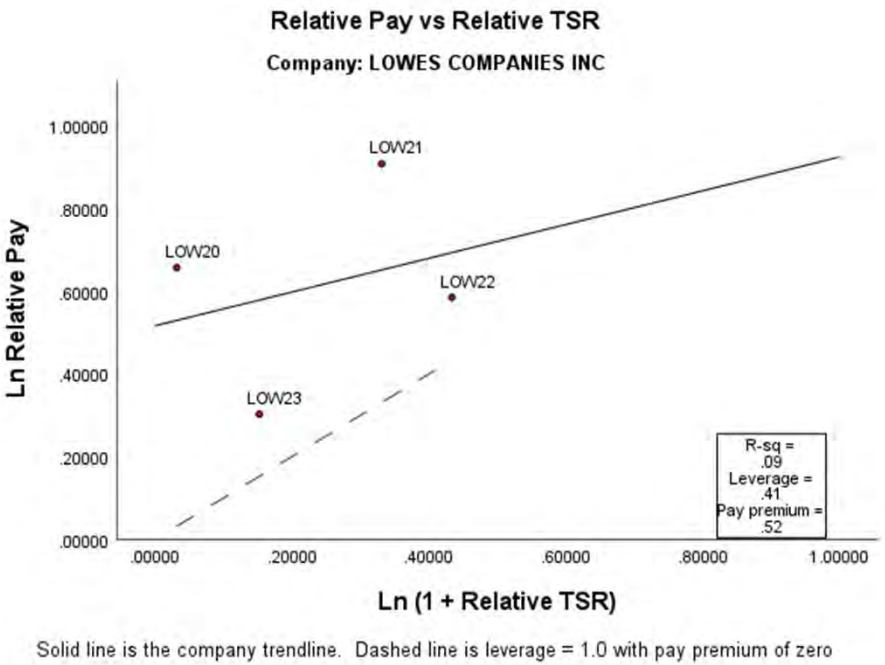
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Market pay		1,000	1,000	1,000	1,000	1,000
Beginning stock x (1 + industry return)	10	11	12	13	14	15
GOOD EARLY PERFORMANCE						
Stock price	10	15	20	25	30	20
Relative return (at beginning of year)		0%	36%	67%	92%	114%
Target pay (= market x (1 + relative return))		1,000	1,364	1,667	1,923	2,143
Grant shares (= target pay / BOY stock price)		100	91	83	77	71
Cumulative shares		100	191	274	351	423
Ending wealth						**8,452**
BAD EARLY PERFORMANCE						
Stock price	10	7	6	5	8	20
Relative return (at begininng of year)		0%	-36%	-50%	-62%	-43%
Target pay (= market x (1 + relative return))		1,000	636	500	385	571
Shares (= target pay / stock price)		100	91	83	77	71
Cumulative shares		100	191	274	351	423
Ending wealth						**8,452**

The first step in achieving perfect alignment is making target pay equal to market pay adjusted for trailing relative performance.

The second step in achieving perfect alignment is using vesting to take out the industry component of the stock return

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Market pay		1,000	1,000	1,000	1,000	1,000
Beginning stock x (1 + industry return)	10	11	12	13	14	15
GOOD EARLY PERFORMANCE						
Stock price	10	15	20	25	30	20
Relative return (beginning of year)		0%	36%	67%	92%	114%
Target pay (= market x (1 + relative return))		1,000	1,364	1,667	1,923	2,143
Grant shares (= target pay / BOY stock price)		100	91	83	77	71
Industry return from grant to end of year 5		50%	36%	25%	15%	7%
Year 5 vesting multiple (= 1 /(1 + industry return))		0.67	0.73	0.80	0.87	0.93
Vesting grant shares		67	67	67	67	67
Cumulative vesting shares		67	133	200	267	333
Ending wealth						**6,667**
BAD EARLY PERFORMANCE						
Stock price	10	7	6	5	8	20
Relative return (beginning of year)		0%	-36%	-50%	-62%	-43%
Target pay (= market x (1 + relative return))		1,000	636	500	385	571
Grant shares (= target pay / BOY stock price)		100	91	83	77	71
Industry return from grant to end of year 5		50%	36%	25%	15%	7%
Year 5 vesting multiple (= 1 /(1 + industry return))		0.67	0.73	0.80	0.87	0.93
Vesting grant shares		67	67	67	67	67
Cumulative vesting shares		67	133	200	267	333
Ending wealth						**6,667**

It's easy to simulate the perfect correlation performance share plan for any individual company



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

Solid line is the regression trendline.

The left panel shows log relative pay vs log relative TSR for Lowe's CEO Marvin Ellison. Alignment (r-sq) is very low (9%), leverage is modest (0.41) and the percentage pay premium at industry average performance is very high (+68% = 100 * (exp(0.52)-1)).

The right panel shows log relative pay vs relative TSR for the perfect correlation performance share plan for Ellison. Perfect pay is lower than actual pay in every year but perfectly aligned with relative TSR.

The perfect performance share plan highlights three critical weaknesses in current pay design

Weakness in Current Pay Design	Perfect Pay Design
Competitive pay policy Management is entitled to competitive target pay regardless of past performance	Target pay is market pay adjusted for trailing relative performance
Pay for industry performance Through restricted stock grants, stock options or poorly designed performance shares	Vesting takes out the industry component of the stock return
Weak mechanisms to link cumulative pay and cumulative performance Cash pay/realizations are not limited to cumulative earned pay	Cash is a draw against the value of the performance shares

- Pay dimensions have statistically and economically significant effects on future stock returns.
  - The pay premium at industry average performance has a negative effect on future returns and relative pay risk has a positive effect.
  - Conventional pay measures (i.e., percent of pay at risk and percent from market) don't tell us anything useful about future returns.
- See my chapter in *The Handbook of Board Governance* (3rd edition), edited by Richard LeBlanc.

The perfect pay plans solve the retention vs incentive problem companies have been wrestling with for 100+ years

- Figuring out how to provide (1) fixed sharing to create strong incentives *and* (2) competitive pay to retain key talent has been the great challenge of executive pay for the last 100 years. The perfect pay plans show how to do this.
- The perfect pay plans can be used with:
  - Market or operating measures of relative performance; on this page, we use relative TSR.
  - With pay leverage of 1.0, less than 1.0 or more than 1.0; on this page, we use 1.0.
- The perfect pay plans combine market pay with fixed sharing ratios:
  - Cumulative earned pay = cumulative FV of market pay x (1 + rTSR) [for 1.0 leverage]
  - Excess earned pay = cumulative FV of market pay x rTSR
  - Dollar excess return = market equity$_0$ x (1 + iTSR) x rTSR
  - Sharing ratio = cumulative FV of market pay / market equity$_0$ x (1 + iTSR)
  - Cumulative earned pay = cumulative market pay + sharing ratio x dollar excess return
- Conventional performance share design leverages the industry return instead of removing the industry return:
  - Vested stock value = stock value x (1 + rTSR) = stock price$_0$ x (1 + iTSR) x (1 + rTSR)^2
  - Perfect pay stock value = stock price$_0$ x (1 + expected iTSR) x (1 + rTSR)

Pay leverage is a proxy for wealth leverage – a concept sorely needed in the Elon Musk pay trial

- The most comprehensive measure of incentive strength is wealth leverage, i.e., the ratio of percent change in executive wealth to percent change in shareholder wealth.
  - An executive's wealth is the present value of expected future cash flows, including stock and option holdings and the present value of expected future pay.
  - We use pay leverage as a proxy for wealth leverage – one we can compute from historical data without making estimates of the present value of expected future pay and its sensitivity to current performance.
    - The "perfect" performance share plan has wealth leverage equal to pay leverage because future target pay depends on the current relative cumulative return, but
    - But for most companies our calculated pay leverage is likely to overstate wealth leverage because most companies embrace competitive pay policy (which ties future target pay to revenue, not the trailing relative return). This means that the present value of expected future pay is affected by the current relative cumulative return only to the extent it leads to higher future sales growth.
- The judge in the Elon Musk case uses the dollar change in wealth as a proxy for incentive strength
  - His "ownership stake gave him every incentive to push Tesla to levels of transformative growth – Musk stood to gain over $10 billion for every $50 billion in market capitalization increase…Why did Telsa have to 'give' anything in these circumstances?" (pp. 6,178).
  - The judge (and, apparently, the defendants) did not estimate the impact of the 2018 grant on Musk's wealth leverage and nor estimate the shareholder wealth gain from higher wealth leverage.
    - Space X and his other non-Tesla holdings made his pre-grant wealth leverage < 1.
    - The compensation plan increased his wealth leverage because it had wealth leverage of about 1.5. The change in Musk's wealth leverage and its estimated impact on shareholder wealth was never measured.

A few final words about the new PvP disclosures

- The new PvP disclosures can be used to measure four pay dimensions: pay leverage, pay alignment, the pay premium at industry average performance and relative pay risk. These measures are far more informative than the conventional measures used to guide plan design (target percent of pay at risk and target pay percentile).
- The relative pay vs relative performance trendline used to measure the four pay dimensions leads to a "perfect" performance share plan, i.e., a simple pay plan with annual grants of performance shares that provides a perfect correlation of relative pay and relative performance. This perfect pay plan highlights 3 critical shortcomings of conventional pay practice:
  - Making target pay equal to market pay instead of market pay adjusted for trailing relative performance,
  - Making the stock vesting measure [1 + relative TSR] instead of [1/(1 + industry return)], and
  - Allowing unconditioned cash payouts instead of treating all cash paid out as an advance against the retirement year value of the performance shares.
- The pay dimension measures quantified from PvP disclosure can be used to assess a company's absolute and relative success in the achieving the three basic objectives of executive compensation. These measures show that only about 10% of public companies achieve high alignment of relative pay and performance (r-sq > 50%) with a modest pay premium at industry average performance (+/- 25%).
- Analysis using the new PvP disclosures can be improved by using monthly return data to estimate the company's "industry beta" and then using the company's expected return based on peer performance, rather than actual peer performance, to measure relative performance.