

RESPONSE

Some Thoughts on the Evolution of Executive Equity Compensation

*Herwig Schlunk**

INTRODUCTION.....	73
I. ALTERNATIVE EXPLANATIONS FOR THE EVOLUTION OF EXECUTIVE EQUITY COMPENSATION	77
A. <i>Hypothesis One: Diminished Growth Expectations</i>	77
B. <i>Hypothesis Two: Dividend Taxation</i>	86
C. <i>Hypothesis Three: Portfolio Rebalancing, Sort Of</i>	94
CONCLUSION.....	102

INTRODUCTION

David Walker presents a puzzle: what explains the recent dramatic shift in the mix of executive equity compensation?¹ In the 1990s, executive equity compensation consisted predominantly of grants of stock options; in the 2000s, executive equity compensation shifted largely away from grants of stock options to grants of restricted stock. Walker makes a laudable but ultimately not entirely satisfactory attempt to explain the shift. Part of the reason for his failure is that Walker’s first principles generally presume that interactions between executives and companies should be explicable through the lens of optimal contracting.² I have a less sanguine view. I believe that interactions between executives and companies can be

* Professor of Law, Vanderbilt University Law School.

1. See David I. Walker, *Evolving Executive Equity Compensation and the Limits of Optimal Contracting*, 64 VAND. L. REV. 587 (2011).

2. See *id.* at 593 (“One aim of this Article is to test whether senior executive equity pay practices are consistent with a story of efficient or ‘optimal’ contracting.”).

characterized as struggles between hyper-interested and very well organized minorities, i.e., the executives, and relatively disinterested and extremely disorganized majorities, i.e., the shareholders as represented by boards of directors. Executives will prevail in such struggles every time. Inevitably, the end products of such struggles will be contracts that have more to do with optimal looting than with optimal incentive creation.

My prejudiced view is bolstered partly by anecdote and partly by looking at objective evidence of executive performance through the lens of twenty-twenty hindsight. My anecdote dates from my experience in private practice in the mid-1990s, right smack in the middle of the first of the two time periods compared and contrasted in Walker's study. A public company had just released some bad news that caused a very sharp market reaction. Apparently, company insiders either knew or in any event strongly believed that the market's reaction was a significant overreaction. At my law firm, a small bevy of attorneys spent an entire day in crisis mode addressing the propriety, feasibility, and logistics of ratcheting down the exercise price of all of the company's recently issued compensatory stock options to reflect what was believed to be a temporary anomalous price. I don't recall whether we technically represented the executive team or the board, but my perception was that it did not matter: each was the captive of the other; each had a common interest that was pretty clearly not aligned with the interest of the shareholders. Everyone I was working with understood that the reason behind reducing the exercise price of the options was not to create optimal performance incentives for the executive team, but rather to allow the team to optimally expropriate the company's shareholders.

My objective evidence argument goes as follows. We all know that executive incomes increased rapidly in the past twenty years, a period which saw the incomes of most everyone else stagnate. For example, the Economic Policy Institute reports that CEO wages rose from thirty-five times an average worker's wages in 1978 to seventy-one times an average worker's wage in 1989 to 248 times an average worker's wage in 1999 to 275 times an average worker's wage in 2007.³ And Kaplan and Rauh report that compensation of a broader group of executives at public companies on average more than tripled

3. Lawrence Mishel, *CEO-to-Worker Pay Imbalance Grows*, ECONOMIC POLICY INSTITUTE, June 21, 2006, http://www.epi.org/economic_snapshots/entry/webfeatures_snapshots_20060621/.

from 1994 to 2004.⁴ The optimal contracting literature suggests that this compensation was paid in order to induce performance. But we cannot determine whether it actually induced performance, since we cannot know what would have happened had lesser amounts been paid either to the same executives or to a different group of executives. All we can do is look at actual performance and ask, with the benefit of hindsight, whether it looks like the companies got what they paid for.

Was this increase in executive compensation accompanied by commensurate ex-post performance? Taking as my measuring stick stock prices as reflected by the S&P 500 index, I compared the ex-post performance of such executives against the performance of the exceedingly innovative and high-risk strategy of rolling over ten-year T-Notes.⁵

4. See Steven N. Kaplan & Joshua Rauh, *Wall Street and Main Street: What Contributes to the Rise of the Highest Incomes?* 9 (CRSP Working Paper No. 615, 2007), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=931280 (“The compensation for the top five executives at non-financial firms rose from \$0.91 million to \$2.82 million during such time period, and the compensation for the top five executives at financial firms rose from \$1.32 million to \$4.54 million during such time period.”).

5. Both for the S&P 500 and for the ten-year T-Note, I assume all purchases and sales are made at an “average” value based on the average of a given year’s opening value and the same year’s closing value. (These values, in turn, were derived from YAHOO! FINANCE, <http://finance.yahoo.com>.) My T-Note rollover strategy is designed to guarantee that I am always earning interest at the ten-year T-Note rate. It works as follows: First, I purchase an amount of T-Notes equal to the value of the S&P 500 at the time that I begin to deploy the strategy. Thus, for example, for purposes of analyzing the 1994-2004 time period, I purchase \$462.5 of T-Notes in 1994. I then collect interest for one year, deduct the amount of dividends actually paid by the S&P 500 during the same year, and finally roll the excess interest and what is now a nine-year T-Note over into a new ten-year T-Note. (Since I was unable to find prices for nine-year T-Notes, I assumed that they were identical to prices for ten-year T-Notes; under normal assumptions about the yield curve, this assumption should somewhat depress my rollover results.) I then repeat year after year. Since I extract exactly the same amount of cash from the rollover strategy as I would if I received dividends on the S&P 500, the ultimate amount invested in ten-year T-Notes can be safely compared to the terminal value of the S&P 500. (Note that I do not take taxes into account. For the large segment of the investing public made up of institutional investors, this omission is entirely proper.)

Table 1: Executive Performance vs. T-Note Rollover for Ten-Year Periods Beginning and Ending Within the Time Frame of the Walker Study

Period	Average S&P Open	Average S&P Close	T-Note Rollover Close	Excess Performance	Annualized Excess Performance
1993-2003	451.0	996.0	782.4	27.30%	2.44%
1994-2004	462.5	1162.0	785.0	48.02%	4.00%
1995-2005	537.5	1230.0	844.2	45.70%	3.84%
1996-2006	678.5	1333.0	1072.5	24.29%	2.20%
1997-2007	855.5	1443.0	1353.0	6.65%	0.65%

The Kaplan and Rauh period is shown in bold font: it shows that executives did perform, generating fully 4% annual compounded growth in excess of my no-brain T-Note rollover strategy! Of course, during any other ten-year period the executives would not have performed quite so well. That leads me to wonder if the executives' ten-year wage increases over such periods in any way reflected the more muted growth. And I especially wonder if their ten-year wage increases reflected the following:

Table 2: Executive Performance vs. T-Note Rollover: 1998 to 2008

Period	Average S&P Open	Average S&P Close	T-Note Rollover Close	Excess Performance	Annualized Excess Performance
1998-2008	1099.5	1185.5	1730.5	-31.49%	-3.71%

Although I do not know, I suspect that executive compensation increases preceding and following the time period studied by Kaplan and Rauh were not terribly different from those they report.⁶ So I present one last performance comparison, extending their time period by five years in both directions. Yes, it appears that executives added some value: they outperformed the no-brain T-Note rollover strategy by almost 0.6% on an annualized basis. But I wonder whether that increment could not have been induced with somewhat less "incentive"

6. This must be true, given the evidence on executive compensation vs. average worker's wages during such period.

than that supposedly created by more than tripling their compensation in just the middle half of such time period.

Table 3: Executive Performance vs. T-Note Rollover: 1989 to 2009

Period	Average S&P Open	Average S&P Close	T-Note Rollover Close	Excess Performance	Annualized Excess Performance
1989-2009	315.5	1009	897.5	12.42%	0.59%

I. ALTERNATIVE EXPLANATIONS FOR THE EVOLUTION OF EXECUTIVE EQUITY COMPENSATION

Since I am skeptical that optimal contracting has much, if anything, to do with executive compensation as it is currently practiced in the United States, I am necessarily skeptical that it has much to do with the evolution of executive equity compensation. Nonetheless, Walker's puzzle remains: executive equity compensation *has* evolved significantly from the 1990s through today, and it has evolved in a very specific way: the emphasis has shifted away from issuing stock options and toward issuing restricted stock.⁷ Does my prejudiced view—that executive equity compensation has more to do with optimal looting than with optimal incentive creation—provide a better explanation for the evolution? My approach to answering this question is that of a naïf who understands something about arithmetic and something about tax law, but very little about either corporate law or contract law. In spite (or perhaps because) of this handicap, I propose three hypotheses.

A. Hypothesis One: Diminished Growth Expectations

Walker reports that the 350 large companies in his panel had an average price-to-earnings (“P/E”) ratio of 21.2 during the 1993 to 1997 period, which compares to an average P/E ratio of 18.1 during the 2003 to 2007 period.⁸ P/E ratios say something about the expected

7. See Walker, *supra* note 1, at 609 for a graph illustrating this evolution. Also note that Walker does not necessarily disagree with my skepticism of the relevance of optimal contracting. Although he does not to any great extent pursue the issue in his Article, he makes several references to “the managerial power view” of the executive compensation process. While Walker's description of this view is not entirely benign, I am not certain that he would go as far as I do to describe the process as one of plain and simple looting. *Id.* at 604.

8. *Id.* at 610.

growth rate of a company, but only if they are given proper context. The context answers the question: what P/E ratio should we expect? I can only answer that question by first determining the P/E ratio that the market is willing to pay for absolutely no growth at all. The asset with the longest duration that exhibits absolutely no growth at all—indeed guarantees absolutely no growth at all—is a thirty-year T-Bond issued at par. Table 4 sets forth the “average” interest rate paid by a thirty-year T-Bond during each of the two relevant time periods, where average is arbitrarily defined as the average of the year’s opening T-Bond yield and its closing T-Bond yield (as based on futures trading).⁹

9. These figures were derived from YAHOO! FINANCE, <http://finance.yahoo.com>.

Table 4: Thirty-Year T-Bond

Year	Opening Yield	Closing Yield	Average Yield	T-Bond P/E Ratio
1989	9.09%	8.00%	8.55%	11.70
1990	8.00%	8.14%	8.07%	12.39
1991	8.14%	7.46%	7.80%	12.82
1992	7.46%	7.33%	7.40%	13.52
1993	7.33%	6.40%	6.87%	14.57
1994	6.40%	7.91%	7.16%	13.98
1995	7.91%	5.97%	6.94%	14.41
1996	5.97%	6.75%	6.36%	15.72
1997	6.75%	5.85%	6.30%	15.87
1998	5.85%	5.15%	5.50%	18.18
1999	5.15%	6.60%	5.88%	17.02
2000	6.60%	5.35%	5.98%	16.74
2001	5.35%	5.56%	5.46%	18.33
2002	5.56%	4.96%	5.26%	19.01
2003	4.96%	5.18%	5.07%	19.72
2004	5.18%	4.82%	5.00%	20.00
2005	4.82%	4.55%	4.69%	21.34
2006	4.55%	4.77%	4.66%	21.46
2007	4.77%	4.35%	4.56%	21.93
2008	4.35%	2.82%	3.59%	27.89

From 1993 to 1997, the T-Bond P/E ratio averaged 14.91; from 2003 to 2007, it averaged 20.89. Thus, for the 1993 to 1997 period, the P/E ratio of the 350 large companies comfortably exceeded the P/E ratio of the zero-growth T-Bond; for the 2003 to 2007 period, the P/E ratio of the 350 large companies was actually below the P/E ratio of the zero-growth T-Bond.

Before engaging in an arithmetic exercise that tests possible implications of relatively high or relatively low P/E ratios, I offer a descriptive defense of their relevance. As a first cut, P/E ratios in excess of the P/E ratio of the zero-growth T-Bond are a signal that the market recognizes the existence of good growth opportunities. Good growth opportunities lead to good earnings growth; good earnings growth leads to rising stock prices; rising stock prices that persist over some period of time lead to an expectation that stock prices will continue to rise; an expectation that stock prices will continue to rise

generally makes a grant of stock options more desirable than a grant of restricted stock, even if the two grants have the same ex ante fair value. Conversely, P/E ratios that are below the P/E ratio of the zero-growth T-Bond are a signal that the market recognizes an absence of growth opportunities. An absence of growth opportunities leads to poor earnings growth; poor earnings growth leads to at best choppy stock price action; choppy stock prices that persist over some period of time lead to an expectation that stock prices will continue to be choppy; an expectation that stock prices will continue to be choppy generally makes a grant of restricted stock more desirable than a grant of stock options, even if the two grants have the same ex ante fair value.

Applying these story lines to the two time periods examined in Walker's study, 1993 to 1997 was indeed a period of persistently rising stock prices (the S&P 500 index rose in the aggregate 122%) that, equally importantly, followed another period of persistently rising prices (the S&P 500 index rose 177% from 1988 to 1992). As a result, a compensation package designed to maximally expropriate a company's shareholders would have been heavily weighted towards stock options. On the other hand, 2003 to 2007 was also a period of persistently rising stock prices, but one in which the rise was far more muted (the S&P 500 index rose in the aggregate 67%) and which, more importantly, followed a period not of sharply rising but rather of falling stock prices (the S&P 500 index declined 9% from 1998 to 2002, and 40% from 2000 to 2002). As a result, a compensation package designed to maximally expropriate a company's shareholders would have been heavily weighted towards restricted stock.

Even discounting the (arguably irrational but I believe nonetheless real) biases imbedded in the previous paragraphs, a rational executive at a generic sample company who was confronted with the relative P/Es for the two time periods might well have concluded, after a bit of arithmetic, that his optimal looting strategy in the first period was to demand stock options, while his optimal looting strategy in the second period was to demand restricted stock. Here is a path to those choices. First, the executive might create a baseline by temporarily assuming that all returns of all assets are risk-free. Under this assumption, what would a P/E ratio that diverges from the T-Bond P/E ratio mean? Simply this: for some period of time the asset with the diverging P/E ratio *must* exhibit (positive or negative) growth at a rate other than the T-Bond's rate of zero. Assume that the period of growth lasts exactly ten years, and that the rate of growth during such ten-year period is uniform. The former assumption means that over a long enough period of time (here ten years), earnings growth

will revert to the mean of zero. The second assumption makes the arithmetic more tractable.

It turns out that an asset that begins with a P/E ratio of 21.2 at a time when the T-Bond P/E ratio is 14.91 must experience growth in earnings at a 4.61% compounded rate for ten years in order to justify its premium. And an asset with a P/E ratio of 18.1 at a time when the T-Bond P/E ratio is 20.89 must experience a decline in earnings at a 1.75% compounded rate for ten years in order to justify its discount.

Table 5: Comparison of Risk-Free Assets Where T-Bond P/E is 14.91 and Asset P/E is 21.2¹⁰

Year	T-Bond Interest	T-Bond Principal	NPV	Discount Rate	Asset Earnings	Asset "Principal"	NPV
1	\$6.71	\$0.00	\$6.29	1.07	\$4.93	\$0.00	\$4.62
2	\$6.71	\$0.00	\$5.89	1.14	\$5.16	\$0.00	\$4.53
3	\$6.71	\$0.00	\$5.52	1.22	\$5.40	\$0.00	\$4.44
4	\$6.71	\$0.00	\$5.17	1.30	\$5.65	\$0.00	\$4.36
5	\$6.71	\$0.00	\$4.85	1.38	\$5.91	\$0.00	\$4.27
6	\$6.71	\$0.00	\$4.54	1.48	\$6.18	\$0.00	\$4.19
7	\$6.71	\$0.00	\$4.26	1.58	\$6.47	\$0.00	\$4.11
8	\$6.71	\$0.00	\$3.99	1.68	\$6.76	\$0.00	\$4.02
9	\$6.71	\$0.00	\$3.74	1.79	\$7.08	\$0.00	\$3.95
10	\$6.71	\$100.00	\$55.75	1.91	\$7.40	\$110.37	\$61.54

10. Note that this calculation assumes that the asset's earnings are all paid out currently. To the extent that they are not (and in the case of stock, they rarely will be), the calculation implicitly assumes that any retained earnings generate additional earnings at the riskless rate of return in perpetuity. Under the extreme assumption that all earnings are retained and reinvested, the asset "principal" at the end of ten years would be \$191.45, rather than \$110.37 as pictured.

Table 6: Comparison of Risk-Free Assets Where T-Bond P/E is 20.89 and Asset P/E is 18.1¹¹

Year	T-Bond Interest	T-Bond Principal	NPV	Discount Rate	Asset Earnings	Asset "Principal"	NPV
1	\$4.79	\$0.00	\$4.57	1.05	\$5.43	\$0.00	\$5.18
2	\$4.79	\$0.00	\$4.36	1.10	\$5.33	\$0.00	\$4.86
3	\$4.79	\$0.00	\$4.16	1.15	\$5.24	\$0.00	\$4.55
4	\$4.79	\$0.00	\$3.97	1.21	\$5.15	\$0.00	\$4.27
5	\$4.79	\$0.00	\$3.79	1.26	\$5.06	\$0.00	\$4.00
6	\$4.79	\$0.00	\$3.62	1.32	\$4.97	\$0.00	\$3.75
7	\$4.79	\$0.00	\$3.45	1.39	\$4.88	\$0.00	\$3.52
8	\$4.79	\$0.00	\$3.29	1.45	\$4.80	\$0.00	\$3.30
9	\$4.79	\$0.00	\$3.14	1.52	\$4.71	\$0.00	\$3.09
10	\$4.79	\$100.00	\$65.65	1.60	\$4.63	\$96.74	\$63.51

From 1993 to 1997, the S&P 500 dividend yield averaged 2.31%. From 2003 to 2007, the S&P 500 dividend yield averaged 1.73%. If the generic company initially pays dividends at this generic rate, and if earnings are appropriately adjusted to reflect reinvestment, the first five years of earnings under the two scenarios are shown in the following two tables. Under the positive growth scenario, the fifth year has earnings of \$6.72. Assuming that the P/E ratio has reverted halfway to the risk-free zero-growth P/E ratio, the expected fifth-year stock price would be \$121.29 (i.e., $18.05 * \$6.72$). Under the negative growth scenario, the fifth year has earnings of \$5.77. Assuming that the P/E ratio has reverted halfway to the risk-free zero-growth P/E ratio, the expected fifth-year stock price would be \$112.52 (i.e., $19.50 * \$5.77$).

11. See *supra* note 10. In this case, the asset's "principal" amount in the case of full earnings retention and reinvestment would be \$159.62.

Table 7: Risk-Free Earnings Including Reinvestment Where T-Bond P/E is 14.91 and Stock P/E is 21.2

Year	Asset Core Earnings	Reinvestment Earnings	Dividend ¹²	Amount Reinvested	Aggregate Amount Reinvested
1	\$4.93	\$0.00	\$2.31	\$2.62	\$2.62
2	\$5.16	\$0.18	\$2.46	\$2.87	\$5.50
3	\$5.40	\$0.37	\$2.63	\$3.14	\$8.64
4	\$5.65	\$0.58	\$2.81	\$3.42	\$12.06
5	\$5.91	\$0.81	\$2.99	\$3.72	\$15.78

Table 8: Risk-Free Earnings Including Reinvestment Where T-Bond P/E is 20.89 and Asset P/E is 18.1

Year	Asset Core Earnings	Reinvestment Earnings	Dividend	Amount Reinvested	Aggregate Amount Reinvested
1	\$5.43	\$0.00	\$1.73	\$3.70	\$3.70
2	\$5.33	\$0.18	\$1.81	\$3.70	\$7.40
3	\$5.24	\$0.35	\$1.90	\$3.69	\$11.09
4	\$5.15	\$0.53	\$1.99	\$3.69	\$14.78
5	\$5.06	\$0.71	\$2.09	\$3.68	\$18.46

Of course, the large company stock is not risk-free. Two adjustments need to be made to take this fact into account. First, some dispersion needs to be added to the earnings actually achieved. Second, some risk aversion or, equivalently, some incremental return for taking risk, needs to be added. Both additions can be made simultaneously as follows. For the sample that reflects the P/E ratios of the 1993 to 1997 period, assume that the core assets do not earn a fixed rate of return of 4.61%, but rather that they earn a rate of return *for the first five years only* that with equal likelihood is 16.61%, 10.61%, 4.61%, -1.39%, and -7.39%. And for the sample that reflects the P/E ratios of the 2003 to 2007 period, assume that the core assets do not earn a fixed rate of return of -1.75%, but rather that they earn

12. The assumption in this table is that the company's dividend is increased annually at a rate that equals the thirty-year risk-free rate. This means that dividends are growing at a rate of 6.71% per annum during the high-growth period and at a rate of 4.79% per annum during the low-growth period. Aside from the fact that higher dividend growth in a higher growth period is a realistic assumption, there is no particular significance to these rate choices.

a rate of return *for the first five years only* that with equal likelihood is 10.25%, 4.25%, -1.75%, -7.75%, and -13.75%.¹³ Table 9 sets forth the fifth-year stock prices following the five-year “shock”:

Table 9: Fifth-Year Stock Prices Following an Assortment of Growth Shocks

1993-1997 Core Earnings Growth Rate	Fifth-Year Stock Price	2003-2007 Core Earnings Growth Rate	Fifth-Year Stock Price
16.61%	\$207.20	10.25%	\$196.30
10.61%	\$159.84	4.25%	\$149.75
4.61%	\$121.29	-1.75%	\$112.40
-1.39%	\$90.23	-7.75%	\$82.80
-7.39%	\$65.47	-13.75%	\$59.63
Expected value	\$128.81		\$120.18

Employing a standard Black-Scholes methodology, for each of the two time periods, a roughly equivalent ex ante value can be delivered to the executive by giving him either four at-the-money stock options or one share of restricted stock.¹⁴ For the 1993 to 1997 period, based on the table above, an executive who chooses four at-the-money stock options expects to reap a greater ex post reward than does an executive who chooses one share of restricted stock:

13. The reason for limiting the stochastic growth shock to the first five years is that it allows fifth-year earnings to be valued at the same P/E multiple used in the non-stochastic case.

14. Since most options vest after five years and are immediately exercised, the computation assumed a five-year option term. The stock price in the model was adjusted to reflect five years of dividend payments based on the actual dividends shown in the tables in the text. The risk-free rate was set at 6.5% and 4.4% for the two periods, respectively; this was derived from the ten-year T-Note. Volatilities were as reported by Walker. *See* Walker, *supra* note 1, at 610.

Table 10: Comparison of Option and Restricted Stock Values
Following Growth Shocks

Core Return	Value of Four Options	Value of One Restricted Share	(Forward) Value of Dividends	Total Value of Restricted Share
16.61%	\$428.80	\$207.20	\$14.95	\$222.15
10.61%	\$239.36	\$159.84	\$14.95	\$174.79
4.61%	\$85.16	\$121.29	\$14.95	\$136.24
-1.39%		\$90.23	\$14.95	\$105.18
-7.39%		\$65.47	\$14.95	\$80.42
Expected Total	\$150.66			\$143.76

However, for the 2003 to 2007 period, an executive who chooses one share of restricted stock expects to reap a greater ex post reward than does an executive who chooses four at-the-money stock options:

Table 11: Comparison of Option and Restricted Stock Values
Following Growth Shocks

Core Return	Value of Four Options	Value of One Restricted Share	(Forward) Value of Dividends	Total Value of Restricted Share
10.25%	\$385.20	\$196.30	\$10.45	\$206.75
4.25%	\$199.00	\$149.75	\$10.45	\$160.20
-1.75%	\$49.60	\$112.40	\$10.45	\$122.85
-7.75%		\$82.80	\$10.45	\$93.25
-13.75%		\$59.63	\$10.45	\$70.08
Expected Total	\$126.76			\$130.63

There is nothing magic about this demonstration. My hypothetical, reasonably rational, and arithmetically-inclined executive used identical assumptions for both time periods, adjusted only to reflect the different objective observable market characteristics of such periods. Since creation of performance incentives played no role, the executive was allowed to choose which ex ante equally-valuable compensation package he preferred. In the 1993 to 1997

period, he chose stock options; in the 2003 to 2007 period, he chose restricted stock.

B. Hypothesis Two: Dividend Taxation

Walker's graph of the temporal evolution of the mix of stock options and restricted stock grants is very striking.¹⁵ While the sharp decline in stock option grants and the concomitant increase in restricted stock grants began in 2001 and continues to this day, it had run a good deal of its course by 2003. For a tax lawyer, there is an obvious explanation: the switch must be linked to the 2003 Bush tax cut for dividend income. Prior to 2003, dividends were taxed as ordinary income, and so for most executives during Walker's 1993 to 1997 period would have been taxed at a federal marginal rate of 39.6%. Beginning in 2003, most dividends have been taxed at the same federal marginal rate currently applicable to long-term capital gains. Thus, during Walker's 2003 to 2007 period, most executives would have paid federal income taxes on dividends at a 15% rate. This latter conclusion is subject to a huge caveat, however, which I will discuss below.

First, I must address the dividend-pressure argument. Walker argues that one effect of the change in the taxation of dividends was that public companies faced pressure from individuals to increase their dividend payouts.¹⁶ Indeed, he cites studies that show that companies generally responded to this pressure by raising their dividend payouts. Executives who anticipated that this would happen might have been inclined to prefer restricted stock grants to stock option grants. The proffered reason for this is that holders of restricted stock are generally entitled to receive dividend payments, while holders of stock options are not. But this reason presupposes a computational error on the part of the company and/or the executive. In determining the ex ante value of a stock option, dividends to which the option holder will not be entitled can and should be taken into account.¹⁷ Thus, for example, if the company's previous dividend policy

15. Walker, *supra* note 1, at 609.

16. Walker, *supra* note 1, at 614 n.87.

17. The easiest way to do this arithmetically is to reduce the current stock price in the Black-Scholes formula to reflect the discounted value of all dividends that the option holder will not receive. The effect of this adjustment is to convert an option that is nominally granted at-the-money into an option that is granted slightly out-of-the-money. I have made this adjustment in all of my calculations (and in particular in deriving my equation of four options and one restricted).

resulted in four stock options having the same fair value as one share of restricted stock, the newly-enacted dividend policy might result in four-and-one-half stock options having the same fair value as one share of restricted stock. There might of course be reasons, if such a change were necessary, for not making the change: for example, the optics of increasing the size of stock option grants may have been particularly bad following the option scandals of the early 2000s. But it is at the foot of such other reasons, and not of the fear of missing out on dividends, that we must then place responsibility for the wholesale switch from stock options to restricted stock.

Aside from the fact that proper computation would have allowed companies and executives to adjust the size of stock option grants to compensate for anticipated dividend increases, there is a second and more significant problem with the dividend-pressure argument. As the following table shows, the S&P 500 collectively paid dividends at a significantly higher rate during Walker's 1993 to 1997 sample period than it did during his 2003 to 2007 sample period. If executives did not care about missing out on higher dividends from 1993 to 1997, why did they suddenly care about missing out on lower dividends from 2003 to 2007?

Table 12: S&P 500 Dividends Yield

Year	Dividend Yield	Year	Dividend Yield
1993	2.72%	2003	1.61%
1994	2.91%	2004	1.60%
1995	2.30%	2005	1.79%
1996	2.01%	2006	1.77%
1997	1.60%	2007	1.89%
Average	2.31%	Average	1.73%

There could be a reason based in tax law, but I think it is a relatively hard argument to make. Recall that I hedged when I said that dividends have been taxed at a 15% federal marginal rate since 2003. They generally have been, but not when they are received by executives holding restricted stock. When unvested property like restricted stock is received in a compensatory context, the tax law does not generally treat the recipient as owning the property until the

property actually vests.¹⁸ Then, at the time of vesting, the recipient is treated as receiving the property as part of his compensation. Accordingly, at the time of vesting, the recipient is taxed at ordinary income rates on the full fair value of the property at that time.

What are the implications of this scheme for the taxation of dividends received by an executive holding unvested restricted stock? The executive has received cash and he must be taxed on that cash. The cash was technically paid with respect to stock, but the tax law does not acknowledge that the executive owns any stock. Thus, the cash must be treated as if it was paid to the executive pursuant to his employment contract, and so must be taxed as is any other cash paid to the executive pursuant to his employment contract: as ordinary compensation income. Accordingly, the executive's dividends with respect to restricted stock are generally not taxed at the favorable long-term capital gains rate, but at the unfavorable ordinary income rate.¹⁹

There is a way round this quandary, but individuals receiving restricted stock at no cost tend to be loath to use it. The executive could make a so-called 83(b) election. This election allows the executive to treat the unvested property, for federal income tax purposes only, as if it were vested.²⁰ The first (and generally show-stopping) consequence of this election is that the executive must pay tax immediately upon receipt of the unvested restricted stock, in spite of the fact that he may still lose such stock. That is bad. The second consequence is that the executive on a going-forward basis is treated for federal income tax purposes as if he owns the stock. In particular, he is able to receive qualified dividends paid with respect to such stock, and thus will pay tax on dividends at the favorable long-term capital gains rate.

Is there any possibility that a desire to take advantage of section 83(b) explains the shift to restricted stock?²¹ To test this hypothesis, I first considered a hypothetical restricted stock or stock option grant by a generic S&P 500 company in Walker's 1993 to 1997 window. Above, I calculated that four at-the-money stock options

18. I.R.C. § 83(a) (Wolters Kluwer 2011).

19. See Rev. Proc. 80-11, 1980-1 C.B. 616.

20. I.R.C. § 83(b)(1) (Wolters Kluwer 2011).

21. Note that an 83(b) election is not available in the case of what Walker calls performance shares but what I still think of as stock appreciation rights. The reason is that such shares yield an ultimate entitlement solely to cash and not to property. It follows that to assess whether the improved cost-benefit analysis for 83(b) elections may be responsible for a switch to stock, we would need to divide Walker's restricted stock sample into two separate categories.

generally had the same ex ante value as one share of restricted stock. Because it is necessary to give the section 83(b) explanation a fighting chance, I now amend the Black-Scholes calculation to declare an ex ante value equivalence between 3.3 at-the-money stock options and one share of restricted stock. This is not quite the sleight of hand that it appears to be, although it does point out how easy it is to tweak the inputs used to calculate option value. I only tweak a single input: I now assume that each stock option has a ten-year term. Technically, that is generally accurate; most compensatory stock options do have a ten-year term. It is just that my prior calculation reflected the alternative reality that most compensatory stock options vest within five years and are exercised and/or sold shortly after vesting.

For ease of computation, I assume that all executive equity compensation is subject to five-year cliff vesting and is cashed out (by sale or otherwise) immediately after such vesting. I compare the *after-tax* expected net present value of the receipt of one share of restricted stock with the receipt of 3.3 at-the-money stock options. Table 13 gives a flavor for this computation: it shows how the executive would have fared under each of the two alternatives during the 1993 to 1997 time period, assuming that the ex post performance of the company's stock exceeded the riskless ten-year T-Note rate by exactly five percentage points.²² The highlighted numbers show that, under these numerical assumptions, the executive ends up better off if he chooses 3.3 stock options rather than one share of restricted stock.

22. Other assumptions going into the table are as follows: A 5% state income tax is added to the federal income tax. Dividends are deemed to grow at the same rate as the stock price. The discount rate applied to payments is that appropriate for equity under my assumptions: hence, in this table such rate is 11.5% reduced by the relevant combined tax rate of 44.6%.

Table 13: 1993 to 1997: Stock vs. Option After All Taxes Assuming
11.5% Annual Return Without 83(b) Election

Year	Stock Price	Restricted Stock			Option (3.3 Shares)		Excess of Stock over Option Nominal	Excess of Stock over Option NPV
		Dividend	Stock Value	Tax	Option Value	Tax		
0	\$100.00							
1	\$109.19	\$2.31		-\$1.03			\$1.28	\$1.20
2	\$119.22	\$2.58		-\$1.15			\$1.43	\$1.26
3	\$130.18	\$2.87		-\$1.28			\$1.59	\$1.32
4	\$142.14	\$3.20		-\$1.43			\$1.77	\$1.39
5	\$155.21	\$3.57	\$155.21	-\$70.82	\$182.19	-\$81.26	-\$12.97	-\$9.52
Net Present Value:			\$69.76		\$74.12			-\$4.35

The following table repeats the exercise, but additionally assumes that if the executive chooses restricted stock over an ex ante equivalent fair value of stock options, he will make an 83(b) election for the restricted stock:

Table 14: 1993 to 1997: Stock vs. Option After all Taxes Assuming
11.5% Annual Return With 83(b) Election

Year	Stock Price	Restricted Stock			Option (3.3 Shares)		Excess of Stock over Option Nominal	Excess of Stock over Option NPV
		Dividend	Stock Value	Tax	Option Value	Tax		
0	\$100.00			-\$44.60			-\$44.60	-\$44.60
1	\$109.19	\$2.31		-\$1.03			\$1.28	\$1.20
2	\$119.22	\$2.58		-\$1.15			\$1.43	\$1.26
3	\$130.18	\$2.87		-\$1.28			\$1.59	\$1.32
4	\$142.14	\$3.20		-\$1.43			\$1.77	\$1.39
5	\$155.21	\$3.57	\$155.21	-\$15.39	\$182.19	-\$81.26	-\$42.45	-\$31.17
Net Present Value:			\$65.86		\$74.12			-\$8.25

Note that making an 83(b) election under these assumptions does not make the choice of restricted stock less unfavorable, but in fact makes it more unfavorable: the benefit of applying the lower long-term capital gains tax rate to the ultimately realized gain (measured by the ex post increase in the company's stock price) is exceeded by the detriment of accelerating the tax on the initial fair value of the restricted stock.²³ This result was not changed by the addition of some volatility to the company's stock returns. In particular, I assumed that with equal likelihood such returns would be 4.5%, 11.5%, and 18.5%.

Table 15: 1993 to 1997: Comparison of Restricted Stock With and Without an 83(b) Election

	Ex Post Stock Value Without 83(b) Election	Ex Post Stock Value With 83(b) Election	Ex Post Option Value
4.5% annual appreciation	\$51.96	\$41.76	\$15.36
11.5% annual appreciation	\$69.76	\$65.86	\$74.12
18.5% annual appreciation	\$92.77	\$97.01	\$150.04
Average	\$71.50	\$68.21	\$79.84

I repeat the exercise for the 2003 to 2007 period, now assuming that the generic S&P 500 company's stock will return the expected amount of 9.4% (which is still five percentage points above the relevant riskless rate of return). Table 16 compares the executive's after-tax haul if his choice is limited to stock options and restricted stock without an 83(b) election:

23. Algebraically, the relevant comparison is as follows. Let t_{OI} be the tax rate applicable to ordinary income and let t_{CG} be the tax rate applicable to long-term capital gains. Let X_0 be the company's stock price at the time of the grant of restricted stock and let X_1 be the company's stock price at the time of vesting/sale of such restricted stock. Finally, let r be the appropriate after-tax discount rate. Assume vesting and immediate sale in five years. If the executive makes no 83(b) election, he pays tax of $t_{OI} * X_1$ in five years. If he does make an 83(b) election, he pays tax of $t_{OI} * X_0$ today and also pays tax of $t_{CG} * (X_1 - X_0)$ in five years. Accordingly, he is better off making an 83(b) election if and only if $(t_{OI} * X_0) + (t_{CG} * (X_1 - X_0)) * (1 + r)^{-5} < (t_{OI} * X_1) * (1 + r)^{-5}$. After a small amount of rearranging, it follows that he is better off if and only if $(t_{OI} * X_0) * (1 - (1 + r)^{-5}) < (t_{OI} - t_{CG}) * (X_1 - X_0) * (1 + r)^{-5}$. The left-hand side of the inequality is the detriment flowing from accelerating the tax on the initial value of the restricted stock; the right-hand side is the tax detriment of paying ordinary income rather than capital gains taxes on any appreciation with respect to the restricted stock. In the tables for 1993 to 1997, $t_{OI} = 44.6\%$, $t_{CG} = 25\%$, $X_0 = 100$, $X_1 = 155.21$, and $r = 6.37\%$. In the tables for 2003 to 2007, $t_{OI} = 40\%$, $t_{CG} = 20\%$, $X_0 = 100$, $X_1 = 144.84$, and $r = 5.64\%$.

Table 16: 2003 to 2007: Stock vs. Option After All Taxes Assuming
9.4% Annual Return Without 83(b) Election

Year	Stock Price	Restricted Stock		Option (3.3 Shares)		Excess of Stock over Option Nominal	Excess of Stock over Option NPV
		Dividend	Stock Value	Tax	Option Value		
0	\$100.00						
1	\$107.69	\$1.73		-\$0.69		\$1.04	\$0.98
2	\$115.97	\$1.89		-\$0.76		\$1.14	\$1.02
3	\$124.89	\$2.07		-\$0.83		\$1.24	\$1.05
4	\$134.49	\$2.27		-\$0.91		\$1.36	\$1.09
5	\$144.84	\$2.48	\$144.84	-\$58.93	\$147.96	-\$59.18	-\$0.39
Net Present Value:			\$71.33		\$67.48		\$3.85

It is worth noting that Table 16 is the first table I have presented in this Subsection in which stock options were outperformed by restricted stock. This is not primarily a function of tax rates, but is rather largely a result of the assumption about the reduced expected rate of return to be achieved by the company's stock. That is, in my prior computation, as well as in this one, I assumed that stock produced an expected return that exceeded the ten-year riskless rate by five percentage points. When the riskless rate is 6.5%, stock is expected to return 11.5%; when the riskless rate is 4.4%, stock is expected to return 9.4%. Given the multiplier effect of a stock option grant, the reduced rate of expected return greatly reduces the return on the option. This is an artifact of my assumptions, and not one from which you should necessarily draw a general conclusion. But it is an artifact that remains after I add the effects of an 83(b) election.

Table 17: 2003 to 2007: Stock vs. Option After All Taxes Assuming 9.4% Annual Return With 83(b) Election

Year	Stock Price	Restricted Stock		Option (3.3 Shares)		Excess of Stock over Option Nominal	Excess of Stock over Option NPV	
		Dividend	Stock Value	Tax	Option Value			Tax
0	\$100.00			-\$40.00		-\$40.00	-\$40.00	
1	\$107.69	\$1.73		-\$0.35		\$1.38	\$1.31	
2	\$115.97	\$1.89		-\$0.38		\$1.51	\$1.36	
3	\$124.89	\$2.07		-\$0.41		\$1.66	\$1.41	
4	\$134.49	\$2.27		-\$0.45		\$1.81	\$1.46	
5	\$144.84	\$2.48	\$144.84	-\$9.46	\$147.96	-\$59.18	\$49.08	\$37.30
Net Present Value:			\$70.30		\$67.48		\$2.83	

Finally, Table 18 shows what happens after the addition of volatility to the ex post stock returns by assuming that with equal likelihood the ex post return would be 2.4%, 9.4%, and 16.4%:

Table 18: 2003 to 2007: Comparison of Restricted Stock With and Without an 83(b) Election

	Ex Post Stock Value Without 83(b) Election	Ex Post Stock Value With 83(b) Election	Ex Post Option Value
2.4% annual appreciation	\$52.48	\$45.17	\$5.26
9.4% annual appreciation	\$71.33	\$70.30	\$67.48
16.4% annual appreciation	\$95.77	\$102.90	\$148.15
Average	\$73.19	\$72.79	\$73.63

Now there is something worth observing that is *not* an artifact of my assumptions. Whatever the gap between restricted stock and stock option returns, the gap between restricted stock returns without an 83(b) election and restricted stock returns with an 83(b) election has narrowed. That is, while my model for the 1993 to 1997 period showed a significant negative after-tax effect when an executive made an 83(b) election, my model for the 2003 to 2007 period showed hardly any effect at all. This is a general result: the 2003 tax rate changes

made 83(b) elections more competitive.²⁴ It follows that although there are likely still relatively few executives who will ultimately choose to make an 83(b) election, that number should be larger today than it was during the 1993 to 1997 period.²⁵ This, in turn, will add a small bit of fuel to the shift from stock options to restricted stock, since an 83(b) election generally cannot be made with respect to a stock option.

C. Hypothesis Three: Portfolio Rebalancing, Sort Of

Finally, I want to address a point that Walker acknowledges but largely chooses not to pursue.²⁶ Suppose, contrary to my view of the unrivaled relevance of looting, that equity compensation is to at least some extent intended to create performance incentives for executives. At a minimum, this should mean that when the company's stock price falls, the executive will share the pain. And when the company's stock price rises, the executive will share the gain. An at-the-money stock option with an expiration date several years in the future technically accomplishes both of these objectives. However, executives and board members are generally not rocket scientists, but mere humans. And as mere humans, they are likely to adopt the short-hand view that a stock option is really only worth the amount that one could obtain if one exercised it today.²⁷ That view places an important premium on the amount that the stock option is in-the-money. And it means that restricted stock generally will be deemed to be a better instrument

24. There are two factors contributing to this change. The first is the reduced rate of tax on dividends. In the arithmetic exercise conducted earlier, *see supra* note 23, I left the taxes on dividends received entirely out of the equation, since such taxes could not influence the executive's choice: dividends were taxed at the same ordinary income rate either way. Beginning in 2003, dividend taxation places a thumb on the scale on the side of making an 83(b) election; that thumb, however, is not captured in the inequality: $(t_{OI} * X_0) * (1 - (1 + r)^{-5}) < (t_{OI} - t_{CG}) * (X_1 - X_0) * (1 + r)^{-5}$. But even for a non-dividend paying stock (i.e., one for which dividend taxation cannot drive the executive's choice), an 83(b) election became more compelling following the Bush tax cuts. To see this, assume that nothing changes in the inequality except for tax rates (that is, all else is equal). Under Bush, t_{OI} decreased from 39.6% to 35% and t_{CG} decreased from 20% to 15%, thus $(t_{OI} - t_{CG})$ actually increased modestly from 19.6% to 20%. Thus, all else equal, the right-hand side of the equation is larger. On the other hand, as already noted, t_{OI} decreased from 39.6% to 35%. Thus, the left-hand side of the equation is smaller. The net effect is that an 83(b) election is relatively less unappealing, or relatively more appealing, as the case may be.

25. Particularly for companies paying higher than average dividends—in the 2003 to 2007 time frame that would prominently include all of the money center banks, as well as such stalwarts as AT&T, DuPont and Exxon-Mobil—executive 83(b) elections might well have made sense *ex ante*.

26. *See Walker, supra* note 1, at 612.

27. Since compensatory stock options typically cannot be sold, their ultimate value will indeed be the amount that they are in-the-money at exercise.

than a stock option when the goal is to guarantee that an executive will share not just in the shareholders' gain, but also in their pain.

The company's board of directors at all times has knowledge of and control over an executive's outstanding unvested equity. It likely also has knowledge of his vested equity, but it has no control over this. Assuming the executive jumps through the appropriate hoops, the board cannot prevent him from disposing of such vested equity. Thus, the board cannot count on such equity to provide the desired sharing of pain and gain for any extended period of time. It follows that if restricted stock and options generally vest over a five-year period, the board will take into account, when negotiating the annual grant of equity compensation with the executive, all of the unvested equity compensation granted to such executive during the prior four years. Nothing less, nothing more. Thus, in what follows, I concern myself solely with options and restricted stock that have vintages of four years or less.

Since Walker's study was focused on the S&P 500, suppose that X is a generic member of the S&P 500. X will be so generic that its stock price will at all times exactly equal 10% of the value of the S&P 500 index. Suppose that X 's stock option or restricted stock grants are always fortuitously made on a day when the price of X 's stock is exactly equal to the average of X 's stock price on the first day of the year and X 's stock price on the last day of the year. Table 19 displays this "average price" for X from 1988 through 2008:

Table 19: Annual Average Price of Generic S&P 500 Company *X*

Year	S&P 500 Open	S&P 500 Close	<i>X</i> 's Average Price
1989	278	353	31.55
1990	353	330	34.15
1991	330	417	37.35
1992	417	436	42.65
1993	436	466	45.10
1994	466	459	46.25
1995	459	616	53.75
1996	616	741	67.85
1997	741	970	85.55
1998	970	1229	109.95
1999	1229	1469	134.90
2000	1469	1320	139.45
2001	1320	1148	123.40
2002	1148	880	101.40
2003	880	1112	99.60
2004	1112	1212	116.20
2005	1212	1248	123.00
2006	1248	1418	133.30
2007	1418	1468	144.30

Suppose that *X* initially granted nothing but stock options. The most likely reason for this—notwithstanding a secondary goal to force the executive to share both pain and gain—is that, in the far distant past of Walker's first sample period, accounting rules made options seem costless and shareholders were generally too unsophisticated to know any better. This allowed a grant of stock options to be added to an executive's compensation package almost as an afterthought, and in an amount with a fair value far in excess of anything that would have been tolerated had accountants or shareholders understood option valuation. In particular, it allowed a grant of stock options in an amount with a fair value far in excess of the fair value of restricted stock, which could alternatively have been granted to the executive. This looting opportunity was too good to pass up and trumped the secondary goal of guaranteeing that the executive shared both pain and gain.

In any event, suppose that, over a period of years, *X*'s annual executive stock option grants fell into a pattern: each year, they

covered an identical number of shares. Without loss of generality, I will assume that each executive was annually granted a stock option on a single share. Given my assumption of five-year cliff vesting, just before any given year's stock option grant, the executive's stock option granted five years earlier vested. The executive presumably exercised such stock option and sold the acquired share; but whether he did so is of no moment, since he could have done so if he chose. Thus, after receiving the new stock option grant, the executive's unvested equity holdings consisted of five stock options with exercise prices as follows:

Table 20: Executive's Portfolio of Unvested Options

	<u>4-Year-Old</u>	<u>3-Year-Old</u>	<u>2-Year-Old</u>	<u>1-Year-Old</u>	<u>New</u>
1993	31.55	34.15	37.35	42.65	45.10
1994	34.15	37.35	42.65	45.10	46.25
1995	37.35	42.65	45.10	46.25	53.75
1996	42.65	45.10	46.25	53.75	67.85
1997	45.10	46.25	53.75	67.85	85.55
1998	46.25	53.75	67.85	85.55	109.95
1999	53.75	67.85	85.55	109.95	134.90
2000	67.85	85.55	109.95	134.90	139.45
2001	85.55	109.95	134.90	139.45	123.40
2002	109.95	134.90	139.45	123.40	101.40
2003	134.90	139.45	123.40	101.40	99.60
2004	139.45	123.40	101.40	99.60	116.20
2005	123.40	101.40	99.60	116.20	123.00
2006	101.40	99.60	116.20	123.00	133.30
2007	99.60	116.20	123.00	133.30	144.30

Table 21 shows the aggregate amount by which the executive's five unvested stock options are in the money at the precise moment that the executive receives his new option grant. It presents this information in two ways: first, in nominal dollar terms; second, as a percentage of the price of X 's stock. Under my assumption that the board grants an identical number of options each year during the entire period, the latter measure is the one that matters: it tells essentially how many share equivalents are represented by the executive's five unvested stock options.

Table 21: In-the-Money Amount of Executive's Unvested Options

Year	In-the-Money Nominal Amount	In-the-Money Fraction of Share Value
1993	34.70	76.94%
1994	25.75	55.68%
1995	43.65	81.21%
1996	83.65	123.29%
1997	129.25	151.08%
1998	186.40	169.53%
1999	222.50	164.94%
2000	159.55	114.41%
2001	51.30	41.57%
2002	0.00	0.00%
2003	0.00	0.00%
2004	31.40	27.02%
2005	51.80	42.11%
2006	93.00	69.77%
2007	105.10	72.83%
1993-2000 average	110.68	117.13%
2001-2007 average	47.51	36.19%

Finally, the following table shows how the executive expects to fare if X 's stock price either decreases or increases by 10%. Note that during the first five-year period, the executive's wealth is generally maximally responsive to changes in X 's stock price; during the final five-year period, the executive's wealth is relatively unresponsive to changes in X 's stock price.

Table 22: Responsiveness of Executive's Unvested Equity to Changes in *X*'s Stock Price

Year	In-the-Money Nominal Amount if <i>X</i> Down 10%	Loss as Percentage of <i>X</i> Price	In-the-Money Nominal Amount if <i>X</i> Up 10%	Gain as Percentage of <i>X</i> Price
1993	18.72	-35.43%	57.25	50.00%
1994	11.75	-30.27%	48.88	50.00%
1995	22.15	-40.00%	70.53	50.00%
1996	56.51	-40.00%	117.58	50.00%
1997	95.03	-40.00%	172.03	50.00%
1998	142.42	-40.00%	241.38	50.00%
1999	168.54	-40.00%	289.95	50.00%
2000	113.17	-33.26%	229.28	50.00%
2001	26.62	-20.00%	89.16	30.68%
2002	0	0.00%	11.73	11.57%
2003	0	0.00%	18.12	18.19%
2004	8.16	-20.00%	70.68	33.80%
2005	20.40	-25.53%	112.90	49.67%
2006	42.71	-37.73%	159.65	50.00%
2007	50.81	-37.62%	177.25	50.00%
1993-2000 average	78.54	-37.37%	153.36	50.00%
2001-2007 average	21.24	-20.13%	91.36	34.85%

A board with a secondary objective of forcing the executive to share not only in the shareholders' gain, but also in their pain, might have reacted to the foregoing by no longer granting stock options and instead awarding shares of restricted stock. The time that such a strategy was most likely to be contemplated was in 2002, although a prescient corporation might have begun a year earlier and a dawdling one a year later. I will assume that *X* began in 2002. Note that *X* will not grant one share of restricted stock for each stock option it no longer grants. Rather, assuming it does not want to change the aggregate amount of equity compensation, it will award approximately 0.25 shares of restricted stock in place of each stock

option.²⁸ Table 23 presents the evolution of the executive's package of unvested equity beginning in 2002:

Table 23: Executive's Portfolio of Unvested Equity

	4-Year-Old	3-Year-Old	2-Year-Old	1-Year-Old	New
2002	1 option xp=109.95	1 option xp=134.90	1 option xp=139.45	1 option xp=123.40	0.25 shares fmv=25.35
2003	1 option xp=134.90	1 option xp=139.45	1 option xp=123.40	0.25 shares fmv=24.90	0.25 shares fmv=24.90
2004	1 option xp=139.45	1 option xp=123.40	0.25 shares fmv=29.05	0.25 shares fmv=29.05	0.25 shares fmv=29.05
2005	1 option xp=123.40	0.25 shares fmv=30.75	0.25 shares fmv=30.75	0.25 shares fmv=30.75	0.25 shares fmv=30.75
2006	0.25 shares fmv=33.33	0.25 shares fmv=33.33	0.25 shares fmv=33.33	0.25 shares fmv=33.33	0.25 shares fmv=33.33
2007	0.25 shares fmv=36.08	0.25 shares fmv=36.08	0.25 shares fmv=36.08	0.25 shares fmv=36.08	0.25 shares fmv=36.08

Note the effect this change in strategy would have had on the executive's cumulative unvested equity: he would very quickly have reestablished a portfolio that was equally "in-the-money" to the portfolios he held in the late 1990s.

28. This is based on the same Black-Scholes calculation as described in Part II.A. of this Response.

Table 24: Comparison of Strategies: Continue Granting Options vs. Grant Restricted Stock

Year	Option Grants In-the-Money Nominal Amount	Stock Grants In-the-Money Nominal Amount	Option Grants In-the-Money Fraction of Share Value	Stock Grants In-the-Money Fraction of Share Value
2002	0.00	25.35	0.00%	25.00%
2003	0.00	49.80	0.00%	50.00%
2004	31.40	87.15	27.02%	75.00%
2005	51.80	123.00	42.11%	100.00%
2006	93.00	166.63	69.77%	125.00%
2007	105.10	180.38	72.83%	125.00%
1993-2000 average	110.68	110.68	117.13%	117.13%
2001-2007 average	47.51	97.66	36.19%	77.37%

Of course, the executive's new portfolio would be considerably less volatile than the hypothetical portfolio it replaced. But from the executive's vantage that was all to the good. In a world where stock prices rise and are therefore expected to continue to rise, risk is good and stock options are the preferable method for expropriating shareholder value. But in a world where stock prices are choppy and are therefore expected to continue to be choppy, risk is bad and restricted stock is the preferable method for expropriating shareholder value.

Table 25: Responsiveness of Executive's Unvested Equity to Changes in X's Stock Price

	In-the-Money Nominal Amount if X Down 10%	Loss as Percentage of X Price	In-the-Money Nominal Amount if X Up 10%	Gain as Percentage of X Price
2002	22.82	-2.50%	29.48	4.07%
2003	44.82	-5.00%	54.78	5.00%
2004	78.44	-7.50%	100.29	11.30%
2005	110.70	-10.00%	147.20	19.67%
2006	149.96	-12.50%	183.29	12.50%
2007	162.34	-12.50%	198.41	12.50%
1993-2000 average	78.54	-37.37%	153.36	50.00%
2001-2007 average	85.10	-10.00%	114.66	13.68%

CONCLUSION

My starting point is a great skepticism that the level or the composition of executive compensation has very much, if anything, to do either with creating ex ante incentives or with rewarding ex post performance. The meteoric rise of such compensation over the past twenty years, a rise which continues unabated right up to the present day, has not been accompanied by any even remotely comparable rewards for shareholders. What is behind it? Walker's study seems to provide some tantalizing clues. But I fear a definitive answer will never be provable.

The story I would tell has two primary components. First, executives as a group have created a myth. Second, with the assistance of fortuitous events they have built a frame. Neither of these things would have been possible without the complicity of boards of directors. But boards of directors have had little reason not to be complicit. Lots of board members are executives as well. For those, contributing to the myth and the frame makes all the sense in the world. And for those board members who are not executives, they have little incentive to fight the largely self-serving judgments of those who are.

What is the myth? The myth is that executive teams are like sports teams. For the Chicago Bulls, it made a great difference whether Michael Jordan or some lesser talent anchored the starting lineup. At an S&P 500 company, it might make a similar difference whether Individual A or Individual B anchors the executive team. The beauty of the myth is that in spite of its lack of plausibility, there is no objective way to disprove it. Michael Jordan competed one hundred times every year. He was tested; he performed; he was tested again; he performed again. When he was out of the lineup, it was obvious how much his presence mattered. But the typical executive team runs a juggernaut peopled with legions of upper-level managers overseeing legions of middle managers overseeing legions of lesser lights. I would hazard a guess that on most days, the absence of the executive team would not be noticed by anyone.

Moreover, to the extent that the executive team is tested, what matters is not how well they perform in any absolute sense, but how well they perform compared to the next best alternative. We know what that means in the National Basketball Association (“NBA”). If Michael Jordan were replaced by the best player who failed to land an NBA contract, the difference to the Chicago Bulls’ performance would be staggering. The same might well occur if we replaced the typical executive suite with a bevy of Joe-the-Plumbers. But that is not the choice facing any S&P 500 company. There is every reason to believe that the pool of executive talent in the United States is quite deep—companies don’t habitually fall apart when they lose a member of their executive teams. I suspect that at every S&P 500 company, there are dozens of highly capable individuals below the level of the executive suite who could step in at the drop of a hat without any discernible decline in corporate performance. It would be fascinating to test how much worse, *or perhaps better*, the S&P 500 would have performed over the past two decades if every company had been deprived of its first or second or even tenth choice for each of its top five executive positions. It is a counterfactual, so sadly we will never know. Executives have created the myth that the difference in performance would be great. I tend to think it would not be measurable.²⁹

What is the frame? Here equity compensation plays a huge roll. In the 1980s and 1990s, as executive myth-building and concomitant looting kicked into high gear, executives turned increasingly to a form of equity compensation that was generally not well understood, either

29. Indeed, with the somewhat smaller egos involved, many truly wretched managerial decisions borne of hubris might be eliminated, thus perhaps making the difference negative!

by shareholders or by the accounting profession or by anyone else (except for a few business school professors). The grant of a stock option was treated almost as an afterthought: accounting rules said such grants were costless to the issuing corporation, and shareholders as a group had no reason to disbelieve this wisdom. Moreover, since everyone was making money in the 1980s and 1990s—a function more of a historic decline in interest rates than of anything executives as a group were doing—no one had any reason to rock the boat.

Nonetheless, shareholders slowly began to catch on that option grants were robbing them of a valuable opportunity. Accountants, too, began to catch on that option grants were not costless: at first haltingly, and then completely, they changed the accounting treatment for options to reflect their true cost. But by then, the damage was done. Years of outsized option grants accompanied by generally rising stock prices had inured the public to the notion that executives were worth not what the public initially thought they were being paid, with options valued at zero, but what they were actually being paid, with options counted at full fair value. Thus, the frame against which executive compensation was measured had shifted—executives were more valuable for no better reason than they had been paid more for a long time.

The rest, as they say, is history. Some option scandals broke; the bull market ended. Public clamor coupled with stock market behavior converted the optimal looting strategy from grants of options to grants of stock. The conversion, as Walker reports, continues to this day.