
Stock and Stock Option Compensation: A Bad Idea

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INTRODUCTION

Canadians seem to have adopted the American stock option culture with inappropriate gusto. Stock options given as compensation to chief executive officers (CEOs) in Canada appear to be above US levels.¹ Both the Canadian and the Ontario governments

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1 Kenneth J. Klassen, "Options for Compensation" (2002) vol. 135, no. 6 *CA Magazine* 41-44 (reporting that American CEOs in one sample received on average stock options worth US\$1.21 million in 1999 and Canadian CEOs received on average options worth Cdn. \$1.67 million in 1993, which is equivalent to 1.50 million of US 1999 dollars. United States, Board of Governors of the Federal Reserve System, "Canada/U.S. Foreign Exchange Rate" (available online at <http://research.stlouisfed.org/fred2/data/EXCAUS.txt>) (1.28:1 Canadian to US

have adopted tax treatments intended to equal or surpass US tax programs.² Somewhat belatedly, Canadian pension funds are debating whether stock or stock option compensation is in their interest.³

The growth in popularity of stock options has been driven mostly importantly by deceptive accounting. Stock options worth tens of millions of dollars are reported to shareholders and investors as if they were free, allowing top management to extract a higher salary from shareholders than it could otherwise get. Stock or stock option compensation is a terrible idea, and in the absence of deceptive accounting, it would probably disappear.

First, stock options give management truly perverse incentives to invest in projects with too much downside risk. Option holders participate in gains but not in losses. Being indifferent to losses, an option holder in the pursuit of gains will rationally expose the company to potentially suicidal risks.

Second, stock and stock options carry an unnecessarily high discount rate. The high discount arises from market response to the high volatility of stock and from market skepticism about the use of retained earnings. Neither the volatility nor the skepticism needs to be part of a compensation plan. The high discount rate means that the executive receives the least current value per dollar to be paid or requires the highest future cash payment per dollar of current value, or both. Moreover, executives rationally undervalue stock and stock options, even as compared with the market value, because they are underdiversified.

Third, stock compensation gives employees capital gains, but compensation is usually more efficient if employee capital gains are avoided. Deferring employee tax and preserving the employer deduction are almost always better tax strategies.

ZERO-COSTING UNDER ACCOUNTING STANDARDS

Reporting of No-Initial Bargain Options As If They Were Free

In 1972, before the Black-Scholes option pricing formula had given some precision to the valuation of options and before accessible option markets were very meaningful, the US accounting profession adopted a simple-minded rule of thumb for

dollars on July 1, 1993); United States, Department of Labor, Bureau of Labor Statistics, "Consumer Price Index Statistics" (available online at <http://www.bls.gov/cpi/home.htm#tables>) (inflation caused a 1.15:1 ratio between 1993 US\$1 and 1999 US\$1).

2 Daniel Sandler, "The Tax Treatment of Employee Stock Options: Generous to a Fault" (2000) vol. 49, no. 2 *Canadian Tax Journal* 259-319.

3 The Canada Pension Plan Investment Board has announced that it will exercise its voting rights to oppose any grant of stock options to corporate executives, but that it will support grants of stock itself to executives: Canada Pension Plan Investment Board, "Proxy Principles and Guidelines," February 4, 2003. The Ontario Teachers' Pension Plan and the Ontario Municipal Employees Retirement System (OMERS) have chosen not to take a position of categorical opposition provided that the options are "not excessive": "CPP Alone in Fight Against Stock Options: Teachers', OMERS Won't Follow Lead," *National Post*, February 26, 2003.

valuing compensatory stock options.⁴ Under the accounting valuation, the employer's only reported cost of an option given to an employee to acquire the employer's own stock is the initial bargain, measured at the time the option is granted. If the option is set up so that there is no difference between the exercise price that the option holder has to pay to get the stock and the market value of that stock at the time the option is granted, then the option may be treated in the public reports of earnings as if it were free.

Zero-costing for an option with no initial bargain is not a good faith attempt to measure the value or cost of the option. Granted, if it were certain that there would be no change in value, an option with no initial bargain would not be worth anything. An option to buy a bank account (but not the interim interest) in a year for its current value is not worth anything because bank accounts do not rise or drop in value. As volatility in the price of the underlying stock increases, however, the value of the option increases, even though there is no initial bargain. The holder of an option with no initial bargain can capture all of the subsequent gains from the appreciation of the underlying stock, without supplying the capital that contributed to that appreciation. Simultaneously, the holder has insurance-like protection on the loss side because if the stock value drops below the exercise price, the option holder simply does not exercise the option and evades the loss. Holding an option is much like getting to bet on a horse race after the race has been run.

For high-risk stocks, a holder of a no-initial-bargain option holds essentially all of the value of the stock. For example, if stock in a company called Cold Fusion Corporation had a one in a million chance of becoming very valuable, the holder of a no-initial-bargain option would be able to grab that high value in the rare case where it was realized. The value of a no-initial-bargain option would be short of the value of owning the Cold Fusion stock outright by only one-millionth of the current value.⁵

4 Accounting Principles Board, *Opinion* no. 25, "Accounting for Stock Issued to Employees," October 1972. The Accounting Principles Board was the pre-1973 predecessor of the Financial Accounting Standards Board, which now sets US accounting standards. The classic article on option valuation is Fischer Black and Myron Scholes, "The Pricing of Options and Corporate Liabilities" (1973) vol. 81, no. 3 *Journal of Political Economy* 637-54. Richard A. Brealey and Stewart C. Myers, *Principles of Corporate Finance*, 6th ed. (New York: McGraw-Hill, 2000), 606-8 and 632-33, explain it well.

5 Assume that a share of Cold Fusion is worth \$10 because that represents a one in a million chance that the value of the share will increase to \$10 million, even when discounted back to the present. Executive X is given an option to buy a Cold Fusion share for \$10 at any time over the next 10 years, by which time the doubts about success will be resolved one way or the other. In 999,999 cases out of a million, both the stock and the option will be worthless. Still, X has a one in a million chance of making \$10 million less the \$10 exercise price:

$$(\$10,000,000 - \$10)/1,000,000 = \$9.99999,$$

which is less than the \$10 current fair market value of the stock by only a millionth of \$10, or one-ten thousandths of a penny.

Moreover, options that are exercised require that the corporate employer issue stock to satisfy the option, and stock is not free to other shareholders. An executive given stock has been given some fraction of the future cash that the corporation will distribute with respect to its stock. Other shareholders have lost that cash. There is no enforceable legal obligation to pay dividends or to redeem shares, but all new shareholders are entitled to a proportionate share of money distributed by the corporation. Thus, anything that a new shareholder gets is necessarily lost by the old. If a CEO obtains 5 percent of the company's stock by exercising an option, the CEO has taken 5 percent of all future cash on the stock away from the other shareholders. The CEO may or may not be worth it, but in any event, 5 percent of all future cash for as long as stock is outstanding is an additional cost of whatever earnings the CEO can bring in. The CEO's stock is not free.

Stock is nothing but a proxy for the future cash that the corporation must pay out on the stock. Stock has value only because the market is assessing the discounted present value of the future cash that will be paid out. Without the expectation of cash distributions, as dividends or in redemption, stock is not worth the paper it is printed on. The market does not *pay* the compensation. The market just appraises what cash the employer corporation will pay in the future, with a heavy dose of skepticism.

The discount rate at which the market evaluates the future cash is ruthless to the issuer: a lot of future cash supports only a little current value. Moreover, the discount rate is not deductible. Debt is one competing alternative way to pay future cash, and it is far cheaper. Over the last 75 years, the stock market has discounted future cash that it expects to be paid by the issuer, after adjustments for inflation, at the rate of 7.6 percent. The corporation must therefore bear an average cost of 7.6 percent per year on stock, in the nature of interest or rental cost of capital for deferring payment.⁶ For corporate debt, the discount rate, called interest, starts lower and is made cheaper by the corporate deduction. Corporate bonds for most of the same 75-year period have had an after-tax, after-inflation cost of between 0.7 percent and negative 0.3 percent per year.⁷ Stock is much more expensive than that in terms of the annual interest or rental cost of capital.

6 Ibbotson Associates, *Stocks, Bonds, Bills, and Inflation 2003 Yearbook* (Chicago: Ibbotson Associates, 2003), 22 (reporting an interest discount rate on US large corporation stocks of annual 10.7 percent and inflation of annual 3.1 percent over 75 years).

7 *Ibid.*, at 22 (reporting an interest rate on US large corporation bonds of 5.8 percent over 75 years). The US corporate tax rate has varied from 13.5 percent to 52 percent during the 75-year period, and from the Second World War through 1993, it was at or above 40 percent: Joseph A. Pechman, *Federal Tax Policy*, 3d ed. (Washington, DC: Brookings Institution, 1977), 290. The after-tax cost of corporate bonds to the corporation paying 35 percent tax is calculated as interest less tax savings, minus inflation, or $5.8\%(1 - 35\%) - 3.1\% = 0.7\%$. With corporate tax at 52 percent, as it was from the Korean War through 1964, the after-tax cost of 5.8 percent interest is *minus* 0.3 percent. The negative cost means that the debtor makes money, in inflation-adjusted terms, by owing money. See also the discussion of the comparative cost of debt and stock in the text accompanying notes 28 to 34, *infra*.

Cash payments on compensatory stock are enforced, first, by the rule that all shareholders share in distributions pro rata. The market also enforces payments of cash on stock with threats of takeovers. Management needs to keep the price of stock up by continuing to convince the market that there is sufficient cash yet to come to support the present value of the stock at the market's brutal discount rate. If the value of the corporation's stock drops substantially below the value of its assets, that invites a hostile takeover by an outside pirate who will fire management and acquire the company's assets.⁸

If stocks really were free, the stewards of the corporation would have no obligation to keep watch over stock or stock options. Management has stewardship responsibility only for economic resources that have some cost or value. Treating the options as free is teaching management to waste them. Top management in both Canada and the United States seems to be acting as if the accounting value assigned to no-initial-bargain options were correct, such that management can issue itself mega-options. It is not mysterious that management would take anything not nailed down. Shareholders, for mysterious reasons, seem to be letting management get away with it.⁹

Treating stock or stock options as free also generates non-reflective income statements because economic resources that the company needs to give out are stripped out of the public income statements. Assume that a company is able to attract the executives it wants to hire only by giving out stock options worth \$200 million. Assume that in the first year, the executives together are able to generate only \$50 million in net revenue. When income is reported, the value of the stock issued pursuant to a no-initial-bargain option is not mentioned. Instead of reporting a \$150 million loss that accounts for the resources it used up, the corporation reports a \$50 million profit. The \$50 million profit will not be replicated when other non-stock resources must be used in otherwise identical years and situations. The \$150 million loss is the more accurate sample and will be replicated.

For creditors, additional stock and stock options really are free. Since creditors get paid before shareholders, creditors are not hurt by additional stock and they are indifferent to it. Creditors would indeed prefer that the company replace cash expenses, of any kind, with payments in stock because cash paid out reduces the

8 Henry G. Manne, "Mergers and the Market for Corporate Control" (1965) vol. 73, no. 2 *The Journal of Political Economy* 110-20, at 113 (arguing that the takeover market is a discipline of inefficient managers); and Frank H. Easterbrook, "Manager's Discretion and Investor's Welfare: Theories and Evidence" (1984) vol. 9 *Delaware Journal of Corporate Law* 540-71, at 567 (arguing that outsiders will try to take over the company if a 20 percent premium is available in the event that management changes hands).

9 See, for example, Kevin J. Murphy, "Explaining Executive Compensation: Managerial Power Versus the Perceived Cost of Stock Options" (2002) vol. 69, no. 3 *The University of Chicago Law Review* 847-69, at 848 (noting that the increase in executive compensation in the 1990s was driven predominantly by the growth of options from 27 percent to 51 percent of compensation); and Klassen, supra note 1.

collateral securing their debt holdings, but stock does not. Creditors should be worrying about income statements using the zero-costing rule for options as not providing them with fair indication of the profits that the firm can make in the future or the trouble that the debtor may be in. However, creditors have not actively lobbied the standards board to treat stock options as a cost.

The accounting profession has had a great deal of difficulty correcting itself on the zero-costing of stock options. In 1993, the US Financial Accounting Standards Board (FASB) published an exposure draft of a proposal that would have ended the zero-cost rule and replaced it with a rule that would have required an amount closer to the true value of the option to be recorded as a corporate expenditure when the option was granted.¹⁰ By that time, however, the zero-cost rule had created a powerful constituency of managers who liked their compensation to be considered not worth metering, and the managers and their allies defeated the proposed reform with a firestorm of rhetoric, none of it with any accounting merit.¹¹ Investors, shareholders, and the country at large would have benefited from more accurate descriptions, but they could not get organized into an effective constituency, and nobody important helped the FASB. The statement that was ultimately issued in 1995 allowed a firm to continue to use the zero-cost rule for no-initial-bargain options, provided that the firm disclosed in the footnotes to its financial statements the costs computed from the value of the options at the time they were granted.¹²

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- 10 Financial Accounting Standards Board, *Exposure Draft of Proposed Statement of Financial Accounting Standards* no. 127-C, "Accounting for Stock-Based Compensation," June 23, 1993. Calvin H. Johnson, "Stealing the Company with Free Stock Options: The Furor over Accounting Standards" (1994) vol. 65, no. 4 *Tax Notes* 479-85 (second part of a two-part article) argues that the proposed standard understated value and that accruing the bargain on the stock as it arises would be better accounting.
- 11 See, for example, Senator Joseph Lieberman (D-Conn), "But They Do Create Jobs," *Los Angeles Times*, April 8, 1994; and United States, Senate, *Employee Stock Options: Hearings Before the Subcommittee on Securities of the Senate Banking Housing and Urban Affairs Committee*, S. hearings no. 103-359, 103d Cong., 1st sess. (October 21, 1993), 88 (testimony of Lisa Conte, saying that she could not get healing pharmaceuticals from rain forest shamans without stock options). The apparent argument of both Lieberman and Conte is that zero-costing might well deceive and defraud investors, but that one can create jobs and get pharmaceuticals from the rain forest only by such fraud. If necessary fraud is not the rationale for their argument, I cannot follow the causal connection that is being claimed, much less evaluate it. Calvin H. Johnson, "Stealing the Company with Free Stock Options: The Furor over Accounting Standards" (1994) vol. 65, no. 3 *Tax Notes* 355-60 (first part of a two-part article) recounts and dismisses some arguments in favour of treating stock options as cost-free.
- 12 Financial Accounting Standards Board, *Statement of Financial Accounting Standards* no. 123, "Accounting for Stock-Based Compensation," October 1995 (herein referred to as "SFAS no. 123"). In December 2002, the board announced the requirement for more clarity in the formerly opaque disclosures in the footnotes, through the use of tables, for example, instead of prose paragraphs: Financial Accounting Standards Board, *Statement of Financial Accounting Standards* no. 148, "Accounting for Stock-Based Compensation—Transition and Disclosure," December 2002.

The Canadian Accounting Standards Board has also caved in, saying that expensing of the true value of the option would be better accounting but that, in deference to the principle of conformity with US accounting standards, it would continue to allow the zero-cost rule in reported earnings, with footnote disclosure instead of more substantial financial statement reforms.¹³

There are some who think that footnote disclosure is sufficient.¹⁴ Zero-costing may be deceptive, but smart investors are not misled, the argument goes, because they can digest the information about cost given in footnotes. The FASB stated in 1995 that, in principle, disclosure in the footnotes was no substitute for including costs in the financial statements themselves; however, it had encountered such strong opposition to its exposure draft proposal to end zero-costing that it had decided to “bring closure to the divisive debate” by requiring only that the cost of options be disclosed in footnotes. The FASB recommended, but did not mandate, that the cost of options be included in the calculation of reported income.¹⁵

Even if smart investors were able to see through the subterfuge, however, that does not justify the deceptive accounting of zero-costing. Accountants should not be trying to fool the market or to raise the barriers that a smart market might or might not overcome. Indeed, the difficulty of correcting the silliness indicates that someone thinks that the fraud is succeeding. If footnote disclosure were sufficient, there would be no opposition to the inclusion of stock option costs in financial statements, since all the effects of inclusion would already have been realized. As Federal Reserve System Chairman Alan Greenspan has said,

[t]here is a legitimate question as to whether markets see through the current nonexpensing of options. If they do, moving to an explicit recognition of option expense in reported earnings will be a nonevent. The format of reports to shareholders will change somewhat, but little more will be involved. Making an estimate of option expense requires no significant additional burden to the company.

If, however, markets do not fully see through the failure to expense real factor inputs, market values are distorted and real capital resources are being diverted from their most efficient employment. This *would* be an issue of national concern.

13 Accounting Standards Board, “Exposure Draft, Stock-Based Compensation and Other Stock-Based Payments,” December 2002 (amending Canadian Institute of Chartered Accountants, *CICA Handbook* (Toronto: CICA) (looseleaf), section 3870) (allowing Canadian companies, in conformity with SFAS no. 123, to elect to treat stock options as having no cost in their reporting of income, but to disclose the value of options in footnotes).

14 J. Carter Beese Jr. (SEC Commissioner), “A Rule That Stunts Growth,” *Wall Street Journal*, February 8, 1994 (reporting that the big six accounting firms, the Council of Institutional Investors, and the Business Roundtable favour disclosure rather than the reporting of costs in the body of financial statements); and Samuel A. Derieux, “Stock Compensation Revisited” (1994) vol. 177, no. 2 *Journal of Accountancy* 39-41 (arguing that full disclosure will serve as well as reporting). Johnson, *supra* note 11, at 358-60, rejects the argument.

15 SFAS no. 123, at paragraphs 61 to 62 (requiring disclosure of the cost of compensatory options in footnotes, but not income statements).

Clearly then the greater risk is to leave the current accounting treatment in place. . . . If expensing does affect market values, a continuation of current accounting practice could be costly to capital efficiency.¹⁶

In March 2003, the FASB announced that in the light of the “market meltdown and corporate reporting scandals,” it would try again to end the zero-costing of options with an exposure draft at the end of 2003 to be effective in 2004.¹⁷ Maybe this time it will be different. In any event, the fact that the standard boards in both countries have left the zero-cost rule in place up to this point, and for so long, is a telling reminder to investors and shareholders that the financial statements have limited value and that the accountants who prepare them are not on their side.

How To Fix It: Accruing the Bargain

If the ultimate payment will be in cash rather than in stock, the accounting profession has resolved the issue by accruing the added obligation every year. Stock appreciation rights (SAR), for instance, match a stock option by giving the executive any increase in the value of the stock (but not charging the executive for any loss) over a specified period, but SAR plans end by paying the executive in cash. Phantom-stock plans also pay cash and track stock price, but they track losses as well as gains, because the employee starts with a share-like unit that will decline in value when the underlying stock does. For cash-payout plans such as SAR and phantom stock, accounting standards require that the employer accrue the obligation as it arises even though it is not yet paid. The accrued obligation is measured by the stock price that the cash award traces. An increase in the stock price increases the employer’s obligation and so increases the employer’s reported expense. If the stock subsequently drops in value, the decrease will reduce the employer’s cost under the plan, and some of the previously accrued expense will be reversed into income. The final payment on the plan in cash is like paying a payable and it creates no newly booked expenditure, except to the extent that the payout has not been accrued previously.¹⁸

The distinction that accountants make between payout in stock and payout in cash is unprincipled. For example, accounting correctly treats straight stock compensation—that is, a payment in stock without any prior option—as an expenditure

16 Federal Reserve System Chairman Alan Greenspan, “Remarks at the 2002 Financial Markets Conference of the Federal Reserve Bank of Atlanta,” Sea Island, Georgia, May 3, 2002, 5-6, quoted in “Submission of Materials by Robert H. Herz, Chairman, Financial Accounting Standards Board, for the Roundtable on Preserving Partnership Capitalism Through Stock Options for America’s Workforce,” United States Senate, May 8, 2003 (available online at <http://enzi.senate.gov/fasbmat.htm>).

17 Financial Accounting Standards Board, “FASB Adds Projects to Its Agenda on Employee Stock Options and Pensions,” *News Release*, March 12, 2003 (available online at <http://www.fasb.org/>).

18 SFAS no. 123, at paragraph 25; and Financial Accounting Standards Board, *Interpretation* no. 28, “Accounting for Stock Appreciation Rights and Other Variable Stock Option or Award Plans,” December 1978.

equal to the equivalent cash.¹⁹ Stock and its cash equivalent are equivalents, we can say tautologically. Fair market value of the stock means the cash equivalent of the stock. The corporation has the same economic burden whether the compensation is to be satisfied in stock or in cash. Indeed, we could imagine that a single plan could be satisfied either in cash or in stock, perhaps at the option of either the employer or the employee, without any effect on the economics of the plan.²⁰ Yet in the case of stock option compensation, the FASB makes a distinction between cash and stock and does not accrue the existing bargain if the payout is scheduled to be in stock.²¹

Accrual of the bargain as it arises, as is required for cash-payout plans, is better accounting than the valuation of the option at grant. First, Black-Scholes option pricing requires a track record to generate volatility measures. New companies, closely held companies, and thin markets do not generate enough information about volatility to make upfront valuations work. For a broad range of new and smaller corporations, it is possible to estimate stock price at the end of each year, especially since errors can be corrected by a new estimate in the following year; however, the track record is not sufficiently long and accurate to produce volatility measures that can be relied on with any confidence in the one-time-only Black-Scholes valuation. SFAS no. 123 took the position that options issued by non-public companies could be valued as if there were no volatility and no risk on the underlying stock.²² That solution is unprincipled, using difficulty of valuation to justify clearly wrong undervaluation. Non-public companies are the very companies with highest risk on their stock, and high risk means that the option is most valuable, relative to the value of the stock. Accrual of the bargain as it arises does not require a volatility measure and thus would avoid a major source of trouble in the valuation of options for non-public companies.

Second, Black-Scholes is designed for arm's-length investors and may understate the company's true cost. For a CEO and top management team that can raise the value of stock beyond market expectations, the arm's-length assumption understates the value of the compensation package that management has received. The stock option is a platform that superior management can turn into gold in ways that the Black-Scholes option pricing formula cannot predict. What is gold for the recipient is a cost to the payer, so that the cost of superior management will in fact be higher for a company than the cost calculated by arm's-length option pricing. Conversely, management that performs below market expectations or that damages the company will be cheaper for the employer because the stock options will not be very valuable. The cost differences between the high-cost, surprisingly superior

19 SFAS no. 123, at paragraphs 16 and 18.

20 SFAS no. 123, paragraph 39 requires a plan to be treated as a cash plan if the employee has the option of choosing cash or stock payment or if there is a pattern in which the corporation pays in cash.

21 *Ibid.*, at paragraph 39.

22 *Ibid.*, at paragraphs 20, 141, and 174 to 178.

management and the low-cost surprisingly inferior management will not be reflected in any arm's-length valuation carried out before management performs.

Options also depend upon the volatility of the underlying stock, and management can change volatility after the grant date. Assume, for example, that an old-line manufacturing company in a mature industry like glass works has stock with minimal volatility. New management then comes in and is given stock options. New management, decides to enhance the value of its options by raising the risk of the company's capital investments. Company assets are reinvested in high-risk high-tech endeavours, like fibre optics. The options are more valuable under the high-risk endeavours than they were under the low-volatility circumstances of the grant. Valuing the options only at grant misses the events that affect the subsequent value of the stock, including risks created by the beneficiaries of the options themselves.²³

Even where management has no influence over the value of stock or stock options, valuation of a compensatory option at grant is too early. Valuation at grant relies on the law of averages. Some options will indeed prove to be free to the issuing company because they expire out of the money. Some will be very expensive. Investors need cost figures that distinguish between expensive and free according to the ultimate outcome. You can drown in a lake with an average depth of only 6 inches. If you cannot swim, you need to know not the average depth, but whether this part of the lake is half an inch deep or the place where the bottom drops to 40 feet. Even if the average sets a fair expectation for the cost value of the option at grant, investors generally need to know what the company's costs will be once the big contingency—value of the stock at exercise—has been resolved.

One writer has defended the continued use of zero-costing for compensation options on the basis that valuation at grant does not provide a reliable estimate of an option's cost:

[The expensing proposal] involves applying an esoteric mathematical operation to an executive's stock option at the moment they're granted (i.e., before anyone knows whether they will be worth anything), for the sole purpose of whipping up a dubiously meaningful dollar figure that can be deducted from earnings as the "cost" of the options.²⁴

23 This hypothetical case is based, with variations in the facts, on Corning Glass Works, which changed from a traditional glass works to a fibre optics firm, renamed Corning Inc. Following this change, the Corning stock price rose from \$20 a share in 1996 to \$113 a share in September 2000 and then collapsed to \$1.45 in October 2002 as fibre optics became swamped by competing producers (see <http://www.grainmarketresearch.com/>). No implication is intended that options caused the shift to a high-risk endeavour at Corning, although that is the implication with respect to the hypothetical company in the text. See also Jouahn Nam, Richard E. Ottoo, and John H. Thornton Jr., "The Effect of Managerial Incentives To Bear Risk on Corporate Capital Structure and R & D Investment" (2003) vol. 38, no. 1 *The Financial Review* 77-102 (firms in which managers have more stock options choose higher debt ratios and R & D expenses, especially if the firm has relatively low outside monitoring).

24 Holman Jenkins Jr., "Much Ado About Stock Options—The Epilogue," *Wall Street Journal*, April 23, 2003.

While this objection should not lead to the conclusion that zero-costing is justified, the criticism of valuation at grant has merit. The Black-Scholes approach of valuation by reliance on the law of averages results in the premature debiting of an unripe unaccrued contingency, which in many cases will not correspond to the ultimate result.

The accrued bargain approach usually matches the timing of the accounting cost to the cause of the cost. Under a stock option, management makes money by causing the price of the stock to rise over the course of a year. If management causes a sharp increase in the stock price, the compensation will be high. If the stock price drops, the cost will be reduced or erased. The initial valuation approach, by contrast, requires some kind of arbitrary allocation of the big upfront found value across a number of years in which services are provided. Thus, for example, if an option vests over 10 years of service, a 10-year option is treated as costing $\frac{1}{10}$ of the total value for each year over which the option is earned out, whether management causes a large increase or a loss in the stock price during the year. The accrued bargain approach tells outside investors more about the economics of how the executive earned his or her stock than does the valuation of options at grant.

THE ECONOMIC AWFULNESS OF STOCK AND STOCK OPTION COMPENSATION

Except for the accounting camouflage available with stock options, stock options and stock compensation would probably disappear for at least the following reasons:

- Options give management an incentive to take too much risk.
- Stock and stock options are also inefficient compensation because of their high discount rate.
- Employees undervalue stock and stock options because they are underdiversified.
- Employee capital gain, available on stock, is usually to be avoided.

Suicidal Risk: The Conflict Between Shareholders and Option Holders

A corporation that has given its top management stock options has given its management a private incentive to undertake risks that are suicidal for the company as a whole. An option holder does not share in downside risk on the underlying stock. If the stock loses value, the option holder will simply fail to exercise the option and will thus avoid the loss. Risks that would properly scare the flesh off a shareholder are a matter of indifference to the option holder.

Assume, for example, that company B has \$1 billion in assets and no debt and is offered a high-risk scheme for the investment of all its assets. The scheme has a 5 percent chance of producing \$10 billion, and a 95 percent chance of complete failure. Rationally, company B should say no to the scheme because the expected value is not high enough. The expected-value tree is shown in table 1. In terms of the straight odds, this scheme is like investing a billion to make half a billion.

TABLE 1 Expected-Value Tree for the Scheme

	Likelihood	× Payout =	Expected value
	%		\$ billions
Success leg	5	10	0.5
Loss leg	95	nil	nil
Sum value	100		0.5

Plausibly, the straight odds do not fully capture the awfulness of this scheme in terms of human damage. In 95 percent of the cases, anyone who has invested his or her nest egg in company B will lose it, and all employees and many suppliers will need to find other jobs.

Suppose, however, that company B has given its CEO an option to buy 1 percent of its stock at the current price, and that the CEO has the authority to decide whether to participate in such schemes. In his or her own interest, the CEO will take company B into the scheme. If the scheme is a success, the CEO’s 1 percent of the stock will be worth 1% × \$10 billion or \$100 million. The exercise price, at 1 percent of the current value of \$1 billion, is \$10 million. The scheme and the option together have given the CEO a chance to make \$90 million. The downside risk is uninteresting to the CEO, since option holders do not exercise their option in worthless companies and so do not participate in their losses. As shown in table 2, the expected value of the option is positive. It appears that company B has given its CEO a very tempting incentive to kill the company in 95 percent of the cases.²⁵

There may well be offsetting factors that modulate the incentive for suicidal risk and keep it under tolerable control. It is possible that the CEO of company B will not agree to the scheme on these facts because his job is worth more than \$4.5 million to him. CEOs tend to be more risk averse than are properly diversified shareholders, because CEOs tend to have their entire livelihood and expertise tied to the company they work for; diversified shareholders, by contrast, can accommodate some losses on any one stock position without breaking stride. It might thus take a more valuable option—where the scheme has, say, only a 2 percent chance of success—before the CEO will go for the suicidal risk. Some have argued that stock options are part of a well-modulated compensation scheme in which the conservatism of executives (associated with their undiversified position) is offset by options that make them risk seekers.²⁶ However, in a world where CEOs and top management are the company, the usual situation is that there is nobody who will engineer risk or options to achieve the right balance. The option that sets up the incentive for the suicide is reported to the shareholders monitoring management as being cost-free.

25 Again, this hypothetical case bears a passing resemblance to the sequence of events at Corning Glass Works (see supra note 23), but I have not tried to determine whether, or the degree to which, management stock options contributed to Corning’s shift to high risk.

26 See, for example, M.P. Narayanan, “Form of Compensation and Managerial Decision Horizon” (1996) vol. 31, no. 4 *Journal of Financial and Quantitative Analysis* 467-91.

TABLE 2 Expected-Value Tree for an Option

	Likelihood	× Payout =	Expected value
	%		\$ millions
Success leg	5	100 – 10 = 90	4.5
Loss leg	95	nil	nil
Sum value	100		4.5

Shareholders need an absolute prophylactic rule to protect themselves: Do not give CEOs positive value from doing dreadful things to shareholders. From that a second rule follows: Do not make anyone an option holder who is deciding the level of risk that the company should undertake, because option holders will not share in any losses inflicted on shareholders.

An option holder's indifference to loss is not duplicated automatically if management is given stock of the same value, rather than options. If stock granted to the executive declines in value, the executive as owner is hurt. However, that does not mean that stock will necessarily align management interests with shareholder interests. A manager with a 1 percent stock interest in the employer corporation will still want excessive compensation, even if 1 percent of the excess is clawed back by losses on stock that he or she owns. Managers can sell short or buy put options or derivatives that will protect them from loss for some period of time. Managers also learn about bad news before it reaches the general public, and they can usually sell their stock early enough to avoid the consequences of impending doom, even doom that they themselves have caused. Nevertheless, option holders are by nature indifferent to losses during the option period, and actual shareholders are not necessarily so.

Managing the High Discount Rate

The High Cost of Stock

Both stock and stock option compensation would probably be rare without the accounting camouflage available on no-initial-bargain options, because of the high discount rate on stock. Stock options, if exercised, require the employer to issue stock, and stock is the most expensive way to pay future cash.²⁷ Stock has value because of the future cash that will be paid out on the stock. The fair market value of stock is simply the discounted present value of the cash that the market expects in the future. Stock gives a premium return, and what is premium for the investor is extraordinary cost to the issuing corporate employer.²⁸ The high discount rate

27 This section is based heavily on Calvin H. Johnson, "Stock Compensation: The Most Expensive Way To Pay Future Cash" (1999) vol. 52, no. 2 *SMU Law Review* 423-54, and the slightly revised version in (1999) vol. 85, no. 3 *Tax Notes* 351-68.

28 See, for example, Jeremy J. Siegel and Richard H. Thaler, "Anomalies: The Equity Premium Puzzle" (1997) vol. 11, no. 1 *The Journal of Economic Perspectives* 191-200 (collecting the research showing a high, and not fully explainable, premium paid on stock).

means that the corporation must pay out a lot of cash to support a quite modest present value. Alternatively stated, the discount imposed by the market, and even more so by executives, means that the present value of the cash to be paid out on stock is very low. Debt, by contrast, is very cheap. The underlying discount rate on a fixed obligation is much lower than for stock, and the discount rate on debt, called interest, is usually deductible.

Assume, for example, that an employer, company B, gives executive X a share of its stock that company B will redeem in cash at its value n years in the future when the share has reached a value of \$1,000.²⁹ Assume that the stock is now worth \$100. Assume, for simplicity, that company B pays no dividends on its stock between the present and time n . The stock is worth \$100 now because that represents the discounted present value of \$1,000 cash at n , at the discount rate R that the market uses to value company B stock:

$$\$100 = \$1,000/(1 + R)^n. \quad (1)$$

Equation (1) is just another form of the statement that the stock will grow in value at rate R over period n :

$$\$100*(1 + R)^n = \$1,000, \quad (1A)$$

multiplying both sides of (1) by $(1 + R)^n$.

Growth rate R also represents an interest-like annual rent that company B would have to pay to the market for giving it equity capital. If company B sold its stock at the present value point, it would get only \$100 in proceeds from the sale, and the growth at R to reach \$1,000 represents the company's cost of convincing the equity market to buy its stock initially for \$100.

Over the last 75 years, the average growth rate on stock of US large corporations has been 10.76 percent.³⁰ If we use that typical growth rate as the rate on company B's stock, then n will be a period of 22.5 years, because

$$\$100*(1 + 10.76\%)^{22.5} = \$1,000 \quad (2)$$

so that

$$\$100 = \$1,000/(1 + 10.76\%)^{22.5}$$

represents the net present value of stock.

²⁹ If company B does not redeem the share at that time, it is no advantage to the corporation: the market assesses the stock as worth \$1,000 because that is the discounted present value of the cash that the share is expected to yield under the shareholder's legal right to share in all distributions after point n .

³⁰ Ibbotson Associates, *supra* note 6, at 22.

Executive X would get more present value out of the \$1,000 that company B will pay in 22.5 years if the discount rate were lower. The same 75-year sample used for stock shows that the average interest rate on US large corporation bonds has been 5.8 percent.³¹ Assume, on the basis of that sample, that the market will accept 5.8 percent annual return for payments with respect to company B's corporate bonds (even while demanding 10.76 percent annual return for future cash with respect to stock). If we assume that interest is reinvested in company B bonds, or that interest is not paid so that it compounds, that rate can be used as the discount rate for the \$1,000 for the full 22.5 years, and the present value is almost three times better than \$100 at \$281:

$$\$281 = \$1,000 / (1 + 5.8\%)^{22.5}. \quad (3)$$

The \$281 is the net present value of the debt form. Executive X could sell the bonds immediately for \$281, whereas X could sell the stock representing the same \$1,000 future cost to company B for only \$100.

Corporate bonds are unsecured debt and consequently carry some risk. Securing the debt with corporate assets means that the debtholder will be paid ahead of other creditors; thus, the risk is lower, and with a lower risk the interest rate should drop. If we assume, that the interest rate is, say, only 5 percent, the \$1,000 has a present value of \$333.

Corporate bonds can be sold for their present value, but executives will value future payments such as the \$1,000 using their own discount rate drawn from the best after-tax return rate that is available to them. Corporate debt is not usually the source of the best after-tax return for high-tax-bracket taxpayers like X, because the interest from debt is taxed at high rates annually. Tax-exempt or tax-advantaged investments usually are better investments after tax. There is a drop on the yield on tax-advantaged investments—sometimes called implicit tax—to reflect tax advantages, but historically the drop has not been as large a burden as that of paying tax in high brackets.³² Assume that X gets 4.5 percent from tax-exempt bonds, when comparable low-risk taxable bonds are paying 5 percent, and that company B transfers a tax-exempt zero-coupon \$1,000 bond maturing in 22.5 years. The bond will have a present value or principal amount of \$371 because that represents the discounted present value of \$1,000:

$$\$371 = \$1,000 / (1 + 4.5\%)^{22.5}. \quad (4)$$

Equation (4) also describes the present value to X of a reliable payment of deferred compensation of \$1,000, payable in 22.5 years. If company B reliably promises to pay

31 Ibid.

32 Calvin H. Johnson, "A Thermometer for the Tax System: The Overall Health of the Tax System As Measured by Implicit Tax" (2003) vol. 56, no. 1 *SMU Law Review* 13-52, at 23, presents data showing that the drop in interest rate reflecting the tax exemption is below 10 percent.

X \$1,000 at n , X, who gets a 4.5 percent return from the best alternative investments, will value the \$1,000 as equal to \$371 present value.

The present value of company B's \$1,000 cash payment at X's 4.5 percent discount rate is nearly four times the present value of company B's \$1,000 cash payment at the 10.76 percent discount rate for stock. Quite plausibly, by using stock instead of the best alternative plan, company B will destroy almost three-quarters of X's value from the \$1,000 payment, reducing the present value of X's compensation from \$371 to \$100.

The problem of a high discount rate can be viewed as a problem of high cost to company B as well as low present value for executive X. To give \$100 of present value now in the form of stock, the corporation must pay \$1,000 in 22.5 years. Debt is much cheaper to the company, and it is deductible. At a 35 percent tax rate, 5.8 percent interest has a cost of only 3.8 percent after tax. Giving X \$100 now with debt requires payment in 22.5 years of only \$230. If company B can secure the debt and reduce the interest rate to 5 percent before tax and 3.25 percent after tax, company B can give X the present value at a cost of only \$205, instead of \$1,000. The switch from debt compensation to stock compensation increases company B's ultimate cost by five times for the same current benefit to X.

Corporate cost also commonly needs to be separated from executive benefit because executives sell the compensation instrument long before the corporation needs to redeem it. Stock is usually a very long-term instrument. Corporate debt has a fixed term, but it is usually replaced at the end of its term, so that if the original debt and its replacements are viewed as a common pool or chain, debt too will last indefinitely. Executive X will commonly sell a very long-term instrument before its redemption date just to get some use out of it during his or her lifetime. The obligation of company B will, however, continue, perhaps for many years after X sells to get cash value. If we assume that both stock and debt will be redeemed after 75 years, which is the full duration of the sample used in the examples above, then corporate debt will be redeemed at a cost of $\$100 \times (1.038)^{75}$, or \$1,605, whereas stock of \$100 will be redeemed for $\$100 \times (1.1076)^{75}$ or \$213,000. The cost of the stock at \$213,000 is 133 times more expensive in real cash than the debt at \$1,600.³³ Ironically, although the stock could be considered free when issued under zero-costing of options, and debt is never free when issued under accounting standards, it is the "free" stock that turns out to be 133 times more expensive than the debt.

For the more successful company, stock is even more expensive. Debt has a tendency to be cheaper as the success of the corporate employer improves because

33 The advantage of debt is not changed by inflation. According to Ibbotson Associates, *supra* note 6, at 22, inflation over the 75-year period of the study sample has been 3.1 percent per year. Over 75 years, a dollar is worth only $\$1 / (1 + 3.1\%)^{75}$ or roughly $1/10$. In inflation-adjusted dollars, the stock requires payment of \$21,300 per \$100 present value and the debt requires payment of \$160 per \$100 present value. The ratio is still 133 times greater for stock. To obtain the real meaning of future dollars, one should always adjust for inflation. Nevertheless, as long as debt and stock are compared by ratio at the same time, the absence of an adjustment for inflation does not make any difference to the analysis.

the corporation becomes a better credit risk and can borrow at lower interest rates. Where stock is given as part of a compensation plan, the amount of the payment is contingent on the success of the company: the better the company does, the more expensive its stock becomes. If we assume that a company has a 12 percent growth rate (which is appropriate for smaller, riskier companies), the corporation's cost for stock with a present value of \$100 will be $\$100 \times (1.12)^{75}$ or \$491,300 cash. An executive to whom a modest stock bonus of \$1 million is issued, for instance, will ultimately command that the corporation pay \$4.97 billion in cash.³⁴

Avoidable Costs

The reasons for the high discount rate and low value per dollar devoted to the executive are easily avoidable within compensation plans. Individual stocks are highly volatile investments, and the market hates that volatility. The market also discounts the value of accumulated earnings by reason of distrust of management, but distrust of management is not a necessary element when it is management that is getting paid.

VOLATILITY

A rational investor is risk averse, because losses hurt asymmetrically more than gains help. Everyone satisfies most desperate needs first, and then the lesser priorities. Losses cut into more desperately needed funds; gains add less crucial funds. Losses tend to cut into muscle, then bone, while gains tend just to add fat. Stock, even a portfolio of stocks, is highly volatile, risking substantial losses. The premium discount rates that stock markets demand from the issuing corporation compensate for the volatility. If the future cash flows that support current value may or may not appear, the market will discount those future values at a brutal discount rate.³⁵ Investments that owners like have low discount rates. Interesting boutiques and restaurants often give low or negative rates of monetary return. The premium discount rate on publicly traded stocks, by contrast, is evidence that investing shareholders do not like volatility.

Executives suffer from volatility even more than the market as a whole, because their stake is too heavily concentrated in one firm. A single stock is much more volatile than a diversified portfolio.³⁶ As indicated earlier, executives tend to be particularly underdiversified.³⁷ Executives shape their skills over time to the firm that they are working for and often cannot transfer those skills to another firm without loss. Given the executive's heavy dependence upon the corporate employer for his

34 Adjusting for inflation, the \$4.97 billion payment is roughly *only* \$0.5 billion in uninflated dollars. See *supra* note 33.

35 See Brealey and Myers, *supra* note 4, at 153-80, for a discussion of short-term stock volatility.

36 *Ibid.*

37 Henry T.C. Hu, "Risk, Time, and Fiduciary Principles in Corporate Investment" (1990) vol. 38, no. 2 *UCLA Law Review* 277-389, at 318-22 (emphasizing undiversifiable human capital).

or her future salary, investing a significant amount of past earnings in the corporate employer only magnifies the executive's risk. Executives should not put all their eggs—both investments and future salary—into one basket. The market, by contrast, appears to assume that shareholders have diversified portfolios. The market return will be a premium only for undiversifiable risks unique to the firm and will not cover the pain that can be avoided by diversification.³⁸ Thus, single-stock positions expose executives to greater risk than the market premium will cover. Executive acceptance of stock compensation is simply a bad investment strategy.

Consistently, undiversified executives undervalue the options given to them by their company. Because executives are not diversified, as the Black-Scholes approach implies that investors are, executives should rationally view options as worth only a fraction of the Black-Scholes value.³⁹ Executives in fact routinely complain that Black-Scholes overvalues their options.⁴⁰ Given that executives are typically underdiversified and thus undervalue risky options, options are wasted on executives.

Most of the volatility of stock serves no incentive purpose. It appears that about 80 percent of the volatility in respect of a share of stock arises from industrywide or stock-marketwide factors over which management has no control.⁴¹ Thus, if the executive could claim responsibility for all of the value changes in the stock of the corporate employer, 80 percent of the change in stock price would still be random with respect to the merit of the executive. As to the 80 percent of the volatility that is entirely beyond the executive's control, stock is like a lottery ticket that will reward the lazy and penalize the virtuous. The loss side of volatility that executives cannot control is especially painful. Executives have mortgage and tuition payments to make and a reasonably high standard of living that they would not like to lose. Executives with stock-based compensation are like "executive monkeys," yoked to electrical

38 Ibid., at 291. William F. Sharpe, "Capital Asset Prices: A Theory of Market Equilibrium Under Conditions of Risk" (1964) vol. 19, no. 3 *The Journal of Finance* 425-42, at 441-42 (maintaining that market price for stock adjusts to only undiversifiable risk); and Robert H. Litzenberger, "Equilibrium in the Equity Market Under Uncertainty" (1969) vol. 24, no. 4 *The Journal of Finance* 663-71, at 665 (concurring with that view).

39 Brian J. Hall and Kevin J. Murphy, "Stock Options for Undiversified Executives" (2002) vol. 33, no. 1 *Journal of Accounting and Economics* 3-42 (see especially figure 2.1, computing the value of the option to the executive and finding that it is far below the Black-Scholes value, particularly for deep-in-the-money options, which represent a significant fraction of executive wealth).

40 Ibid.

41 See Jeffrey Kerr and Richard Bettis, "Boards of Directors, Top Management Compensation and Shareholder Returns" (1987) vol. 30, no. 4 *Academy of Management Journal* 645-64, at 659. See also James Angel and Douglas M. McCabe, *Market Adjusted Options for Executive Compensation*, Georgetown University Working Paper (Washington, DC: Georgetown University, January 31, 1997), 19 (available online at <http://papers.ssrn.com/>) (finding that 31 percent of variance of individual firm stock is explained by variance of the stock market as a whole, but not attempting to identify or filter out industrywide variance).

shocks that they cannot avoid,⁴² and they do not like it. Bringing unnecessary and random volatility into the calm employment relationship is like bringing toxic waste into your living room.

MARKET PARANOIA

The high discount rates on corporate stock also arise because the market is deeply suspicious of what management will do with undistributed earnings. Corporations typically do not provide the market with reliable and detailed information about their capital projects. In the absence of such information, the market presumes that every investment project that a corporation undertakes will be a lemon—as some are.⁴³ The market also assumes that management will waste undistributed earnings on self-indulgent projects or steal the earnings as excess compensation. The market has a strong sense that “a bird in the hand is worth two in the bush” and sufficiently values dividends as cash in hand that dividends improve share value, even though they reduce corporate assets and trigger an immediate tax to shareholders.⁴⁴ Stock has a high discount rate in part because the market does not trust corporate managers. The corporation pays a high cash return to investors in order to overcome that distrust.

The discount arising from market distrust of management has no place in the compensation relationship between the CEO and the artificial entity that the CEO manages. Top managers are the insiders whom the market distrusts. Anything that

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- 42 See Joseph V. Brady, “Ulcers in ‘Executive’ Monkeys” (1958) vol. 199, no. 4 *Scientific American* 95-100 (finding that monkeys that had no control over electric shocks showed far higher physiological signs of distress than monkeys that were trained to avoid shocks, even though monkeys in both groups received identical shocks); and Gerald K. Weiss, Albert Ratner, Anna Voltura, Daniel Savage, Kristen Lucero, and Natalie Castillo, “The Effect of Two Different Types of Stress on Locus Coeruleus Alpha-2 Receptor Binding” (1994) vol. 33, no. 2 *Brain Research Bulletin* 219-21 (confirming the effect in mice).
- 43 George A. Akerlof, “The Market for ‘Lemons’: Quality Uncertainty and the Market Mechanism” (1970) vol. 84, no. 3 *The Quarterly Journal of Economics* 488-500 (arguing that markets are destroyed when buyers have inaccurate information because they have to underbid for assets on the assumption that the asset is as bad as it could be); Hayne E. Leland and David H. Pyle, “Informational Asymmetries, Financial Structure, and Financial Intermediation” (1977) vol. 32, no. 2 *The Journal of Finance* 371-87 (arguing that information asymmetry will drive down the price of stock and prevent a corporation from using stock to fund projects with positive value); Paul K. Chauncey and Craig M. Lewis, “Earnings Management and Firm Valuation Under Asymmetric Information” (1995) vol. 1, nos. 3-4 *The Journal of Corporate Finance* 319-45 (applying the “lemons” argument to share valuation under bad accounting information); and R. Glenn Hubbard, “Capital- Market Imperfections and Investment” (1998) vol. 36, no. 1 *Journal of Economic Literature* 193-225, at 194 (arguing that shareholder-level investors with imperfect information about investments impose discounts that corporate-level managers do not need).
- 44 See Eugene F. Fama and Kenneth R. French, “Taxes, Financing Decisions, and Firm Value” (1998) vol. 53, no. 3 *The Journal of Finance* 819-43 (showing that the positive value that dividends generate by giving reliable information completely masks the tax effect, so that there is no hint that dividends reduce asset value).

the CEO loses through loss of value of stock can be recaptured by reason of the CEO's control of investment and compensation decisions. Giving the CEO the high return that is intended to offset market distrust of top management is an issue of overcompensation. It is similar to paying a fire insurance claim for a fire loss the CEO has not suffered.

It is possible to filter out both toxic volatility and market distrust from the compensation plan and still use the market's appraisals of value to measure the executive's reward—but only if the company gives up zero-cost accounting in respect of the plan.

Filtered Phantom Stock

If zero-cost accounting for compensation were not available or were not an issue, it would be relatively easy to filter out the random pain that arises from single-stock volatility, without losing any of the true incentive value of stock. Filtering out both toxic volatility and market paranoia would drop the discount rate to the benefit of either the executive or the corporation, or both.

Executive X, for example, might be given units of an industry-indexed phantom-stock deferred compensation plan. An initial unit might be worth \$100 and be redeemed for cash from the employer at the end of 10 years. The redemption price of the units would grow above \$100 if the stock of the employer firm grew at a rate or percentage that was higher than the average for the industry in which company B operates. The index that determined the average growth would be constructed from a portfolio of stocks of other corporations in the same industry, weighted for the size of the corporation within the industry. If the employer stock performed exactly at the industry average, the unit would remain constant at \$100. If the employer stock performed at less than the industry average, the executive would receive less than \$100. Subtracting out the industry average means that the executive could get a significant augmentation even if the industry as a whole faces a decrease in stock price, so long as the employer's stock performance was better than that of its competitors within the industry.⁴⁵

45 There have been a number of suggestions of ways to filter out marketwide volatility. See, especially, Rick Antle and Abbie Smith, "An Empirical Investigation of the Relative Performance Evaluation of Corporate Executives" (1986) vol. 24, no. 1 *Journal of Accounting Research* 1-39 (arguing that taking systematic risk out of stock volatility reduces risk to executives without reducing incentives). Others have suggested that marketwide risk on options can be filtered out by indexing of the exercise price: Angel and McCabe, *supra* note 41; Aigbe Akhigbe, Jeff Madura, and Alan L. Tucker, "Market-Controlled Stock Options: A New Approach to Executive Compensation" (1996) vol. 9, no. 1 *Journal of Applied Corporate Finance* 93-97; Mark C. Ubelhart, "Business Strategy, Performance Measurement and Compensation" (1985) vol. 2, no. 4 *Midland Corporate Finance Journal* 67-75; Alfred Rappaport, "New Thinking on How To Link Executive Pay with Performance" (1999) vol. 77, no. 2 *Harvard Business Review* 91-101 (hedging his endorsement of strict indexing so as to ensure that even underaverage management gets some extra pay out); Mark A. Clawson and Thomas C. Kline, "Indexed Stock Options: A Proposal for Compensation Commensurate with Performance" (1997) vol. 3, no. 1 *Stanford Journal of Law, Business & Finance* 31-50; and Lucian Arye Bebchuk, Jesse M. Fried, and David I. Walker, "Managerial Power and Rent Extraction in the Design of Executive

Using the stock market value with an industry index subtracted is a better idea than a profit-sharing plan. Profit-sharing plans almost always depend upon “profits” as defined by generally accepted accounting principles (GAAP). In theory, GAAP should be giving potential investors information about capital investment projects that is as good as that which is available to management internally; in fact, however, GAAP accounting is an archaic system at its core, with many signs of inflexibility.⁴⁶ GAAP are rarely accurate in describing either corporate investment in intangibles or depreciation. In contrast, stock market assessments of value are generated by well-funded buyers and sellers who are motivated by greedy self-interest, and, by and large, these assessments will provide a more reliable measure of value than GAAP “profits” do.

The payout from a filtered phantom-stock plan should be delayed so as to force management to take a long-term perspective. Year-end management of earnings might well defend stock price for the short term, but year-end management of earnings that just pulls January sales into December will have less effect over a 10-year period. Thus, a filtered phantom-stock plan should delay cash payments for 10 years. Management should get cash from the filtered plan only to match dividends issued to shareholders on their real units.

A phantom-stock plan under which executives will suffer losses in the initial \$100 unit value when the corporate employer performs worse than the industry as a whole is better than a stock option or SAR plan in which no loss of expectations is possible. If the CEO can suffer no loss, his or her incentive is to go for high-risk investments: many investments made implausible by their downside risk look quite reasonable when the potential loss is stripped out and only possible gains are considered. If management’s interests are to be aligned with those of shareholders, management must lose when shareholders lose.

Options are sometimes used to provide more incentive value per dollar of employer cost because for options there is no starting \$100 commitment. However, the extra incentive can be built back into industry-filtered phantom stock simply by multiplying the departure from the industry average performance by some number. Thus, the executive might be given twice or three times the gains that a \$100 share of stock achieves, as compared with the industry index, and twice or three times the loss.

There is some merit in keeping the value of the unit at a fixed amount (in our example, \$100) over the life of the plan, absent adjustments to reflect the relative performance of employer stock, because a constant value facilitates transparency of executive compensation and assists monitoring of the plan by shareholders and the

Compensation” (2002) vol. 69, no. 3 *The University of Chicago Law Review* 751-846, at 796-801. The proposals to index the option exercise price for market risk do not address the loss-stripping aspects of options that give management the incentive to undertake suicidal risk, and hence are not endorsed here.

46 Calvin Johnson, “GAAP Tax” (1999) vol. 83, no. 3 *Tax Notes* 425-30, at 429, for instance, is critical about the quality of GAAP theory and information. See also Brealey and Myers, *supra* note 4, at 330-41, for a discussion of GAAP distortions.

market. Subtracting out industrywide changes in value, however, would remove the normal interest-like cost of capital. Every corporation, including competitors, will need to maintain an interest-like return, a rental payment, to induce investment in equity. Thus, a filtered phantom-stock unit could be kept at \$100, with payment at the end of 10 years, only if rental return were added back into the filtered phantom stock by building in a compound return on the unit. Since executives are not taxed currently on interest on deferred compensation, the interest rate required to keep the \$100 steady in value (before performance adjustments) needs only to match the low tax-exempt rate that the executive would have available on early compensation.⁴⁷

Dividends ordinarily satisfy some of that rental cost of capital. It would, indeed, help to align management's interests with shareholders' interests on dividend policy if the executive were able to take out the cash from the compensation plan only as dividends are paid on the underlying employer stock that the plan is trying to match. Amounts paid out as dividends on phantom stock would be subtracted from the rental or interest amount added to the value of the units.

An alternative to an industry-specific index would be to use changes in value of the stock market as a whole. Using an industry-specific index should be expected to be a better index because it would filter out causes of stock change that are unique to the industry, but that have nothing to do with the employer's stock price and hence nothing to do with the executive's performance. An index of like companies on the starting blocks, in similar health and with similar prospects, would reward the runner that stood out among its peers. Some companies, however, belong to no specific industry. Moreover, if management is the party who constructs the index of peer companies, the manipulation possible by picking slow-footed peers might be defeated only by the use of a general-market index.⁴⁸

The corporate employer should readily substitute \$100 units of such deferred compensation for \$100 of immediate cash compensation or for fixed amounts to be paid in the future worth \$100. Fixed compensation has the very considerable drawback of paying the executive for showing up, but not necessarily for improving owner value. As others have pointed out, if a corporation pays its top managers like fixed-salary bureaucrats, the corporation should not expect the managers to act like

47 Executive X given \$100 compensation immediately will be able to invest only $\$100 \cdot (1 - t_x)$ after tax, at rate r_x representing a tax-exempt rate, and have $\$100 \cdot (1 - t_x) \cdot (1 + r_x)^n$ after n years. If X is given a \$100 not-yet-taxed unit that grows at r_x , X will have deferred compensation of $\$100 \cdot (1 + r_x)^n$ before tax or $\$100 \cdot (1 + r_x)^n \cdot (1 - t_x)$ after tax after n years. It turns out not to matter whether the tax term $(1 - t_x)$ is taken out at the beginning or the end of the expression because of the cumulative law of multiplication, at least if rate t_x remains constant.

48 See, for example, Joseph F. Porac, James B. Wade, and Timothy G. Pollock, "Industry Categories and the Politics of the Comparable Firm in CEO Compensation" (1999) vol. 44, no. 1 *Administrative Science Quarterly* 112-44 (arguing that management makes some well-founded decisions about major industry for comparative salary measures, but also adopts comparables for self-protection).

value-maximizing entrepreneurs.⁴⁹ From the corporate point of view, if an executive chooses to take his or her compensation entirely as \$100 units, this should be an acceptable substitution.

Rational executives, however, should have trouble substituting \$100 in current cash for \$100 of filtered phantom stock, even with compound interest that matches alternative investments. Filtered stock involves risk. Not all companies can perform above the industry average. Control over risks renders the risks less noxious: it was the monkey that could not do anything about electric shocks that suffered greater stress by comparison with the monkey trained to avoid shocks.⁵⁰ There is also an optimism bias to self-assessment. Most automobile drivers consider themselves to be above-average drivers,⁵¹ and most executives will believe themselves to be above-average performers with respect to business consequences that they can control. Executive control and optimism bias will help to maintain the present value of the filtered phantom-stock unit close to \$100. Undoubtedly executive behaviour on valuation should be tested empirically: the basic rental or interest addition on a \$100 unit should be set so that executives will choose to take a substantial percentage (perhaps half) of their compensation in filtered phantom stock.

Filtered phantom stock cannot be reported as cost-free on financial statements. Even no-initial-bargain stock options that are reported as free must have a fixed exercise price that cannot be adjusted for an industrywide or marketwide index. Accordingly, for a filtered plan, the amount promised according to facts as of the end of the year is a booked cost. The ultimate payment is just a payment of a previously arising liability and is not a cost except to the extent that there is a change in the amount paid to the executive that was not previously booked. The availability of zero-costing for stock options obstructs the rational design of an incentive system for executives.

Filtered phantom stock will also never give the executive any capital gain, but as explained next, employee capital gain is almost always a bad idea.

Avoid Capital Gain

Stock-based compensation plans are sometimes adopted because they give employees favourably taxed capital gain. Employee capital gain, however, is almost always worse tax planning than is deferred compensation, which delays the taxation of capital. Even when there is no capital, plans that result in employee capital gain usually lose the employer deduction for compensation, and the employer deduction is almost always more valuable than capital gain.

49 Michael C. Jensen and Kevin J. Murphy, "CEO Incentives—It Is Not How Much You Pay, But How" (1990) vol. 68, no. 3 *Harvard Business Review* 138-49.

50 See Brady, *supra* note 42.

51 James R. Bettman, John W. Payne, and Richard Staelin, "Cognitive Considerations in Presenting Risk Information," in W. Kip Viscusi and Wesley A. Magat, eds., *Learning About Risk: Consumer and Worker Responses to Hazard Information* (Cambridge, MA: Harvard University Press, 1987), 13-41, at 17.

Delay Tax To Avoid Capital Gain

Capital gain is taxed at a lower rate than that applied to ordinary compensation, in both Canada and the United States.⁵² It is not uncommon for tax planners to try to channel capital gain to their favoured insider executives, for instance, by transferring stock just before the company goes public or when a large appreciation in the stock is anticipated, so as to give the executives the benefit of lower tax rates. Capital gains rates are typically 23 percent lower in Canada and 19.8 percent lower in the United States than the rates on employment income.⁵³

Employee capital gain in such circumstances is short-sighted tax planning. The parties would be better off deferring the stock transfer until a time *after* the large appreciation has occurred and when the executive needs the cash. Deferred compensation is better than capital gains. The deferral gives a tax benefit that is usually as good as or better than paying zero rates on capital gains. Deferred compensation is the more tax-efficient, by the amount of the capital gains tax.

Assume, for example, that the value of the stock of company B increases from \$100 to \$1,000 a share over some period of time. We can describe the increase in terms of growth or appreciation of the stock at annual rate R over period n under the compound growth formula, so that $\$100 \cdot (1 + R)^n = \$1,000$. With a very high R , n can be very short, perhaps two years, but there is no need to specify what period n or rate R is. Let us compare two plans by which company B can pay executive X for the \$100 to \$1,000 appreciation. One plan gives X the \$100 immediately, so that the pending appreciation to \$1,000 will qualify as a capital gain. The other plan provides deferred cash compensation, giving X \$1,000 only at the terminal point (year n). The comparison is clearest if we assume a phantom-stock deferred compensation plan that matches the appreciation of the stock. Under the phantom-stock plan, X gets cash when X wants it—here, \$1,000, at the terminal point n .

A full description of tax would include consideration of the employer deduction. The employer deduction, as will be shown here, does not undercut the conclusion that deferred compensation is better tax planning than is capital gain. The employer deduction helps both parties: it reimburses a fraction of the employer's cost, at the employer's tax rate, and that should allow the employer to increase the amount paid.

Thus, at the terminal point when the deferred compensation or phantom stock is paid out in cash, there exists some increased compensation amount A , such that

52 In Canada, one-half of capital gain may be deducted: Income Tax Act, RSC 1985, c. 1 (5th Supp.), as amended (herein referred to as "ITA"), paragraph 38(a). In the United States, section 1(h)(1)(C) of the Internal Revenue Code of 1986, as amended (herein referred to as "IRC"), provides for a general 20 percent maximum tax on individual capital gain.

53 In Canada, assuming a combined federal-provincial rate on employment income of 46 percent (suggested by Daniel Sandler of the University of Western Ontario as a representative rate), the exclusion of one-half of capital gain saves tax of 23 percent. Under the US federal tax rate alone, the rate on employee compensation is 39.8 percent (IRC section 1, providing for a 38.6 percent maximum, and IRC section 68, adding 1.2 percent), but the maximum capital gain rate is 20 percent (IRC section 1(h)(1)(C)), for a 19.8 percent federal tax saving.

$$A - t_c^*A = \$1,000,$$

where t_c is the employer's tax rate. Since

$$\begin{aligned} A - t_c^*A &= \$1,000, \text{ so} \\ A^*(1 - t_c) &= \$1,000 \text{ and} \\ A &= \$1,000/(1 - t_c). \end{aligned}$$

An employer willing to pay \$1,000 to executive X at the terminal point in the absence of tax should be willing to pay $\$1,000/(1 - t_c)$ to X with the help of its deduction, because that is the same after-tax burden, taking the deduction into account.

Executive X's tax will decrease the amount that executive X can keep. Tax at X's rate t_x will reduce the compensation to an after-tax fraction of $(1 - t_x)$. With both the deduction and executive tax at the time of the terminal cash payout, the executive will keep

$$\$1,000*(1 - t_x)/(1 - t_c). \tag{5}$$

Assuming combined federal-provincial Canadian tax rates of $t_x = 46\%$ and $t_c = 37\%$, expression (5) produces the result that a Canadian executive will get \$857 considering both the executive's tax and the corporate deduction.⁵⁴ At US rates of $t_x = 39.8\%$ and $t_c = 35\%$, the executive will get \$926 considering both the executive's tax and the corporate deduction.

Assume, for comparison, that company B does not give X deferred compensation, but transfers the stock to executive X before any appreciation is realized. Tax has the same effect on the starting \$100 as it has on the ending \$1,000, so that the compensation to X at the starting point is $\$100*(1 - t_x)/(1 - t_c)$ after tax. If we assume, reasonably, that the employer increases the stock to reflect its deduction, and that X sells the stock immediately at no gain or loss in order to pay his or her tax, then the Canadian executive will have \$85.71 worth of stock at the starting point. The ten-times appreciation of the stock will give the Canadian executive \$857 before tax at the terminal point. The US case would have an initial after-tax compensation of \$92.62, appreciating to \$926. For both, the algebraic description of the executive's position before capital gains tax at the terminal point is

$$\begin{aligned} \$100*(1 - t_x)/(1 - t_c)*(1 + R)_n &= \$100*(1 - t_x)/(1 - t_c)* 10 \\ &= \$1,000*(1 - t_x)/(1 - t_c). \end{aligned} \tag{6A}$$

Note that expression (6A) is the same as expression (5). X is in the same after-tax position with deferred compensation, after the ten-times appreciation, as X would have been (before tax) if given the stock before the appreciation.

54 Ibid. Again, I am grateful to Daniel Sandler for suggesting $t_x = 46\%$ and $t_c = 37\%$ as representative combined federal-provincial Canadian rates, which I have adopted here.

Expression (6A), however, fails to reflect the capital gain that X must pay on stock. The appreciation, to the extent of nine times the original value, is capital gain. Algebraically, X's after tax position is

$$\$1,000*(1 - t_x)/(1 - t_c) - cg*[\$100*(1 - t_x)/(1 - t_c)*(1 + R)^n - \$100*(1 - t_x)/(1 - t_c)], \quad (6)$$

where cg is the capital gains tax rate. The expression within the bracket in expression (6) states the fact that capital gains tax is imposed only on appreciation over basis, so that the original basis must be subtracted out. In Canada, assuming a 23 percent capital gains rate, the capital gains tax is 23%*(\$857 - 85.71) or \$177. In the United States, with a 20 percent capital gains rate, the capital gains tax is 20%*(\$926 - 92.62) or \$167. The capital gain reduces the after-tax payment to the Canadian executive from \$857 (for deferred compensation) to \$680 (for capital gain), and the payment to the US executive from \$926 (for deferred compensation) to \$759 (for capital gain). The result produced by expression (6) is less than the phantom-stock deferred compensation by exactly the amount of the capital gains tax.

Comparison of expressions (5) and (6) yields the conclusion that stock should be given to the employee only when the employee wants cash. If the stock is given early, the appreciation will be subject to capital gains tax, which can be avoided by mere deferral of the taxable compensation.

The relationship of expression (5) to expressions (6A) and (6) is a variation of the more general theorem, often called "the Cary Brown thesis," that avoiding tax on capital is ordinarily as valuable as avoiding tax on the subsequent income.⁵⁵ The deferred compensation, by delaying the executive's tax on the stock, gave a benefit that was as good as having zero tax on the subsequent capital gain. The corporate deduction, built into expressions (5), (6A), and (6), does not undercut the thesis.

Capital gains tax is not imposed until the executive sells the stock. If the executive does not need the cash, sale can be delayed, and the consequent deferral of tax can reduce the real burden of the tax below the nominal 23 percent or 20 percent rate. Deferring the tax drops the present value cost of the burden. Of course, deferred compensation can be delayed as well, so that cash is paid out when the executive needs it. Moreover, even if the executive defers capital gains tax indefinitely and drops the capital gains rate to almost zero, he or she will only succeed in approximating the position in expressions (6A) and (5)—that is, the position achieved by mere deferral. US capital gains tax may become zero if the executive dies, because

55 E. Cary Brown, "Business-Income Taxation and Investment Incentives," in *Income, Employment and Public Policy: Essays in Honor of Alvin H. Hansen* 300 (New York: Norton, 1948), 300-16 (hereinafter "the Cary Brown thesis"). Explanations of the thesis and the conditions of its scope include United States, Department of the Treasury, *Blueprints for Basic Tax Reform* (Washington, DC: US Government Printing Office, 1977), 123-24; William D. Andrews, "A Consumption-Type or Cash Flow Personal Income Tax" (1974) vol. 87, no. 6 *Harvard Law Review* 1113-88, at 1123-28; and Stanley S. Surrey, "The Tax Reform Act of 1969—Tax Deferral and Tax Shelters" (1971) vol. 12, no. 3 *Boston College Industrial and Commercial Law Review* 307-18.

heirs may get a step-up in basis.⁵⁶ Deferred compensation, described in expression (5), however, will allow the executive to have the benefit of a zero capital gains rate, with the considerable advantage that X does not need to die.

There are some scope limitations to expression (6A) (early stock and no capital gain), which are the same as those for expression (5) (deferred compensation), and also limitations to the proposition that expression (6) with capital gain worsened X's position. It was assumed that t_x and t_c were constant. If tax rate t_c drops (for example, because of legislative tax cuts or because the corporate employer suffers late losses), there will be a reduced augmentation of the deduction owing to the later corporate deduction in the case of the deferred compensation. The lower t_c could be enough to make up for the extra capital gains tax. Similarly, the executive's tax rate on the deferred compensation could increase by enough that it would be worse than the extra capital gains tax.

Nevertheless, capital gains tax itself provides a cushion that allows deferred compensation to be superior even with an adverse change in rates. For instance, a Canadian executive whose tax liability increases from 31.9 percent combined tax on employment income at the starting point to 46 percent tax at the terminal point would be well off with deferred compensation, even though the increase in tax on deferred employment income undercut the advantage of deferral.⁵⁷

Ordinarily rates will often move to make the result in expression (5) even better than that in expression (6A). Startup companies tend to have no tax in early years because of their startup operating losses; hence, they get no value from the tax deduction when they give low value stock to their executive awaiting great appreciation. For such startups, the tax savings computed from t_c will be higher for the deferred compensation than for the early transfer of stock. Executives tend to drop into lower tax brackets on retirement, when they tend to need the cash. In general, deferred compensation is far better planning than giving the executive stock or anything that will be taxable immediately.

The most important limitation to the Cary Brown thesis and to the equivalence of expressions (5) and (6A) is the assumption that the amount invested and hence the amount of appreciation is sensitive to the executive's tax on early transfers. Sometimes for qualified stock options there is no tax initially, and sometimes the parties will so succeed in undervaluing stock transferred early that the early tax will be paid

56 IRC section 1014. Canada, by deeming the asset to have been sold immediately before the death of the owner or upon gift of the property, prevents such elimination of capital gains tax: see ITA subsection 70(5) and paragraph 69(1)(c).

57 The formula expressing the breakeven point at which an adverse rate change will favour capital gain is not pretty because the base for capital gain (gain) is different from the tax base for employment income (gross receipt). Setting expression (5), with t_{x1} for early executive tax, as equal to expression (6) capital gain, with t_{x2} for executive tax on deferred compensation, and solving for t_{x1} yields

$$t_{x1} = 1 - (1 - t_{x2}) * [(1 + R)^n * (1 - cg) + 1] \text{ and with } t_{x2} = 46\%, cg = 23\%, \text{ and } (1 + R)^n = 10, \text{ then } t_{x1} = 31.9\%.$$

by borrowing or from other funds and not by sale of the appreciating stock. However, as explained next, capital gains plans entail loss of the employer deduction, and the employer deduction is almost always more valuable than the incremental advantage of capital gain.

Take the Employer Deduction Instead of Capital Gain

Employee capital gain is also usually bad tax planning because the employer gets no tax deduction for amounts qualifying as capital gain to the employee. The employer deduction is almost always more valuable than the advantage of getting capital gains tax rates.

It is fairly common for a corporation to plan to give employees capital gain while avoiding the upfront tax on capital. Expression (5) (deferred compensation) was more valuable than expression (6) (stock taxed immediately) because the employee lost capital immediately in expression (6) and hence lost some of the ten-times appreciation; but that premise—immediate tax on capital—can sometimes be avoided. Under Canadian tax law, for example, employees may exercise options for a bargain without tax, and then the bargain will qualify as a capital gain, eligible for exclusion of one-quarter of the gain, and only when the underlying stock is sold.⁵⁸ US tax law puts more restrictions on employees' capital gain on the bargain from an option; but for US law as well, the same capital gains treatment is available within the tighter restrictions.⁵⁹

All employee capital gain planning, whatever its stripe, shares the disadvantage that the employer gets no deduction for the amount of the employee capital gain. Deferred compensation can give the same economic benefit, even mimicking stock appreciation, while preserving the valuable employer deduction. Almost always the

58 Canadian-controlled private corporations may issue in-the-money stock options, but the employee must hold on to the stock for two years. Other corporations may not issue options with an initial bargain, but there is no two-year holding period. The employee's ultimate gain on sale qualifies for the one-quarter exclusion for capital gains, but not for the \$500,000 lifetime capital gains exclusion. Sandler, *supra* note 2, at 273-74.

59 IRC section 421 (providing that the employee will have no income from a qualified stock option, the employer will have no deduction, and the employee's basis shall be only the price paid). Qualification for employee capital gain from incentive stock options is subject to a number of restrictions, set out in IRC section 422: the option cannot last for more than 10 years; there must be no initial bargain between value and exercise price when the option is granted; the option cannot be saleable by the employee; the employee must hold on to the stock acquired by exercise of the option for a least a year after the option is exercised and for at least two years after the option is granted; and options vesting per year may acquire no more than \$100,000 worth of stock.

A program called the "employee stock purchase plan" also provides an opportunity for employers to give employees a capital gain. Under employee stock purchase plans, there can be an initial bargain of up to 15 percent, but the option price must be adjusted so that the bargain by exercise of the option never exceeds 15 percent of fair market value. Employee stock purchase plans must be given to full-time employees, employed for more than two years, pro rata to salary, and they cannot be offered to shareholders who already own 5 percent. See IRC section 423.

employer deduction is worth more than the value of transferring the compensation from ordinary income to capital gain. As discussed above, the Canadian combined federal-provincial tax rate on employment income can typically reach 46 percent, and capital gains tax is only 23 percent, which means that the employee will save 23 cents by achieving a capital gain; but where the corporate employer is subject to a typical federal-provincial corporate tax rate of 37 percent, the employer deduction is worth more than the tax saved. Similarly, the US capital gains tax rate at 20 percent is typically 19.8 percent below the maximum tax on employment income, but that is less than the saving of corporate tax at 35 percent afforded by the employer deduction. When the employer and the employee talk to each other and realize that they are in the same economic pool, they should always conclude that the employer deduction needs to be preserved, even with the sacrifice of employee capital gain.

Assume, for example, that company B gives executive X an option to purchase its stock for \$100 at a time when the stock is worth \$100. Because there is no initial bargain, the option may be reported on financial statements as having no cost, and the option qualifies even under tighter US restrictions as an incentive stock option in which the executive is not subject to tax on exercise and tax on capital gain is deferred until the sale of the stock. Assume that the executive exercises the option, holds on to the stock for two years, and sells it for \$1,000. The executive will have a capital gain in the amount of \$1,000 minus the \$100 cost or \$900. At a Canadian capital gain rate of 23 percent, the executive will pay capital gains tax of \$207 and be left with \$900 – 207 or \$693 after tax:

$$(\$1,000 - \$100) - cg^*(\$1,000 - \$100) = \$693. \quad (7)$$

At the US assumed capital gains tax rate of 20 percent, the result in expression (7) is \$720.

Now assume, as an alternative, that company B gives executive X deferred compensation under a SAR plan. When X needs cash, X will be able to draw out an amount that matches the amount of appreciation on a fixed number of shares of stock. Tentatively, with the same facts as for expression (7), X will get \$900 pre-tax. The cash payment will be ordinary income to the executive when received, but it will be deductible to the employer. As explained in connection with expression (5), the employee deduction allows an augmentation of the \$900 at the same burden to the employer. The executive's tax, however, will reduce after-tax compensation. With Canadian t_x of 46 percent and t_c of 37 percent, X will have \$771 after tax because

$$\$900*(1 - t_x)/(1 - t_c) = \$900*(1 - 46\%)/(1 - 37\%) = \$771. \quad (8)$$

The Canadian executive getting \$771 from the SAR plan will be in a better position than the executive who "succeeded" in getting capital gain, for \$693 after tax. With US assumed t_x of 39.8 percent and t_c of 35 percent, X will have \$834 after tax from the SAR deferred compensation, which again is better than the after-tax result from capital gain, at \$720.

Expression (7), describing a plan to give the employee capital gain, gives the employee significantly less after tax than expression (8), describing a plan to give the employee ordinary income, because expression (8) preserves the employer deduction. Expressions (7) and (8) both describe a stock option and the matching SAR, but the lesson that employee capital gain is a bad idea applies also to other plans or schemes to give employees capital gain. Plans that give the employer a deduction for compensation should be used instead.⁶⁰

The most serious limitation on the inferiority of employee capital gain is not economic but relates to the availability of accounting camouflage. The deferred compensation of expression (8) has the drawback (for the executive) or the virtue (for outside investors, for the shareholders monitoring executive pay, and for the health of the economy as a whole) of not being eligible for zero-costing of the CEO's pay under current financial reporting. Expression (8) assumes that the corporate employer will increase compensation to reflect its deduction because it can augment or gross up the compensation at the same after-tax burden if the deduction is available. Employee capital gain in expression (7), however, is not a charge to earnings, and if the corporate employer is massaging earnings reports, as happens, it cannot use deferred compensation. An employee who suggests that the compensation should shift from a capital gain plan to one with a corporate deduction might well find that the move means not a raise to reflect the corporate deduction, but a cut to reflect the new charge to earnings.

A considerable amount of employee capital gain planning continues, even though it is bad tax planning, because the costs to the corporation are disregarded. Executives, for example, commonly get low-value stock, pumped out before a public offering, so as to qualify for capital gain on the appreciation. If planning looks to both the executive and the corporation as sharing a common interest, or if the compensation is grossed up by $1/(1 - t_c)$ to reflect the corporate deduction, the parties will choose the corporate deduction and not the employee capital gain. However, management in charge does not consider the corporate deduction because any cost borne by the public or by the corporation is other people's money. Capital gain plans often leave money on the table, making money for the taxing government, simply because management in charge has no loyalty to the corporation it manages.

60 Gain from incentive stock plans over price paid for the stock is taxable to the executive as capital gain, even if the exercise is after death (IRC section 421(c)). Sometimes, however, the US employee's capital gain will be forgiven upon death of the employee by reason of the general step-up in basis at death (IRC section 1014). For example, if the employer succeeds in giving the executive undervalued property, the gain will not be a growth of upfront taxed capital, and the capital gains tax will become a zero-rate tax upon the death of the executive. After the executive's death, the outcome of expression (7) will be \$900 and that of expression (8) will be greater or less than \$900 depending upon whether t_x or t_c is greater. If employee capital gain were limited to its rational scope of appreciation realized after death on property that was significantly undervalued when it was transferred, employee capital gain would have only a trivial niche. For employees who have a tax rate lower than the corporate employer's tax rate, employee capital gain planning would be bad planning even for amounts realized after death.

There may also be an opportunity under Canadian law to get *both* an employer deduction and employee capital gain. If that treatment remains available, it is the best tax consequence and will undoubtedly come eventually to dominate all other forms of compensating employees. In 1999, the director of the Canada Customs and Revenue Agency's (CCRA's) Financial Industries Division of the Income Tax Rulings and Interpretations Directorate ruled by letter that if an employer bought back a stock option, issued with no initial bargain, for a cash settlement, the employer could deduct the cash payment in the normal computation of profit and the employee could also deduct one-half of the cash received under the ITA paragraph 110(1)(d).⁶¹ It is not clear that the directorate was aware of the importance of the ruling. The extraordinary aspect of the ruling—the combination of both employer deduction and employee deduction—was not listed as a principal issue of the ruling.⁶² It is extraordinary that the settlement of an option is treated so much better for the parties than completion of the contract would be treated. If the employer can deduct the cash cost at 37 percent and the employee pays tax on half of the payment at 46 percent, or 23 percent of the total, the CCRA combined “tax” is 23% – 37% or negative 14 percent of the total cost of compensation. Deferred compensation can provide for the equivalent of a zero capital gains tax rate on gain, but with steady rates, deferred compensation cannot provide for a negative 14 percent of the gain. If the employee deduction of one-half does not involve sacrifice of the employer deduction with a cash settlement buyback, then cash buyback provides the best tax treatment. Given that stock and stock options are undervalued by executives and given that stock options give management an incentive to undertake destructive risks, the negative tax seems unwise policy as well as unsound logic. CCRA rulings carry the warning that they may not represent the current position of the agency. That warning seems especially appropriate where the result amounts to a bird's nest on the ground.

CONCLUSION

Current accounting standards in both Canada and the United States allow a company to report a stock option with no initial bargain between exercise price and stock value as if the option were cost-free. Zero-costing of such options is not a good faith appraisal of either cost or value, but corporate executives like the rule because they can get more pay if they can report it as cost-free. With management

61 CCRA document no. 9919173, 1999 (concluding in paragraph D that the employee may deduct half of the cash received under ITA paragraph 110(1)(d), and in paragraph E that the employer may deduct the cash under the general computation of profits in ITA section 9, unless the amount is unreasonable or for the acquisition of property). I am grateful to Daniel Sandler for directing my attention to this ruling and providing a copy.

62 The “principal issues” section of CCRA document no. 9919173, *ibid.*, identified the only question as “Will the addition of a cash-out right, at the employee's discretion, to a stock option plan have any immediate tax consequence?” The answer to the issue was “no” because the “addition of the cash out right is not a fundamental change to the plan such that a disposition of rights occurs.”

so strongly in favour of the rule, zero-costing has survived and become more important over time.

Except for the access they give to deceptive accounting, stock options are a terrible way to compensate. Managers with significant options have an incentive to take the company into suicidal risks because option holders do not participate in the shareholders' losses. Moreover, stock and stock options are poor compensation vehicles because stock entails risks over which management has no control and which management does not like. The high discount rate that arises in reaction to risk and outsiders' distrust of management will mean that the corporation will have to pay out too much future cash for present value given, or that the executive will get too little present value for cash ultimately paid, or both. Filtering out both risk and distrust, by using a baseline of an industry average, would improve the efficiency of compensation without undercutting the appropriate incentive, but any filtering must be done within a plan in which the accounting does not allow the compensation to be reported as cost-free.

Stock compensation is also commonly thought to be advantageous because it gives employees access to low-tax capital gains. In general, however, deferred compensation is almost always better than employee capital gains because capital gain plans require the employee to pay immediate tax on capital and deferred compensation does not. Deferring the compensation is usually equivalent to zero-tax capital gain. Even when there is no underlying capital to defer, the employer deduction lost in employee capital gain plans is almost always more valuable than the incremental advantage of employee capital gain.