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David I. Walker

Boston University School of Law

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DAVID I. WALKER

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MARKET SYMMETRY AND THE TAX EFFICIENCY OF EQUITY
COMPENSATION

DAVID I. WALKER*

ABSTRACT

At first blush, the deferral of employee income recognition associated with equity compensation appears to provide a tax advantage in a rising market but an offsetting disadvantage in a declining market. Merton Miller and Myron Scholes argued, however, that this apparent symmetry is misleading and that employees can hedge to ensure tax efficiency despite market uncertainty. This article demonstrates that the effect of employee hedging is fairly small, but that a combination of factors, including capital loss limitations, the possibility of employee-favorable ex post adjustments to equity compensation arrangements, and employee hedging, do cause compensatory stock grants and nonqualified options to be tax advantaged on an expected value basis.

* Associate Professor, Boston University School of Law. I have benefited from the valuable suggestions of a number of individuals on a related article, including Graeme Cooper, Alan Feld, Dan Halperin, Keith Hylton, Louis Kaplow, Mike Meurer, Jim Repetti, Ted Sims, and Alvin Warren, and from workshops at Boston University School of Law and Georgetown University Law Center. I would also like to thank Andrew Lu for excellent research assistance.

INTRODUCTION

It is well understood that substituting equity compensation for cash generally results in the deferral of taxation at the employee level, and that this deferral is beneficial if the equity appreciates. As in the case of IRA or 401(k) contributions, the deferral of tax associated with equity compensation in this scenario is equivalent to applying the tax in the first instance, but exempting the employee's investment returns from tax.¹ But what if the employer stock declines in value? At first blush there appears to be an offsetting tax disadvantage. "Exemption" cuts both ways. Exemption in the case of an appreciated asset means less tax paid, but exemption with respect to a depreciated asset means the loss of a tax shield. Merton Miller and Myron Scholes recognized this apparent symmetry in a 1982 article in which the pair investigated the tax efficiency of various equity compensation schemes.² They concluded, however, that the apparent dichotomy is false and that stock and option compensation schemes are tax advantaged because employees can adjust their portfolios to lock in a deferral benefit.³

This article reassesses the impact of an unpredictable stock market on the tax efficiency of equity compensation and provides a stronger explanation of why employer stock and nonqualified options result in a tax advantage on an expected value basis despite the apparent symmetry. Like Miller and Scholes, I compare pre-tax equivalent compensation in cash and equity. Because employers can ensure neutrality between cash compensation and pre-tax equivalent stock or nonqualified stock option ("NQSO") grants by hedging themselves,⁴ the potential global (i.e., employee plus employer) tax efficiency of these compensation devices can be assessed by solely analyzing the employee-level effects.⁵

The analysis confirms that employee hedging can produce an equity compensation tax advantage, but suggests that the impact of employee hedging is quite small. Standing alone, the tax advantage that arises from hedging is unlikely to offset the anti-diversification effect of investing in employer equity. However, I conclude that a combination of factors, including limitations on the use of capital losses, the possibility of employee-favorable ex post adjustments to equity compensation arrangements, and

¹ See Daniel I. Halperin, *Interest in Disguise: Taxing the "Time Value of Money,"* 95 *Yale L.J.* 506 (1986).

² See Merton H. Miller & Myron S. Scholes, *Executive Compensation, Taxes, and Incentives*, In *Financial Economics: Essays in Honor of Paul Cootner* 179, 189 (William F. Sharpe & Cathryn M. Cootner eds., 1982).

³ See *id.* at 190.

⁴ See *id.* at 185; David I. Walker, *Is Equity Compensation Tax Advantaged?*, ___ *B.U. L. Rev.* ___ (2004). Neutrality here refers to an after-tax equivalence between cash and equity compensation, but does not take into account I.R.C. § 162(m), which, in some circumstances, can limit the deductibility of cash compensation paid to top executives. It is widely agreed, however, that § 162(m) has little effective bite and that the limitations of this rule can be easily avoided with a little planning. See, e.g., Judith E. Alden & Murray S. Akresh, *Using Equity to Compensate Executives*, in *Executive Compensation* 119 (Yale D. Tauber & Donald R. Levy eds., 2002).

⁵ As I have discussed elsewhere, the extent to which employers actually do hedge stock and option grants and preserve the potential global tax advantage of equity compensation is an empirical question. See Walker, *supra* note 4.

employee hedging, cause compensatory stock and NQSOs to be tax advantaged on an expected value basis. Progressivity in the taxation of ordinary income disfavors equity compensation, but for highly compensated employees tax rates are not significantly progressive, and thus this factor is unlikely to be important currently.

Most equity compensation devices – including deferred and restricted stock, NQSOs, and “phantom” stock or option plans – exhibit the apparent symmetry between deferral advantage in a rising market and disadvantage in a falling market, but two arrangements do not – bargain purchases of restricted stock and incentive stock options (ISOs). If the amount paid by the employee is substantial, bargain purchases of restricted stock result in a deferral *disadvantage* in a rising market that is only partially offset by a falling market advantage. The effect of ISO tax treatment is to exempt an employee’s investment returns from tax *and* subject the compensatory element of the option return to the lower capital gains tax rate. This dual effect results in an asymmetric employee-level tax advantage, but it comes at a cost: The employer loses its compensation deduction. In this case the employee-level advantage does not translate into a global tax advantage.

The remainder of the article is organized as follows: Part I provides a brief overview of the sparse literature analyzing the tax implications of equity compensation. Part II presents the Miller and Scholes model of the employee-level tax effects of deferred or restricted stock and extends the model to include NQSOs. Part III considers the impact of declining stock prices on the tax efficiency of stock and NQSO grants. Part IV briefly considers bargain purchases of restricted stock and ISOs. Part V concludes.

I. PRIOR RESEARCH

There have been few thorough analyses of the tax implications of equity compensation and even fewer studies that have considered the impact of declining stock prices. In their 1982 article, Miller and Scholes investigated deferred compensation plans generally in an attempt to determine which schemes were inherently tax advantaged and which were not – the latter, presumably, being motivated by incentive considerations.⁶ Miller and Scholes’s formal model of deferred and restricted stock plans provides the basis for my analysis.⁷ Miller and Scholes did not formally model stock option compensation, although they argued that the tax implications were analogous to those of deferred or restricted stock.

Brian Hall and Jeffrey Liebman modeled employee-level tax implications of stock options in a paper that investigated the impact of changes in tax rates on the attractiveness of option compensation.⁸ However, unlike the more general model developed herein, Hall and Liebman assumed that the compensation contracts provided

⁶ See Miller & Scholes, *supra* note 2.

⁷ See *id.* at 188-191.

⁸ See Brian J. Hall & Jeffrey B. Liebman, *The Taxation of Executive Compensation*, NBER Working Paper No. 7596 (Mar. 2000).

only an after-corporate tax rate of return and that the employer's stock price increased with this return.⁹

Michael Knoll examined the tax efficiency of equity compensation in a very recent article in *Tax Notes*.¹⁰ Where we overlap, our analyses are generally in agreement, but our points of emphasis differ. Knoll focused primarily on the impact of various employee investment alternatives in a rising market scenario and on the relative tax efficiency of various equity compensation devices.¹¹

Daniel Halperin analyzed deferral issues quite generally in a seminal 1986 *Yale Law Journal* article and specifically addressed nonqualified deferred compensation arrangements in which an employee's account was tied to the value of employer stock, i.e., deferred stock arrangements.¹² The basic model and results in this article are consistent with Halperin's approach. Halperin was concerned with a broader class of cases than are at issue in this article, however, and did not consider some of the other implications of equity compensation that are addressed herein.

Recognition of the equivalence between deferral of tax and exemption of post-tax investment returns, which underpins analysis of deferred compensation, goes back at least as far as a 1948 article by E. Cary Brown.¹³ A number of important articles by tax professors, including Halperin's, have considered this equivalence in various scenarios other than employee compensation and generally inform my analysis.¹⁴

II. MODELING THE TAX IMPLICATIONS OF EQUITY COMPENSATION

In order to isolate the employee-level tax effects¹⁵ (and determine global tax efficiency),¹⁶ this article follows Miller and Scholes in modeling equity compensation

⁹ See *id.*

¹⁰ See Michael S. Knoll, *The Tax Efficiency of Stock-Based Compensation*, 103 *Tax Notes* 203 (2004).

¹¹ See *id.*

¹² See Halperin, *supra* note 1.

¹³ See E. Cary Brown, *Business-Income Taxation and Investment Incentives*, in *Income, Employment and Public Policy* 300-316 (1948).

¹⁴ See Halperin, *supra* note 1; William D. Andrews, *A Consumption-Type or Cash Flow Personal Income Tax*, 87 *Harv. L. Rev.* 1113, 1126 (1974); Alvin C. Warren, Jr., *How Much Capital Income Taxed Under an Income Tax is Exempt Under a Cash Flow Tax?*, 52 *Tax. L. Rev.* 1 (1996). Although not directly relevant to the analysis herein, legal academics and economists have analyzed other related tax aspects of equity compensation. For example, David Schizer has investigated the tax implications of option exercise and option hedging transactions, and Calvin Johnson has argued that stock or stock options are more expensive than debt or cash as means of paying out deferred compensation due to high discount rates on stock and other factors. See David M. Schizer, *Executives and Hedging: The Fragile Legal Foundation of Incentive Compatibility*, 100 *Colum. L. Rev.* 440 (2000); Calvin H. Johnson, *Stock Compensation: The Most Expensive Way to Pay Future Cash*, 52 *SMU L. Rev.* 423 (1999).

¹⁵ Obviously equity compensation has other implications, e.g., implications for incentive creation, corporate control contests, etc. My aim here is to analyze only the tax implications, and only the implications of the regular income tax. Alternative minimum tax complications are ignored.

¹⁶ As noted *supra* note 4, because employers can ensure neutrality between cash compensation and pre-tax equivalent stock or NQSO grants by hedging themselves, the (potential) global tax efficiency of

grants as substitutes for cash compensation of equivalent pre-tax value and comparing an employee's receipt of cash compensation and investment of the after-tax proceeds in stock or options ("outside" investment) with deferral of compensation in the form of deferred stock, restricted stock, or options ("inside" investment).¹⁷ This part extends Miller and Scholes's model of deferred and restricted stock compensation to include NQSOs and demonstrates that the tax advantage of these equity compensation devices in a rising market is offset by a disadvantage in a declining market, all else being equal.

A. Equity Compensation Devices at Issue

This part focuses on deferred stock, outright grants of restricted stock, and NQSOs. These arrangements, which are described below, account for the bulk of employee equity compensation granted and share the property of apparent employee-level tax symmetry in rising and falling markets.

1. Deferred Stock

I use the term "deferred stock" to refer to an unfunded and unsecured promise to deliver stock or the cash equivalent in the future. In the paradigm case an employee elects to forego current cash compensation and instead receive a bookkeeping credit for an amount of stock of equal value. For example, if XYZ's stock is trading at \$20/share, an XYZ employee who defers \$100 cash compensation in the form of employer shares would be credited with five shares. At retirement or some other predetermined point in the future, the employee receives stock equal to her account balance or the cash equivalent.¹⁸

An employee participating in a properly designed deferred stock program will not be taxed on her deferred compensation until she receives payments under the plan.¹⁹ At that point the value of the employer stock (or cash) delivered to her will be includable as compensation and taxed as ordinary income. The program just described is not qualified for special tax treatment under the Internal Revenue Code (the "Code"), and the

these compensation devices can be assessed by analyzing the employee-level effects. See Walker, *supra* note 4.

¹⁷ See Miller & Scholes, *supra* note 2.

¹⁸ Deferred stock accounts typically accrue credits in the form of additional stock units for any dividends paid on the underlying stock and are adjusted for stock splits or other recapitalizations. In order to simplify the analyses, I will assume throughout that no dividends are paid.

¹⁹ The plan must be designed and implemented in a fashion that avoids current income recognition under theories of constructive receipt or economic benefit. As long as the deferral election is made sufficiently early, the deferral term is fixed in advance, and the commitment is unfunded and unsecured, deferral will be effective for tax purposes. Of course, employees and employers push on these levers and test the boundaries of constructive receipt and economic benefit, but it is not the purpose of this article to speculate on the edges of these doctrines. Suffice it to say that many wealthy and well-advised executives and corporate directors are satisfied to forego current compensation for an "unfunded and unsecured" promise to deliver stock in the future and are not kept awake at night by the prospect of the IRS asserting constructive receipt or economic benefit. See Robert A. Miller, *Nonqualified Deferred Compensation Plans*, in *Executive Compensation* 211, 255 (Yale D. Tauber & Donald R. Levy eds., 2002), for more on the contours of these doctrines in the context of nonqualified deferred compensation plans.

employer, if taxable, will be entitled to a deduction for the compensation paid only when the stock or other securities are delivered.²⁰ The amount deductible by the employer will be equal to the amount includable by the employee.²¹

2. Restricted Stock

“Restricted stock” refers to stock that is currently granted or sold to a party in connection with the performances of services but is subject to restrictions on further transfer and a risk of forfeiture.²² Companies commonly grant employees restricted shares in their own stock, which become non-forfeitable or “vest” after some number of years of continued service. The holder of restricted stock is required to return the shares (or sell them back to the company at her cost, if any) in the event that her employment is terminated prior to the vesting date or other conditions of vesting are not satisfied.

The transfer and forfeiture restrictions placed on restricted stock are designed to ensure that the recipient need not recognize income under Code § 83(a) until the stock vests.²³ Under § 83(a) the fair market value of restricted stock at the vesting date, less any amount paid for the stock, is taken into income by the participant as of that date.²⁴

However, a recipient of restricted stock may elect under § 83(b) to take the fair market value of the stock, less any amount paid for it, into income as of the date of the grant.²⁵ For tax purposes, a § 83(b) election causes a transfer of restricted stock to be treated as a transfer of unrestricted property. If the election is made, the recipient then holds the stock as a capital asset.²⁶ In this part, I assume that restricted stock grants are outright grants and that no § 83(b) elections are made. These assumptions reflect the

²⁰ See I.R.C. § 83(h).

²¹ This amount will be deductible assuming that there is no bar to employer deduction under I.R.C. § 162(m) or any other Code provision.

²² The value of restricted stock (and other long term incentives) granted to the CEOs of 200 large U.S. public companies surveyed by Pearl Meyer & Partners in 2001 and 2002 averaged 18% and 30% of the value of stock options granted to these executives, respectively. Unfortunately, the data is not broken down further between stock grants and other long term incentives. See Executive Pay: A Special Report, N.Y. Times, Apr. 7, 2002, at R8-9; Executive Pay: A Special Report, N.Y. Times, Apr. 6, 2003, at R8-9.

²³ I.R.C. § 83(a) provides that the fair market value of property transferred to an employee in connection with the performance of services shall be measured and included in the employee’s income in the year in which the transfer and forfeiture restrictions lapse.

²⁴ See I.R.C. § 83(a).

²⁵ Essentially deferral is optional. To the extent that participation in stock option or other equity compensation programs is optional, deferral of tax is optional in these cases as well. Restricted stock is different in permitting the recipient to elect the tax regime while holding the instrument.

²⁶ The advantages to making a § 83(b) election are that any appreciation after the date of transfer will be taxed at capital gains rates and the recipient controls the timing of disposition and income inclusion. The disadvantages are that the election triggers immediate taxation of the value transferred and any tax paid as a result of the election cannot be recovered if the stock fails to vest. See Treas. Reg. § 1.83-2(a).

Under § 83(h) an employer’s compensation deduction related to restricted stock is timed to coincide with its employee’s recognition of income, i.e., at vesting if § 83(a) applies or at the time of transfer if a § 83(b) election is made. The amount of the deduction is equal to the amount included by the employee in income. See I.R.C. § 83(h).

reality of most public company grants²⁷ and maximize the deferral opportunity. Also, under these assumptions the employee-level tax analyses of deferred stock and restricted stock are identical.

3. Nonqualified Stock Options

Employee stock options provide the holder with the right, but not the obligation, to purchase shares of employer stock at a predetermined exercise price. The options issued by publicly traded companies in the U.S. tend to be uniform in design. Generally, the options 1) are issued with an exercise price set equal to the fair market value of the employer's stock on the date of the grant (known as an "at-the-money" option), 2) become exercisable or "vest" three to five years after the grant, 3) expire ten years following the date of the grant, and 4) are nontransferable.²⁸

Generally, the grant of an option is not a taxable event for either party. At exercise, the holder of a NQSO has income in an amount equal to the difference between the fair market value of the shares received on exercise and the exercise price paid.²⁹ This amount is treated as compensation and is taxed at ordinary income rates.³⁰ Going forward, the employee simply holds the stock received as a capital asset with a basis equal to the fair market value of the shares received at the time of exercise.³¹

B. The Deferred/Restricted Stock Model

Following Miller and Scholes, I will assume that an employee either 1) receives cash compensation at some Time 1 and invests the after-tax proceeds in employer stock or options or 2) receives a pre-tax equivalent deferred stock commitment payable at Time 2, an outright grant of restricted stock that vests at Time 2, or a NQSO that is exercised at Time 2. Because of the focus on symmetry, we can utilize a simplified model that assumes that all shares are cashed out at Time 2.³² This section analyzes deferred and restricted stock. The next section extends the model to consider NQSOs.

²⁷ See E-mail from Ted R. Buyniski, Buck Consultants, to author (March 26, 2003) (on file with author).

²⁸ See Kevin J. Murphy, Executive Compensation, in Handbook of Labor Economics 2485 (Orley Ashenfelter and David Card eds., 1999).

²⁹ See Treas. Reg. § 1.83-7(a).

³⁰ The company is entitled to a deduction at the same time and in the same amount. See I.R.C. § 83(h).

³¹ The cash equivalent of a NQSO is known as a stock appreciation right (SAR). SARs are currently out of favor because they do not share the favorable accounting treatment applicable to traditional options. Nonetheless, the tax implications of SARs and NQSOs are identical, and the NQSO analysis developed below should be understood to apply equally to SARs.

³² The two-period model employed herein ignores the fact that gains on outside investments can be deferred beyond the payout/vesting date of deferred/restricted stock. Indeed, the cash-compensated individual can hold her outside investments indefinitely and even pass them on to her heirs tax free. The ability to defer (or avoid) taxation on appreciation enjoyed between the date of grant and date on which restricted or deferred stock would have vested or been paid out reduces the gap between cash and equity compensation portrayed in the two-period model but does not affect the symmetry between the deferral advantage/disadvantage in the rising/falling market scenarios. Thus, I will employ a two-period model throughout the remainder of this article.

Before turning to the general model, let us consider a simple numeric example. Suppose employee Adam receives \$100 cash compensation, pays \$35 in tax at ordinary income rates, and invests the remaining \$65 in stock of his employer. Suppose that this stock has doubled in value at Time 2 (more than one year later) when Adam cashes out. At a 15% long term capital gains rate, Adam will incur tax of \$9.75 on his \$65 gain and will be left with \$120.25. Compare employee Betty who receives, in lieu of cash compensation at Time 1, a deferred stock commitment payable in cash at Time 2, which is initially valued at \$100 and is tied to the appreciation in the employer's stock price. If her employer's stock price doubles, Betty's \$100 deferred stock account at Time 1 will grow to \$200 at Time 2. On payout this amount will be treated as ordinary income, resulting in \$70 of tax at a 35% marginal rate, and leaving Betty with \$130 after tax. Betty's after-tax result is \$9.75 better than Adam's, which, not coincidentally, is equal to the tax incurred by Adam on his outside investment and demonstrates the equivalence between tax deferral and exemption of investment earnings.

Suppose, however, that the employer stock becomes worthless at Time 2. In this case Betty will receive zero payout from her deferred stock plan, and there will be no tax consequences. Adam in this case will have a \$65 capital loss. If usable, this loss will reduce Adam's tax bill by \$9.75. Thus, there is an apparent symmetry between the employee-level advantage and disadvantage of stock compensation in rising and falling markets, respectively.

Miller and Scholes formalized this analysis algebraically. In simplified form the model is as follows: Let w be the pre-tax value of current or deferred compensation delivered at Time 1, $P2$ and $P1$ be the stock prices at Time 2 and Time 1, respectively, t_{oi} be the tax rate on ordinary income and t_{cg} be the tax rate on long term capital gains. If the employee receives cash compensation, pays current tax, and invests the after-tax proceeds in employer stock, she will acquire $w(1 - t_{oi})/P1$ shares. Assuming that losses can be fully and immediately deducted, the value of this stock at Time 2 (after the stock is sold and tax on gains is paid) will be

$$(1) \quad w(1 - t_{oi})P2/P1 \text{ [proceeds at Time 2]} - w(1 - t_{oi})t_{cg}(P2/P1 - 1) \text{ [tax at Time 2]},$$

If the employee receives deferred or restricted stock in lieu of cash compensation at Time 1, and assuming that no § 83(b) election is made with respect to restricted stock, there will be no tax consequences at Time 1. The after-tax value of the compensation at Time 2 will be

$$(2) \quad wP2/P1 \text{ [pre-tax proceeds at Time 2]} - wP2/P1t_{oi} \text{ [tax at Time 2]},$$

which simplifies to

$$(3) \quad w(1 - t_{oi})P2/P1.$$

Subtracting expression (1) from expression (3) yields

$$(4) \quad w(1 - t_{oi})t_{cg}(P2/PI - 1).$$

Expression (4) describes the relative employee-level tax advantage or disadvantage of compensatory stock over cash compensation calculated at the end of the period.³³ This expression is positive and deferral is advantageous as long as the share price on payout/vesting is greater than the share price on grant, and the expression is equal to the tax imposed on the employee's outside investment in the cash compensation scenario. (Compare expressions (1) and (4).) Thus, it can, and has been said, that deferral of tax is equivalent to imposing the tax on the initial grant of compensation and exempting the return on the after-tax amount.³⁴

Although a participant in a compensatory stock program avoids the taxation of gains on her outside investment income if the stock price rises, the participant loses the potential benefit of capital losses if the price falls. To see the mirror effect in a falling market, simply reconsider expression (4) for cases in which the stock price at the end of the period ($P2$) is less than the price at the beginning of the period (PI). If the employee can deduct her capital loss,³⁵ expression (4) applies and is negative. Thus, if an employee were able to fully utilize her capital losses and had no reason to believe that gains were more likely than losses, the employee-level tax implications of appreciated and depreciated stock would be symmetric, and deferral would appear to provide little advantage. As the next part demonstrates, however, these caveats are important and tend to undermine the apparent symmetry.

C. Applying the Model to NQSOs

Miller and Scholes's model can be applied to NQSOs if one assumes that a cash-compensated employee purchases NQSO-equivalent securities with the after-tax cash. This is a counterfactual assumption. NQSOs cannot be purchased on the market. But modeling the problem in this fashion allows us to isolate the impact of deferral, and many sophisticated investors do include options on equities within their portfolios.

1. Exercisable Options

As before, I will utilize a simple model that assumes liquidation of all investments on the date of NQSO exercise. Let OV be the option value and cost per share at Time 1. If the stock price at Time 2 justifies option exercise, i.e., $P2 > PI$, the value of the option on $w(1 - t_{oi})/OV$ shares at Time 2 in the cash compensation/outside investment scenario will be (after the option is exercised, the stock is sold, and tax on gains is paid)

³³ As Miller and Scholes demonstrate through what is essentially a three-period model, this same expression relates the benefit of deferred stock on the date on which the outside investment is cashed out, even if that date is subsequent to Time 2. See Miller & Scholes, *supra* note 2 at 189.

³⁴ See, e.g., Andrews, *supra* note 14; Halperin, *supra* note 1; Warren, *supra* note 14; Miller & Scholes, *supra* note 2 at 182.

³⁵ Under current law taxpayers can offset their capital gains and up to \$3,000 of ordinary income each year with capital losses. See I.R.C. § 1211 and discussion *infra* Part II.C.1.

$$(5) \quad w(1 - t_{oi})(P2 - PI)/OV \text{ [pre-tax proceeds at Time 2]} - t_{cg} w(1 - t_{oi})((P2 - PI)/OV - 1) \text{ [tax at Time 2]},$$

If the employee receives a NQSO in lieu of cash compensation at Time 1, the after-tax value of the compensation at Time 2 will be (again, within the range of option exercise, i.e., $P2 > PI$):

$$(6) \quad w(P2 - PI)/OV \text{ [pre-tax proceeds at Time 2]} - t_{oi}w(P2 - PI)/OV \text{ [tax at Time 2]},$$

which simplifies to

$$(7) \quad w(1 - t_{oi})(P2 - PI)/OV.$$

Subtracting expression (5) from expression (7) and simplifying yields

$$(8) \quad t_{cg} w(1 - t_{oi})((P2 - PI)/OV - 1).$$

Expression (8) relates the relative tax advantage or disadvantage of a NQSO over cash compensation and outside investment in an equivalent option calculated as of Time 2.³⁶ As before, this expression is equal to the tax incurred on the employee's after-tax option investment in the cash compensation scenario. (Compare expressions (5) and (8).) Again, deferral of compensation through a NQSO results, effectively, in the exemption of outside, after-tax investment earnings.

A stock option will be exercised as long as the stock price at exercise exceeds the strike price. Thus, an at-the-money NQSO will be exercised as long as $P2$ exceeds PI . Note, however, that expression (8) is positive if and only if $((P2 - PI)/OV - 1) > 0$, or if and only if $P2 > PI + OV$. In other words, NQSOs provide a tax advantage if and only if the share price at exercise exceeds the *sum* of the strike price and the option value.

If, on the other hand, the stock price at Time 2 exceeds the strike price but does not exceed the sum of the strike price and option value, i.e., $PI < P2 < PI + OV$, expression (8) is negative and deferral is disadvantageous, *assuming that the employee is able to utilize capital losses*. Deferral is disadvantageous because the exercise of a purchased option and immediate sale of the underlying shares in this circumstance would produce a capital loss. Exercise of a NQSO also would result in an economic loss, but this economic loss is not recognized for tax purposes.

2. Underwater Options

³⁶ As in the case of stock compensation, a two-period model overestimates the rising market NQSO tax advantage, although the magnitude of the overestimation is somewhat less. The assumption that all options are exercised at Time 2 is not a simplification, but reflects actual constraints inherent in option investment. However, the exercise of a purchased option is not in itself a taxable event. The exercise price paid by the optionee is added to the price paid for the option and becomes the basis of the shares received on exercise. See Rev. Rul. 71-521, 1971-2 C.B. 313. Thus, the purchaser of a traded option can control the timing of recognition of gain accruing prior to exercise. Again, however, employing a more sophisticated model would not affect the apparent symmetry under investigation here.

If the market price of the underlying shares is no greater than the exercise price at Time 2, an option will not be exercised. In the NQSO scenario, an employee would have no income and no tax benefit or cost if the option is not exercised. If the employee had purchased options with the after-tax proceeds of cash compensation, however, the worthless options would generate a capital loss. This loss would provide a tax benefit if the employee can utilize capital losses, and deferral by way of a NQSO would be tax disadvantageous. To see this note that expression (5) reduces to $t_{cg}w(1 - t_{oi})$ if $P_2 < P_1$ and the purchased option is not exercised. Expression (7) simply reduces to zero. Thus, the relative disadvantage of inside investment and deferral is $t_{cg}w(1 - t_{oi})$ if the options expire underwater and unexercised, assuming the employee can utilize capital losses.

If an employee's capital losses would be fully and immediately useable, deferral through NQSOs results in a tax disadvantage versus cash compensation and outside equity investment if the stock price falls, remains flat, or fails to rise sufficiently to recoup the implied option price. This disadvantage tends to offset the tax advantage that arises when the stock price increases substantially. The apparent symmetry is not as perfect as it is in the case of deferred or restricted stock. The costs and benefits are not perfectly symmetrical because options provide a non-linear payout.³⁷ If prices fall or remain flat, the optionee loses her premium, but no more. If prices rise, the payout on the option can grow very large. The tax costs and benefits follow this pattern as well. However, as in the case of deferred and restricted stock, even the rough symmetry between NQSO deferral advantage and disadvantage is more apparent than real.

III. DETERMINANTS OF SYMMETRY IN THE TAX EFFICIENCY OF EQUITY COMPENSATION

Miller and Scholes recognized the apparent symmetry between the appreciating and depreciating stock cases.³⁸ They noted that this symmetry might lead one to conclude that compensatory stock plans "owe their popularity to their incentive or incentive-signaling properties."³⁹ But, they are not so quick to abandon the search for a tax advantage. They concluded that compensatory stock plans are "preponderantly tax-advantageous" because employees can hedge in such a way as to avoid regrets in a falling market while locking in an advantage from deferral.⁴⁰

I agree that compensatory stock and NQSOs provide an employee-level tax advantage on an expected value basis, but not solely or even primarily for the reason posited by Miller and Scholes. The hedging benefit, as demonstrated below, is relatively small. However, several other factors that are ignored by Miller and Scholes affect the

³⁷ Deferred stock and outright grants of restricted stock for which no § 83(b) election is made result in a more obvious symmetry between deferral advantage in a rising market and disadvantage in a falling market. Under the assumptions made so far, the cost and benefit of deferral resulting from compensatory stock grants are equal for each dollar that the stock price falls or rises, respectively, from the stock price on the date of grant.

³⁸ See Miller & Scholes, *supra* note 2, at 189.

³⁹ *Id.*

⁴⁰ *Id.* at 191.

economics of deferral and on balance suggest an expected benefit. First, limitations on the use of capital losses reduce the cost of deferral in a falling market. Plus, two other factors tend to produce an expected tax advantage: the general upward drift in stock prices and the possibility of ex post employee-favorable contract adjustments. On the other hand, progressivity in tax rates on ordinary income tends to reduce the expected tax advantage of equity compensation. However, the impact of progressivity is likely to be slight for high income taxpayers who receive the bulk of equity compensation.

A. Employee Hedging

Miller and Scholes demonstrated that even if capital losses are fully and immediately usable, recipients of deferred or restricted stock or NQSOs could adjust their portfolios in such a way as to avoid regrets in a falling market, and lock in an advantage from deferral.⁴¹ Hedging away the downside risk, however, results in a significantly diminished deferral benefit in a rising market without reducing the firm-specific risk associated with investment in employer equity. Thus, it seems unlikely that portfolio adjustment alone explains the attractiveness of equity compensation.

There are several ways in which an employee can adjust her portfolio in order to eliminate the negative effect of deferral in a falling market. Miller and Scholes discussed a portfolio adjustment that results in zero advantage to deferral in the worst case scenario (i.e., worthless employer stock at Time 2) and a slowly rising deferral benefit with increasing stock prices at Time 2.⁴² Alternatively, an employee could lock in a small deferral advantage that would be enjoyed at any Time 2 stock price. I will focus on this latter adjustment, which is somewhat easier to visualize and analyze, and I will limit the analysis to deferred stock, although restricted stock and NQSOs are analogous.

Generally deferred stock plans permit participants to elect to defer all or a portion of current cash compensation (subject, perhaps, to a cap and/or a floor). Imagine that a participant in such a plan elects to defer $w(1 - t_{cg})$ and receive the balance (wt_{cg}) in cash, where, as before, w is the amount of compensation that may be deferred and t_{cg} is the tax rate applicable to the employee's long term capital gains. After paying tax at ordinary income rates on wt_{cg} , the participant invests the remaining cash in a riskless investment. At any stock price at Time 2, the combination of the after-tax proceeds from the deferred stock account payout and the *principal* invested risklessly will be equal to the after-tax proceeds that the employee would have enjoyed had she taken the full amount in cash and invested the after-tax amount in employer stock. In this scenario the employee has locked in a deferral advantage, but the advantage is only equal to the after-tax riskless return on the after-tax cash received.

This proposition is demonstrated algebraically in the appendix, but an example may provide greater insight. Assume a 15% tax rate on long term capital gains, a 35% marginal rate on ordinary income, and that $w = \$100$. An employee utilizing this particular hedge would defer \$85 and take \$15 in cash. After paying tax at ordinary

⁴¹ See id. at 190.

⁴² See id.

income rates on the \$15, she would be left with \$9.75 to invest outside of the deferred stock plan. By choosing a riskless investment for this amount, the employee ensures that committing \$85 to the deferred stock program will not cause regrets (versus investing in employer stock outside of the deferred stock plan) even if the stock price falls and she would have been able to utilize capital losses.

To see this assume first that the stock price doubles over the deferral period (say five years) and that the riskless investment produces an annual yield of 3% and a cumulative after-tax return over this period of 10%.⁴³ If the employee had elected to receive 100% cash compensation and had invested the after-tax amount in employer stock, sale at Time 2 would result in after-tax proceeds of \$120.25.⁴⁴ In the partial deferral case, \$85 invested internally in employer stock grows to \$170 pre-tax at Time 2 and \$110.50 after tax. Add the \$9.75 principal amount invested risklessly, and the employee has netted the same \$120.25. The advantage to partial deferral is the return on \$9.75, which would be \$0.97 at a cumulative 10% rate.

Now let's look at the worse case scenario for deferral and assume that the stock price falls to zero at Time 2, but that all else is the same. If the employee elects to receive 100% cash compensation, this would result in a \$65 capital loss that would be worth \$9.75 if the loss can be utilized. In the partial deferral case, the \$85 credited to employer stock becomes worthless, both before and after tax. The employee still has her \$9.75 riskless investment working for her, however, which matches her after-tax position in the 100% cash case. The return on this investment – still \$0.97 – again provides the sole advantage to deferral.⁴⁵

Of course, current interest rates are very low by historical standards. But even if one assumes an annual risk-free rate of return of 6% (the average yield on five year Treasury notes during the 1990s),⁴⁶ the benefit that can be locked in with this hedge over a five year period is only about \$2 per \$100 of deferrable compensation.

Because a participant can lock in a tax advantage through partial deferral and portfolio adjustment, Miller and Scholes conclude that deferred equity plans are “preponderantly tax-advantageous.”⁴⁷ This assessment is questionable, however, at least in the case of compensation deferred in the form of *employer* stock or options, which is the usual practice. Miller and Scholes have shown that compared with investing after-tax compensation in employer stock or options, partial deferral and portfolio adjustment is

⁴³ The average yield on five year Treasury notes for 2003 was 2.97%, or about 1.9% after tax at ordinary income rates of 35%. Compounding this rate for five years yields a cumulative after-tax return of about 10%. The yield data is from Federal Reserve statistics, which are available online at <http://www.federalreserve.gov/releases/H15/data.htm>.

⁴⁴ This figure is calculated directly from expression (1): $100 \times .65 \times 2 - 100 \times .65 \times .15 = 120.25$.

⁴⁵ Unfortunately, it is difficult to describe intuitively why this hedge works in all price scenarios. It is perhaps easiest to see in the worst case scenario: The participant who adopts this hedge is setting aside and investing risklessly an amount (\$9.75 in this example) that would be equal to the value of the capital loss in the 100% cash compensation case.

⁴⁶ Federal Reserve statistics, online at <http://www.federalreserve.gov/releases/H15/data.htm>.

⁴⁷ See Miller & Scholes, *supra* note 2 at 191.

unambiguously preferred. But under reasonable assumptions as to tax rates and rates of return on riskless investments, the benefit that can be locked in is on the order of 1% to 2% of deferrable compensation. However, in both cases, i.e., inside or outside investment in employer equity, the employee takes on additional firm-specific risk. All else being equal, relatively undiversified employees would prefer to receive cash compensation, pay tax, and invest the proceeds elsewhere, rather than make an inside or outside investment in employer equity. It does not seem likely that a tax advantage on the order of 1% to 2% of deferrable compensation would cause employees to forego cash compensation and the opportunity to diversify. However, this effect, combined with the impact of capital loss limitations and the other factors considered below, may result in an employee-level tax advantage that is significant enough to overcome the firm-specific risk associated with investments in employer equity.

B. Capital Loss Limitations

The apparent symmetry between a deferral advantage in a rising market and disadvantage in a flat or falling market is significantly undermined if an employee is unable to take immediate and full advantage of capital losses. In the most extreme case, in which capital losses provide no tax benefit to the employee whatsoever, deferral is unambiguously preferred to the receipt of current cash compensation.

First, consider the effect of capital loss limitations on deferred or restricted stock. Assume that $P2 < P1$ and that the employee's capital losses are effectively useless. Note that expressions (2) and (3) are unaffected. If the employee receives deferred or restricted stock, she will be taxed at Time 2 at ordinary income rates on the value of the stock at that time. If the employee receives cash compensation and invests the after-tax amount at a loss and that loss cannot be utilized, however, the second term of expression (1) falls away as t_{cg} is effectively zero. Thus, expression (1) reduces to expression (3) and expression (4) equals zero. If the employee is unable to utilize capital losses, expression (4) is positive for any $P2 > P1$, and zero otherwise.

Now consider NQSOs. In the limiting case in which capital losses provide no tax benefit, the apparent tax disadvantage of NQSOs in a flat, falling, or only modestly rising market disappears and deferral again is unambiguously preferred to cash compensation. In the case in which a NQSO is exercised but at an economic loss, i.e., $P1 < P2 < P1 + OV$, and t_{cg} is effectively zero, expression (5) reduces to $w(1 - t_{oi})(P2 - P1)/OV$, which is equivalent to expression (7), and thus the difference between these expressions (and the tax disadvantage of NQSOs) is zero. If the option expires underwater and unexercised and t_{cg} is zero, the deferral disadvantage, $t_{cg}w(1 - t_{oi})$, again reduces to zero.

Under current law, an individual's capital losses are deductible only to the extent of capital gains, if any, plus ordinary income up to \$3,000 annually,⁴⁸ although an individual may carry forward unused capital losses indefinitely. Given this limitation, many highly compensated employees should significantly discount the tax benefit

⁴⁸ See I.R.C. § 1211.

associated with potential capital losses.⁴⁹ Consider, for example, a highly compensated employee in a 35% marginal tax bracket who is given the opportunity to defer a \$100,000 bonus. Imagine that the employee elects to take the full amount in cash and invests the after-tax proceeds of \$65,000 in employer stock. Imagine that the shares fall in value by 50% by Time 2, generating a \$32,500 capital loss. If the employee has equal or greater unrealized capital gains, the loss on the employer stock or option can be used to offset those gains and will provide a tax benefit. However, if the employee has no unrealized gains or has other capital losses, the opportunity to offset \$3,000 of ordinary income per year will not be very meaningful. If the poor performance of the employer's stock correlates with a weak investment market generally, the loss on the employer stock or option may provide little benefit.⁵⁰

Discounting the utility of capital losses makes the opportunity associated with deferred equity plans much more attractive. In the limiting case in which capital losses are assumed to provide no tax benefit, the employee will be indifferent between cash compensation and the receipt of deferred or restricted stock if the stock price falls. If the stock price appreciates, capital losses do not come into play and deferral is always advantageous. While full use and no use of capital losses set the outer bounds for this analysis, rational employees should assign some discounted value to potential capital losses *ex ante*, although that discounted value may be small.

C. Upward Drift in Stock Prices

Over the long haul stock prices rise to repay investors for the time value of their money and their assumption of risk. Thus, the expected value of the employer stock at Time 2 is somewhat greater than at Time 1. Since gains are more likely than losses, participation in a deferred stock program provides an expected advantage even if the employee could fully utilize losses in a down market.

However, the expected deferral advantage resulting from the upward drift in stock prices is likely to be fairly small for most employees and should not be overstated. Participation in a deferred stock program generally is not for the long term, but for a

⁴⁹ Although equity compensation is being pushed down through the ranks, one should recognize that executives and other highly compensated employees continue to receive the bulk of this compensation.

⁵⁰ Working within their liquidity constraints, investors generally have the ability to time the sale of assets and the recognition of gains and losses. This timing discretion helps investors utilize capital losses, but, as suggested above, may be of little benefit to investors whose losses are correlated. Joint Committee on Taxation (JCT) scoring of a 2002 bill that would have increased the annual capital loss deduction limitation from \$3,000 to \$8,250 suggests that the limitation has significant bite. See JCT Scores Capital Losses Bill, 2002 TNT 195-19. The JCT estimated that the increased annual deduction limitation would cost the Treasury \$11.8 billion over the first five years, implying that at a minimum about 1.3 million U.S. taxpayers would be able to take advantage of the relaxed limitation. Considering that only about 11 million returns are filed with AGI in excess of \$100,000 (and that low and middle income taxpayers are much less likely to generate capital losses), this suggests that a significant fraction of wealthy taxpayers who generate capital losses actually are constrained by the current \$3,000 limitation. See Brian Balkovic, High-Income Tax Returns for 2000; Statistics of Income Bulletin, Spring 2003, available on-line at www.irs.gov/taxstats (reporting that approximately 10.9 million returns filed reporting AGI in excess of \$100,000 for 2000, the most recent year for which such statistics were available).

relatively short period of a decade or less. For example, restricted stock grants typically vest in three to five years. Furthermore, while there have been many more decades exhibiting rising market prices over the last two hundred years than the reverse,⁵¹ participation in a deferred or restricted stock program does not involve a market investment, but an investment in a particular firm's equity. Together, these factors suggest that the bias in favor of rising prices is likely to be small and quite uncertain for an equity compensation program participant.⁵²

D. Ex Post Adjustments to Compensation Contracts

The potential for employee-favorable ex post contract adjustments also can disrupt the apparent symmetry of the marketplace and increase the likelihood that deferred compensation will be tax advantaged. The most frequently encountered ex post adjustment is the practice of resetting stock option exercise prices following share price declines. If an employee receives cash compensation, buys a traded option, and suffers a decline in the underlying asset price, that option will expire worthless. She can be sure that that option will not be repriced. If the employee receives a NQSO, however, and the underlying stock price declines sharply, the provider may reduce the option exercise price (directly or indirectly) in order to restore the incentive associated with the option. Since strike prices are never *increased* in a rising market, the potential for resetting exercise prices means that it is more likely, ex ante, that an employee will ultimately hold an appreciated option than a depreciated one. As we have seen, the deferral advantage associated with deferred equity compensation arises when securities appreciate. To the extent that appreciation is more likely than not, deferred equity compensation is tax advantaged over cash compensation and outside investment.⁵³

The exercise prices of underwater employee stock options often have been reduced in the past, leading to frequent complaints by institutional investors and industry watchdogs.⁵⁴ Recent changes in accounting rules have virtually eliminated *explicit* option repricing for now.⁵⁵ The accounting rules are not water tight, however, and there are ways to indirectly reprice options while avoiding an accounting hit. For example, companies can cancel old, underwater options and issue new at-the-money options six months later without incurring unfavorable accounting.⁵⁶ Moreover, some companies

⁵¹ See Jeremy J. Siegel, *The Equity Premium: Stock and Bond Returns Since 1802*, *Fin. Analysts J.*, Jan.-Feb. 1992, at 28-38.

⁵² On the other hand, the cumulative impact of upward equity drift and equity compensation on the public fisc could be significant.

⁵³ Of course the deferral benefit associated with repricing underwater options is just the icing on the cake. The more important effect for the employee is that repricing vastly increases the value of the underlying investment, unless the number of shares underlying options is adjusted to reflect the relative value of the old and new options.

⁵⁴ See, e.g., Graef S. Crystal, *In Search of Excess: The Overcompensation of American Executives* 133-37 (1991).

⁵⁵ Recent guidance promulgated by FASB specifies that a modification of an option award to reduce the exercise price triggers variable accounting treatment from the date of the modification. See FASB Interpretation No. 44 ¶¶ 38-48 (Mar. 2000).

⁵⁶ See *id.* ¶¶ 45-47. See also, Rachel Emma Silverman, *Breathing Underwater: Companies Look for New Ways to Help Workers Stuck with Worthless Stock Options*, *Wall St. J.*, Apr. 12, 2001, at R8.

have simply issued new options (with a lower exercise price) to holders of old out-of-the-money options.⁵⁷ In any event ex post adjustments to deferred equity compensation contracts have increased the probability of positive investment returns and tax advantage and are likely to continue to do so.

To see the tax implications of repricing in a simple hypothetical, return to the example of Adam and Betty discussed in Part II.B. Recall that Adam purchased stock with after-tax cash compensation while Betty received deferred stock from her employer. Assuming that losses were fully useable, Adam wound up with \$120.25 in the “high” scenario (stock price doubled at Time 2) and \$9.75 in the “low” scenario (worthless stock at Time 2), while Betty wound up with \$130 and zero in the two scenarios. If the two scenarios were equally likely, each had an expected payoff of \$65. Now assume that the two scenarios are equally likely, but that instead of buying stock outright, Adam purchases an instrument that pays out the fair market value of the stock if the result is “high” at Time 2, but also pays this amount half of the time that the result is “low” at Time 2. Betty receives an identical instrument from her employer. Given our modification Adam’s expected payout is now $\$120.25 \times .75$ plus $\$9.75 \times .25$, or \$92.62. Betty’s expected payout is $\$130 \times .75$, or \$97.50. The possibility of contract modification obviously makes these hypothetical investment instruments more attractive than stock per share (and presumably the parties would pay for this through reduced shares or otherwise), but the key for our purposes is that the expectation of repricing disrupts the symmetry between rising market deferral advantage and falling market disadvantage and favors deferral through equity compensation.

E. Progressive Tax Rates on Ordinary Income

Under the Code, ordinary income generally is taxed at progressively increasing rates while the capital gains of most taxpayers are taxed at a flat 15% rate. Progressivity in ordinary income rates tends to reduce the expected tax advantage of equity compensation, but the impact is likely to be slight because current tax rates are not significantly progressive at high income rates.

A combination of highly progressive tax rates on ordinary income and flat rates on capital gains would significantly reduce the attractiveness of equity compensation. I have assumed that ordinary income is subject to a flat 35% marginal tax rate, but imagine that gains on an equity compensation contract, which are taxed as ordinary income, push an employee into a higher marginal bracket. This occurrence would reduce the benefit of equity compensation versus cash compensation and outside investment in a rising market, and there would be no offsetting reduction in the disadvantage of equity compensation in a declining market.⁵⁸ Thus, progressivity in marginal rates undermines the apparent symmetry in a way that favors cash compensation and outside investment.

⁵⁷ See Silverman, *supra* note 56.

⁵⁸ Imagine that Adam’s \$100 cash compensation and the first \$100 of Betty’s deferred stock payout are taxed at a 35% marginal rate, but that the second \$100 of Betty’s payout is taxed at a 40% rate. The increased tax on Betty’s gain would reduce the equity compensation advantage from \$9.75 to \$4.75. The declining market scenario would be unaffected.

However, at current tax rates the impact of progressivity is unlikely to be a significant factor in weighing cash versus equity compensation, particularly for high income taxpayers who receive the bulk of the equity compensation. First, base marginal tax rates applicable to ordinary income are relatively flat. For 2003, married couples filing jointly faced a 33% base marginal tax rate on taxable income between \$174,700 and \$311,950 and then a 35% base marginal rate beyond.⁵⁹ Second, high income taxpayers actually experience *reductions* in their effective marginal tax rates when their personal exemptions and itemized deductions are fully phased out.⁶⁰ For 2003, a married couple with two children experienced a reduction in their effective marginal tax rate of about three to three and a half percentage points when their personal exemptions were fully phased out at adjusted gross income of \$331,750.⁶¹ Third, many high income taxpayers are subject to the alternative minimum tax, which has an even flatter rate structure and also produces reductions in effective marginal rates when alternative minimum tax exemption amounts are fully phased out.⁶²

Thus, while highly progressive tax rates would penalize participation in equity plans, current rates do not. As a result, the combination of capital loss limitations, ex post contract adjustments, and employee hedging disrupt the symmetry between rising market tax advantage and falling market disadvantage and cause deferred stock, outright grants of restricted stock and NQSOs to be tax advantaged on an expected value basis.

IV. ASYMMETRIC EQUITY COMPENSATION

Generally equity compensation produces an employee-level tax advantage if the equity appreciates and an offsetting disadvantage if the equity depreciates, at least before capital loss limitations and other factors discussed in Part III are considered. However, two equity compensation arrangements deviate from this pattern – bargain purchases of restricted stock and incentive stock options. This part briefly addresses these special cases.

A. Bargain Purchases of Restricted Stock

Bargain purchases of restricted stock deviate from the standard pattern in two ways. First, if the amount paid for the stock is significant, deferral will be *disadvantageous* in a rising market. Second, there is an offsetting advantage to deferral

⁵⁹ See Rev. Proc. 2002-70, 2002-2 C.B. 845.

⁶⁰ For 2003 personal exemptions of a married couple filing jointly are phased out between adjusted gross income levels of \$209,250 and \$331,750 and itemized deductions are phased out once adjusted gross income exceeds \$139,500. See *id.*

⁶¹ Taxpayers may be in a 33% or 35% base marginal tax bracket when the phase out of personal exemptions is completed. For 2003, a married couple with two children would be entitled to base personal exemptions of \$12,200. See *id.* Two percent of the exemption amount, here \$244, is phased out for every \$2500 of adjusted gross income in excess of the threshold amount. See I.R.C. § 151. At a 35% base marginal tax rate, the effect of the phase out is to increase effective marginal rates by 3.4 percentage points $((244/2500) \times .35)$ until the exemptions are fully phased out.

⁶² See I.R.C. § 55.

in a falling market in the case of bargain stock purchases, but this symmetry disappears if the stock price at vesting is less than the amount paid for the shares. Both of these effects suggest that § 83(b) elections often will be warranted if employees purchasing restricted stock are confident of satisfying vesting requirements.

As discussed above, absent a § 83(b) election, the bargain element of restricted stock normally is not taxed to the recipient until the stock vests. At vesting the employee has compensation income that is taxable at ordinary income rates. A § 83(b) election accelerates recognition of compensation to the date of the grant and essentially converts the stock into a capital asset for tax purposes. The purported advantages to making a § 83(b) election with respect to restricted stock are that 1) future appreciation will be taxed at preferential capital gains rates and 2) recognition can be deferred beyond the restricted stock's vesting date.⁶³ The primary disadvantage is that tax paid on the grant of stock as a result of making a § 83(b) election cannot be recovered if the stock fails to vest.⁶⁴ Despite this risk, one often reads that an employee who receives a grant of restricted stock and 1) is bullish on the stock, 2) is confident of satisfying the vesting requirements, and 3) expects to hold the stock beyond the vesting date should make the § 83(b) election.⁶⁵ The foregoing discussion indicates that in the case of *outright* grants of restricted stock to public company employees this advice is mistaken. Recognizing current compensation income is too steep a price to pay for converting the character of future gains from ordinary to capital. Unless a recipient is barred for some reason from investing other cash in her employer's stock,⁶⁶ which should be unlikely in the case of a

⁶³ See Jeffrey S. Bortnick & Philip S. Gross, Tax Advantages of the Section 83(b) Election Can Be Significant, 86 J. Tax'n 39, 45 (Jan. 1997); James J. Freeland et al, Fundamentals of Federal Income Taxation 873 (12th ed. 2002); Sanford M. Guerin & Philip F. Postlewaite, Problems and Materials in Federal Income Taxation 298-99 (6th ed. 2002).

⁶⁴ See Treas. Reg. § 1.83-2(a). It is sometimes asserted that a second disadvantage to making a § 83(b) election is that a decline in stock value between the date of grant and vesting will result in a capital loss if the election is made, and just reduced ordinary income otherwise. See Bortnick & Gross, *supra* note 63 at 43. This is not a disadvantage. If the recipient can use capital losses, she will be better off with capital asset treatment in a declining market. See *supra* Part I.B. If the recipient cannot use capital losses, the election will have no effect on her after-tax income in a declining market.

⁶⁵ See Bortnick & Gross, *supra* note 63 at 45 ("possible deferral of tax on the appreciation in value of the property from the time the restriction lapses until the property is sold (together with the gain being capital instead of ordinary income) will make the Section 83(b) election advisable in many cases"); Fidelity Investments, About Restricted Stock Awards, available at <http://personal.fidelity.com/products/stockoptions/rstockawards.shtml> (same); Freeland, *supra* note 63 at 873-4 (same); Guerin & Postlewaite, *supra* note 63 at 298-99 (same); Kaye Thomas, Compensation in Stock and Options: Section 83b Election (June 29, 2002), available at <http://fairmark.com/execcomp/sec83b.htm> (83(b) election makes sense if restricted stock recipient expects reasonable growth in the stock value and risk of forfeiture is very low); Charles A. Wry, Jr., Stock Options and Restricted Stock (undated), available at <http://www.mbbp.com/article4.html> (same); Stacey Olliff & Ken Luer, Taking Stock: An Equity Compensation Primer (Summer 2001), available at http://www.ecjlaw.com/publications/legalupdate_2001summer_taking_stock.html ("Conventional wisdom dictates that employees make Section 83(b) elections when they believe the stock will appreciate rapidly in value.").

⁶⁶ See Warren, *supra* note 14 at 3-4 (noting in a similar context that exemption of capital income as a result of cash flow taxation requires the assumption that the tax savings from expensing generates the same rate of return as the original investment).

public company, she will be better off foregoing the § 83(b) election, deferring the recognition of compensation, and investing the tax saved in employer stock.⁶⁷

On the other hand, suppose an employee pays full fair market value for the stock. This situation is virtually unheard of in the public company context, since public company employees can buy all the *unrestricted* stock they want for fair market value. However, the situation is frequently encountered in early stage start-up companies that can assign a very low price to their privately held stock. In such a case a § 83(b) election always should be made.⁶⁸ The recipient will recognize no compensation income as a result of the election and will have capital losses or gains thereafter. There is no income to defer in this case and no circumstance in which the recipient would regret making the election.⁶⁹

This dichotomy suggests that the relative size of the bargain element is central to the § 83(b) election decision and further examination bears this out. Assume that an employee pays an amount c for restricted stock of fair market value v . As before, let $P2$ and $P1$ be the stock prices at Time 2 and Time 1, respectively, t_{oi} be the tax rate on ordinary income and t_{cg} be the tax rate on long term capital gains. First assume that the employee files the § 83(b) election using other funds in the amount of $(v-c)t_{oi}$ to pay the tax due. The after-tax value of the stock ($v/P1$ shares) at Time 2 will be

$$(9) \quad vP2/P1 - vt_{cg}(P2/P1 - 1).$$

If the employee refrains from making the § 83(b) election and invests the tax saved at Time 1 ($(v-c)t_{oi}$) in her employer's stock, and assuming that the stock acquired is worth at least c at Time 2, the value of the package at Time 2 will be

$$(10) \quad vP2/P1 - (vP2/P1 - c)t_{oi} \text{ [restricted stock portion]} + (v-c)t_{oi}P2/P1 - ((v-c)t_{oi}P2/P1 - (v-c)t_{oi})t_{cg} \text{ [cash portion]},$$

⁶⁷ Deferral should be preferred as long as the tax that is postponed by foregoing the election can be invested at a return equal to or greater than the return on the underlying stock. The surest way to accomplish this is by purchasing shares with the tax saved. In a recent article John Goldsbury recognizes that the return on the cash saved by foregoing the election is the key driver in this analysis. See John Goldsbury, *The Myth of the 83(b) Election*, 21 J. Tax'n Investments 300, 305 (2004).

⁶⁸ This was the circumstance faced by the taxpayer in the celebrated case of *Alves v. Commissioner*, 734 F.2d 478 (9th Cir. 1984). *Alves*, of course, failed to make the election and suffered the negative tax consequences.

⁶⁹ This assumes, of course, that capital gains are taxed at a rate equal to or less than ordinary income as under the current tax code. To see that a § 83(b) election always should be made in this circumstance, suppose that the recipient pays fair market value for shares that vest in three years. If she makes the § 83(b) election, the transfer will produce no compensation income, and the recipient will have a capital gain or loss on disposition of the shares. If the recipient fails to make the election, she will recognize ordinary income on the vesting date if the shares have appreciated, and then will have capital gains or losses on subsequent disposition. If the recipient fails to make the election and the fair market value of the shares on the vesting date is less than or equal to their value on the date of purchase, she will be in the same position she would have been in had she made the election, i.e., no compensation income and a capital gain or loss on disposition. See also Goldsbury, *supra* note 67 at 308 (making the same point).

which simplifies to

$$(11) \quad vP2/P1 + ct_{oi} - ct_{oi}P2/P1 - vt_{cg} t_{oi}(P2/P1-1) + ct_{cg} t_{oi}(P2/P1-1)$$

Equating expression (9) with expression (11) and solving for c determines the amount paid in a bargain purchase of restricted stock that will cause the buyer to be indifferent regarding the § 83(b) election:

$$(12) \quad c = vt_{cg}(1 - t_{oi})/t_{oi}(1 - t_{cg}).$$

Or expressing c as a fraction of fair market value v , the breakeven point is

$$(13) \quad c/v = t_{cg}(1 - t_{oi})/t_{oi}(1 - t_{cg}).$$

At current tax rates of about 35% on marginal ordinary income and 15% on capital gains, c/v in equation (13) equals 33%. Thus, this equation suggests that a public company employee who pays more than one-third of the fair market value of restricted stock granted to him should consider filing a § 83(b) election if he is confident of satisfying vesting requirements.

In fact, however, the impetus for filing a § 83(b) election is even greater than that suggested by equation (13) because the rising and falling market tax implications of bargain purchases are not symmetric. If the stock price at vesting is less than the per share amount the employee paid for the stock (and assuming immediate sale upon vesting), the employee will wind up with a capital loss and one would substitute t_{cg} for t_{oi} in the second term of expression (10). This change would reduce the value of deferral and increase the relative benefit of filing the § 83(b) election.

In addition, the factors considered in Part III further increase the expected benefit of filing a § 83(b) election with respect to bargain purchases. For example, if the employee pays more than one-third of the value of the stock and the stock appreciates, the 83(b) election pays off. If the stock declines in value and if capital losses are essentially useless, the employee would be indifferent.

Finally, this analysis assumes that an employee who refrains from filing a § 83(b) election can purchase employer stock with the cash that is saved by postponing the tax on the compensation. Generally public company employees should be able to do so. Private company employees may not have this opportunity. If a private company employee is very bullish on her employer's stock and is unable to purchase shares outside of compensation plans, she may reasonably opt to file a § 83(b) election even with respect to a significantly discounted purchase or even an outright grant of stock.⁷⁰

⁷⁰ As noted above, one tenet of the conventional wisdom on § 83(b) is that an expectation of holding the stock beyond the vesting date weighs in favor of making the election. See, e.g., Bortnick & Gross, *supra* note 63 at 40; Freeland, *supra* note 63 at 873; Guerin & Postlewaite, *supra* note 63 at 298; Michael J. Graetz & Deborah H. Schenk, *Federal Income Taxation: Principles and Policies* 120 (Rev. 4th ed. 2002). The foregoing analysis assumed that all stock is sold on the vesting date. However, removing

B. Incentive Stock Options

Deferred stock, restricted stock, and NQSOs all result in the effective exemption of an employee's outside investment returns from tax. Incentive stock options (ISOs) provide even greater employee-level benefits in a rising market: Assuming holding period requirements are satisfied, the optionee is taxed on her entire gain at capital gains rates when she sells the underlying shares.⁷¹ Thus, from a recipient's perspective (and ignoring the alternative minimum tax), ISOs are always preferred to NQSOs and produce significantly higher expected value than cash compensation of equivalent pre-tax value invested in purchased options.⁷² Of course, the employee-level ISO benefit comes at a cost. An employer that grants a qualifying ISO is not entitled to a compensation deduction at any time.⁷³

This section focuses solely on the employee-level implications of ISOs. It demonstrates that ISOs effectively exempt an employee's outside investment returns from tax *and* subject the compensatory element of the option to the lower capital gains rate. This latter effect is unique to ISOs and destroys the rough equivalence between the rising market employee-level tax advantage and falling market disadvantage we saw with NQSOs.

In order to demonstrate that ISOs effectively cause the compensatory element of the option to be treated as capital rather than ordinary, assume, counterfactually, that a cash-compensated employee is taxed at the capital gains rate and purchases an at-the-money option on her employer's stock with the after-tax proceeds. As before, let w be the amount of compensation deferrable at Time 1; P_2 be the stock price at Time 2; P_1 be the stock price at Time 1 and the option strike price; t_{oi} be the tax rate on ordinary income; t_{cg} be the tax rate on long term capital gains; and OV be the option value or cost

this constraint does not affect the conclusions reached herein because I am simply calculating a breakeven point, a ratio, and the timing of the realization does not come into play.

However, if an employee dies between the restricted stock vesting date and the date on which outside share holdings would have been sold, t_{cg} in equation (12) is effectively zero, and c/v equals zero. In other words, if the employee pays anything for restricted stock, there would be an advantage to making the § 83(b) election *ex post* if death would eliminate the capital gains tax on the outside investment. This should come as no surprise. Deferral provides zero advantage in this circumstance since deferral effectively exempts the outside investment return from tax and death accomplishes the same result. Since deferral provides no advantage in this scenario and even a deeply discounted purchase has some element of non-deferral, the election would be warranted, assuming, as throughout, that the employee is bullish and secure in her position.

⁷¹ See I.R.C. § 422. To qualify for ISO treatment, the shares may not be sold within one year of option exercise or two years of the option grant.

⁷² The tax treatment has no effect on the Black-Scholes value of an option. Thus, recipients unambiguously prefer ISO over NQSOs of equivalent Black-Scholes value. Of course, the parties may take the employee's tax advantage into account in negotiating the substitution of ISOs for cash (or NQSOs).

⁷³ See I.R.C. § 421(a)(2). The value of ISO shares that can be provided to an employee is quite limited, and the large majority of options issued to executives of publicly traded companies are NQSOs. To the extent that the grant date fair market value of shares underlying options that first become exercisable by an individual in any year exceeds \$100,000, such options shall not be treated as ISOs. See I.R.C. § 422(d).

per share at Time 1. In this counterfactual cash compensation scenario, the employee will invest in an option on $w(1 - t_{cg})/OV$ shares. If the stock price at Time 2 justifies option exercise, i.e., $P2 > P1$, the value of the option at Time 2 will be (after the option is exercised, the stock is sold, and tax on gains is paid)

$$(14) \quad w(1 - t_{cg})(P2 - P1)/OV \text{ [pre-tax proceeds at Time 2]} - t_{cg} w(1 - t_{cg})((P2 - P1)/OV - 1) \text{ [tax at Time 2]},$$

If the employee elects to receive an ISO in lieu of cash compensation at Time 1 and meets the ISO holding period requirements, she will be taxed on the entire gain at capital gains rates. Thus, the after-tax value of the compensation at Time 2 will be (again, within the range of option exercise, i.e., $P2 > P1$):

$$(15) \quad w(P2 - P1)/OV \text{ [pre-tax proceeds at Time 2]} - t_{cg}w(P2 - P1)/OV \text{ [tax at Time 2]},$$

which simplifies to

$$(16) \quad w(1 - t_{cg})(P2 - P1)/OV.$$

Subtracting expression (14) from expression (16) yields

$$(17) \quad t_{cg} w(1 - t_{cg})((P2 - P1)/OV - 1).$$

Expression (17) describes the relative tax advantage of an ISO over cash compensation and outside investment in an equivalent option under the counterfactual assumption that the cash compensation is taxed at capital gains rates. As before, expression (17) is equal to the tax incurred on the employee's after-tax option investment in the cash compensation scenario – the second term in expression (14). Thus, deferral through an ISO does have the effect of exempting outside investment earnings.

Note in addition, however, that the first term of expression (14) is identical to expression (16) and, of course, cancels out when the relative advantage of the ISO is calculated in expression (17). This indicates that ISO tax treatment is equivalent to taxing cash compensation at capital gains rates plus exempting investment returns from tax.⁷⁴

Of course, this analysis only demonstrates that ISOs are better than pre-tax equivalent NQSOs from an employee's perspective. At current tax rates the disadvantage of ISOs from the employer's point of view outweighs the employee-level advantage

⁷⁴ As before, the two-period analysis employed above is an oversimplification and capital loss limitations and other factors would affect the literal application of expression (17), particularly in a case in which the option is exercised at an economic loss. Nonetheless, this simplified analysis and the insight that ISOs provide the combination of benefits discussed should provide a useful technique for weighing the global ISO advantage under various tax rate assumptions.

unless the employer is effectively tax exempt.⁷⁵ As always, it is critical not to lose sight of this global contracting perspective.

IV. CONCLUSION

This article reassesses the impact of market uncertainty on the tax efficiency of the most commonly encountered equity compensation arrangements – deferred and restricted stock and options. It demonstrates that the apparent symmetry between a rising market tax advantage and falling market disadvantage is undermined by capital loss limitations, the potential for employee-favorable ex post contract adjustments, and employee hedging (the factor discussed by Miller and Scholes). As a result, deferred stock, outright grants of restricted stock, and nonqualified options are tax advantaged at the employee level on an expected value basis. Of course, this employee-level analysis is only half of the equity compensation picture. But the employee-level tax advantage translates into a global, i.e., employer plus employee, advantage if the company properly hedges the equity grant.

However, two common equity compensation arrangements do not exhibit the apparent symmetry. If employees pay enough for restricted stock, deferral is actually tax disadvantageous in a rising market and the tax effects are asymmetric in a declining market. Incentive stock options provide an asymmetric employee-level tax advantage before considering loss limitations, ex post adjustments, and employee hedging, but companies cannot hedge their way to tax neutrality when they substitute ISOs for cash, and thus these instruments do not result in a global tax advantage.

Of course, there is much more to equity compensation analysis than simply considering the tax implications. I have briefly touched upon the problem of increased firm-specific risk that is borne by employees who accept employer equity in lieu of cash compensation. At the employee level this cost may be offset by insider trading opportunities or the prospect of extracting supra-competitive compensation.⁷⁶ At the firm level, enhanced incentive generation and the prospect of enlarging the pie may drive the equity compensation decision. Clearly, employee-level tax implications are only a small piece of a much larger puzzle. Hopefully, though, that part of the puzzle is now a little clearer.

⁷⁵ See Walker, *supra* note 4.

⁷⁶ See Bebchuk et al, *Managerial Power and Rent Extraction in the Design of Executive Compensation*, 69 U. Chi. L. Rev. 751 (2002).

APPENDIX

EMPLOYEE HEDGING AND DEFERRED OR RESTRICTED STOCK

Assume that an employee is permitted to divide deferrable compensation into a deferred stock amount and a cash amount. The participant elects to take $w(1-t_{cg})$ in deferred stock and wt_{cg} in cash, where w is the total amount of compensation deferrable, P_2 and P_1 the stock prices at Time 2 and Time 1, respectively, t_{oi} the tax rate on ordinary income and t_{cg} the tax rate on long term capital gains. If one assumes that the after-tax cash received in the partial deferral case is invested with *zero return*, the value of this package at Time 2 will be

$$(A1) \quad w(1-t_{cg})P_2/P_1 - w(1-t_{cg})P_2/P_1 t_{oi} \text{ [deferred portion]} + wt_{cg}(1-t_{oi}) \text{ [cash portion]},$$

which simplifies to

$$(A2) \quad w(1-t_{oi})[(1-t_{cg})P_2/P_1 + t_{cg}].$$

If the employee takes 100% of deferrable compensation in cash and invests the after-tax proceeds in stock, the value of this package at Time 2 is described by expression (2) in the text as

$$(A3) \quad w(1-t_{oi})P_2/P_1 - w(1-t_{oi})t_{cg}(P_2/P_1 - 1).$$

This can be rearranged as

$$(A4) \quad w(1-t_{oi})[(1-t_{cg})P_2/P_1 + t_{cg}].$$

Expressions (A2) and (A4) are identical which indicates that the only difference between the partial deferral/portfolio adjustment scenario described here and investment of after-tax cash in the same instrument is the return on the cash portion of the former ($wt_{cg}(1-t_{oi})$), which for exposition has been assumed to be zero. In order to protect against regrets, this cash portion must be invested risklessly. The return on this investment is the locked-in advantage of this partial deferral scenario.