INCENTIVE VALUE OF STOCK OPTIONS AT INFORMATION TECHNOLOGY COMPANIES IN THE DOWN MARKET

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Abstract

Stock options have been criticized as fair weather friends: good at motivating and retaining executives when the market is going up, but of little incentive value when the market is going down. The veracity of this criticism is of particular importance to executives at information technology (IT) companies, where options are used aggressively and where stock declines in 2000 were extreme. In this study, we compare the performance-effectiveness of IT CEOs' stock and option holdings in the up market of 1993 through 1999 with their performance-effectiveness in the down market of 2000. We find that stock options that were exercisable had stronger positive performance effects during 2000 than in previous years but that options that were unexercisable (not vested) had much weaker performance effects in 2000 than in previous years. For non-IT CEOs, we also observe stronger performance effects for exercisable options in 2000 but we do not observe the same weakening of performance effects for unexercisable options in 2000.

1 INTRODUCTION

Incentive compensation, particularly stock-based pay, is associated with the extraordinary growth and success of firms in high-tech industries during the 1990s. But stock-based incentive pay at technology companies has come under attack recently because of concern about its high cost relative to cash-based incentive pay and the dilution of equity caused by outstanding options. While stock options were considered to be part of the mix of innovation and incentives that fueled the high-tech boom, people now question whether stock option grants were excessive and helped contribute to the downturn in the technology sector during 2000 (McLean 2000).

Stock options have also been criticized for providing asymmetric incentives: they help to motivate and retain executives when the market is going up, but their incentive value is thought to be lost when the market is declining (Coy 2001; Tully 2000).

Unlike cash incentives that reward executives for current performance but have no lingering incentive value, stock-based awards tie executive wealth to the long-term performance of the company. Because stock options give executives a non-negotiable stake in the firm, companies must pay a premium to entice executives to substitute stock-based pay for cash awards. Hall and Murphy (2000) estimate that this premium makes the cost to the company of option awards 250 percent or more of the cost of cash awards. By itself, this makes option pay look unreasonably expensive. But the incremental cost of granting stock options relative to cash compensation must be weighed against the long-term performance impact of option holdings.

The agency theories that provide support for incentive-pay schemes are driven by tradeoffs between the cost of transferring risk and the performance impact of steeper incentives (Freeman 1977; Harris and Holmström 1982; Holmström 1979). Companies pay a premium to endow executives with stock options in anticipation that they will maintain high performance levels over the long haul. Superior performance is typically thought of as achieving greater positive stock returns or higher accounting profits but may also mean limiting downward stock price movements or accounting losses in a down market or weak economy.

While a number of research studies have investigated the sensitivity of compensation to performance, few studies have considered the impact of pay incentives or executives' stock and option holdings on firm performance (Murphy 1999). Talmor and Wallace (1998) documented that IT companies were aggressive users of stock-based pay. Anderson et al. (2000) presented evidence that firm performance (stock returns) increased with executive holdings of options relative to their total pay. But this research was conducted during the booming technology market from 1993 through 1997. Little is known about the performance-effectiveness of stock options during down markets.

We investigate whether greater stock and option holdings by IT CEOs worked to amplify or restrain the drop in value of information technology (IT) stocks. To do this, we develop and estimate an empirical model that incorporates reciprocal relations between current pay and performance and recognizes the influence of equity holdings on pay and performance. We separately evaluate the influence of exercisable options and unexercisable options on firm performance. Exercisable options are vested options that executives are holding voluntarily. Having been issued for longer periods of time, they are more likely to be in the money than unexercisable options.

Our results indicate that exercisable options had a stronger positive performance effect in the year 2000 than in previous years but that the positive performance effect of unexercisable options was lost in the year 2000. We compare our findings for IT executives with non-IT executives. For non-IT CEOs, the positive performance effect of exercisable options was also stronger in 2000 than in previous years but the positive performance effect of unexercisable options was not diminished in the year 2000.

2 PREVIOUS RESEARCH

Murphy (1999) provided an extensive review of empirical research in executive compensation. Most empirical investigations of executive pay have tested agency hypotheses about how pay is affected by performance. This interest in the sensitivity of pay to performance was kindled by concerns that executive compensation was not sufficiently performance-based. Only a few studies have considered the reciprocal relation, how performance is affected by the incentive properties of compensation agreements. This is surprising because the performance-effectiveness of incentive compensation is critical to the agency models. Boschen and Smith (1995) observed that the two-way relations between pay and performance make pay and performance endogenous. They estimated a simultaneous equations model that recognized the reciprocal relations between pay and performance embedded in the agency models.

With respect to the influence of stock and option holdings on firm performance, researchers have related Tobin's Q, the ratio of the market value of firm assets to their replacement value, to the percentage of firm equity held by managers. Morck et al. (1988) found that performance increased with equity holdings less than 5 percent but decreased with equity holdings between 5 percent and 25 percent, which they attributed to an entrenchment effect. In a similar study, McConnell and Servaes (1990) found that the entrenchment effect kicked in when the manager's equity holdings hit 40 percent of equity. Mehran (1995) found that Tobin's Q increased with the percentage of executive compensation that is stock-based and the percentage of equity held by management. In their study of information technology and other firms, Anderson et al. (2000) included holdings variables designed to discriminate between the convergence of incentives effect and the entrenchment effect. They found that firm performance increased with holdings measured relative to executive pay (convergence of incentives) and decreased with holdings relative to firm equity (entrenchment).

3 RESEARCH HYPOTHESIS

We distinguish between two types of incentives: incentives that operate through current compensation awards and incentives that operate through equity holdings. Option grants, like other components of current compensation, may be used to reward current service and performance. Outstanding options, as part of an executive's investment portfolio, provide continuing incentives to increase or maintain firm value.

Executives must be paid a premium to substitute stock options for cash compensation. This premium arises from (1) the transfer of financial risk to the manager, and (2) the reduced flexibility imposed on the manager because vesting provisions and non-negotiability of stock options tie the executive to the firm (Lambert et al. 1991). The inability to exercise unvested options and the gap between the intrinsic value of options (the pay-out that may be realized by exercising the options) and their live-option value makes it costly for managers with unexercised options to move to other firms. By making compensation awards in the form of stock options, the firm is investing in its management team, with the expectation that subsequent firm performance will be enhanced because unexercised stock options provide incentives to managers to perform and to stay with the firm.

Most stock options are granted with an exercise price equal to the stock price at the grant date. This practice of setting the exercise price at the money makes the pay-off to options appear to be asymmetric with respect to the stock price at the issue date. This apparent asymmetry leads some critics to conclude that options are good motivators when the market is rising but not when the market is falling. But this thinking ignores other features of stock options that contribute to their economic value.

Employee stock options are long-term instruments, with expiration dates typically 10 years after the grant date, and vesting provisions that are usually satisfied over 1 to 5 years. While the intrinsic value (pay-off that would be realized if options were exercised immediately) of options is lost when the stock price declines below the exercise price, the economic value of stock options does not go to zero (see Figure 1). Even after a large market decline, there is a positive probability that the stock price will exceed the exercise price before the end of the option term. And, if the market decline occurs after a long-running bull market, many unexercised options remain in the money. Just as *a penny saved is a penny earned*, actions that reduce erosion of a firm's stock price in a down market pay off just as much as actions that enhance growth in the stock price in an up market. For these reasons, the incentive value of stock options is not necessarily lost in a down market. Accordingly, we make the following hypothesis.

Research hypothesis: The performance-effectiveness of stock and option holdings did not decline during the year 2000 relative to the 1993–1999 period.

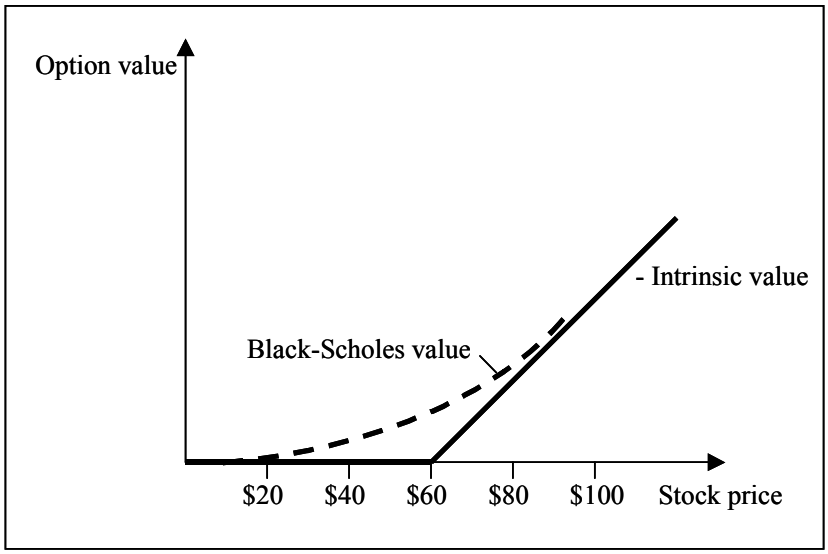

Figure 1. Comparsion of Black-Scholes Value with Intrinsic Value for an Option with an Exercise Price of $60

4 EMPIRICAL MODEL

The empirical model that we estimate includes total pay (*Total pay*), comprising all annual compensation including the Black-Scholes value of options granted during the period, as the primary compensation variable and stock return (*Return*) as the primary performance measure. Because, in the agency models, observed performance affects total pay and total pay affects performance, there is two-way simultaneity between pay and performance. To recognize this endogeneity, the model includes a compensation (*Total pay*) equation and a performance (*Return*) equation (Boschen and Smith 1995).

Both equations include variables representing the managers' stock and option holdings in the firm. As described earlier, equity holdings have countervailing effects on managers' incentives. To capture the convergence of incentives that occurs as a greater proportion of managers' wealth is linked to the performance of the company, stock and option holdings are deflated by total pay (*Stock held/total pay* and *Options/total pay*). To capture the entrenchment effect that occurs because managers' susceptibility to market discipline declines as their percentage ownership in the firm increases, stock and option holdings are deflated by total equity in the firm (*Stock held/firm equity* and *Options/firm equity*).

Linking pay to performance through bonus plans and long-term incentive awards imposes financial risk on the manager, making annual total pay increase because managers must be compensated for bearing risk. If managers' wealth is already tied to the firm through equity positions in stock and options, the need for performance-based pay in their current contracts is reduced. Thus, total pay is expected to decrease with stock and option holdings measured relative to managers' wealth (the convergence of incentives variables). On the other hand, total pay is expected to increase with the entrenchment variables because more entrenched managers are less subject to discipline from the market for corporate control (Jensen and Meckling 1976).

The *Total pay* equation is depicted below. Consistent with previous research, we use the log of total pay to compensate for non-linearity in the pay-performance relation (Abowd 1990; Jensen and Murphy 1990; Murphy 1985).

$$\begin{aligned} ln(Total\ pay_t) = {} & \alpha_1 + \beta_{10}*ln(Total\ pay_{t-1}) + \beta_{11}*Return_t + \beta_{12}*Return_{t-1} + \\ & \beta_{13}*Stock\ held_t/total\ pay_t + \beta_{14}*Stock\ held_t/firm\ equity_t + \\ & \beta_{15}*Exercisable\ options_t/total\ pay_t + \beta_{16}*Exercisable\ options_t/firm\ equity_t + \\ & \beta_{17}*Unexercisable\ options_t/total\ pay_t + \beta_{18}*Unexercisable\ options_t/firm\ equity_t + \\ & \gamma_{10}*ln(Sales_t) + \gamma_{11}*Industry\ turnover + \varepsilon_1 \end{aligned}$$

Instead of using a first-difference specification, where the change in total pay between period *t-1* and period *t* is regressed on performance, we follow Boschen and Smith (1995) by including the lagged value of total pay on the right hand side. This relieves an unnecessary restriction imposed by a first-difference specification (that changes in total pay are permanent), but maintains the information in lagged total pay to address the omitted correlated variable problem identified by Murphy (1985). We include both the current and previous return variables on the right hand side because there may be a delay between the realization of performance and its impact on compensation (as in the *ex post* settling up model).

Stock and option holdings are separately deflated by total pay and by the market value of firm equity to capture the convergence and entrenchment effects as described above. Option holdings are split into two categories, exercisable and unexercisable options. Unexercisable options are options that have not vested. The distinction between exercisable and unexercisable is particularly important in a down market because managers are voluntarily holding exercisable options but are not voluntarily holding unexercisable options. The ExecuComp data provides the number of exercised and unexercised options held by executives at the end of the year and the intrinsic value of these holdings. Because the intrinsic value does not reflect the economic value of options, we measure the value of option holdings by multiplying the number of options held by the stock price at the end of the year.[1]

Other variables in the total pay equation are *ln(Sales)*, included because the level of compensation increases with firm size (Rosen 1982), and *Industry turnover* which is the average number of executives occupying the top five positions per firm for each industry during the sample period. Total pay is likely to decrease with the turnover of executives because high turnover indicates a more fluid market for executives and less firm-specific human capital.

The endogeneity of pay and performance is reflected in the specification of the performance equation where *Return* is related to *Total pay*.

$$\begin{aligned} Return_t = {} & \alpha_2 + \beta_{20}*ln(Total\ pay_t) + \beta_{21}*ln(Total\ pay_{t-1}) + \beta_{22}*Stock\ held_t/total\ pay_t + \\ & \beta_{23}*Stock\ held_t/firm\ equity_t + \beta_{24}*Exercisable\ options_t/total\ pay_t + \\ & \beta_{25}*Exercisable\ options_t/firm\ equity_t + \beta_{26}*Unexercisable\ options_t/total\ pay_t + \\ & \beta_{27}*Unexercisable\ options_t/firm\ equity_t + \beta_{28}*Per\ capita\ option\ grant_t + \\ & \gamma_{20}*ROA_t + \gamma_{21}*ROA_{t-1} + \gamma_{22}*Volatility + \gamma_{23}*Debt\ to\ assets + \\ & \gamma_{24}*Dividend\ payout + \gamma_{25}*Sales\ growth + \varepsilon_2 \end{aligned}$$

[1]The ending stock price serves as a relative measure of option value across firms. The true option value is lower than the stock price.

The stock and option holdings variables are included in the performance equation because performance is expected to improve with the convergence of incentive variables (*Stock held/total pay* and *Options/total pay*) and is expected to be negatively related to the entrenchment variables (*Stock held/firm equity* and *Options/firm equity*) because entrenched managers are less subject to market discipline.

The *Per capita option grant* expresses the number of options granted to employees other than the top five executives on a per employee basis. This variable is included on the basis that firm performance may improve with greater distribution of options to non-executive employees.

The current and lagged values of accounting return on assets (ROA_t and ROA_{t-1}) are included in the *Return* equation because of the established relation between stock returns and accounting returns (Ball and Brown 1968). Stock return volatility (*Volatility*) is included because expected stock returns increase with risk (Sharpe 1985). Volatility is measured over a 60-month period including the current year. Other variables are included that are descriptive of the firm's investment opportunity set (Smith and Watts 1992). Stock returns are expected to be higher for firms with greater growth options, characterized by lower *Dividend payout*, lower *Debt to equity*, and higher *Sales growth*.

5 RESULTS OF ESTIMATION

To test whether the performance-effectiveness of stock options diminished during 2000, we included interaction terms for all of the stock and option holdings variables in the model. For estimation purposes, these interaction terms were comprised of a dummy indicator variable for the year 2000 and the observed values for the holdings variables in the year 2000. This technique provided estimates of the differences between the coefficients of the holdings variables during the year 2000 and the coefficients for the years 1993 through 1999. For presentation purposes, we have added the differences in the coefficients for the year 2000 to the amounts of the coefficients for the years 1993 through 1999 and calculated the appropriate p-values for these computed coefficients. This means that the coefficients presented for the year 2000 terms represent the full 2000 effects of these variables in the year 2000.[2] Terms for the year 2000 are included for other selected compensation and performance variables as well as for the holdings variables.

Data on executive compensation was obtained from Standard and Poor's ExecuComp database. The IT sample used in our study includes computer and electronics equipment manufacturers, computer software and services firms, and telecommunications and media companies. ExecuComp data begins in 1992. The sample period includes 1993 through 2000 because one year is used to obtain lagged values of total pay and return. The raw data typically includes compensation information for the top five executives at each company.

Identification of the model and of every equation in the model was checked using rank and order conditions (Judge et al. 1988). An outlier analysis was performed for each equation and observations were removed if the absolute value of the Studentized residual exceeded three in either equation (Belsley et al. 1980). The system of equations was estimated using the three-stage least squares method (Zellner and Theil 1962). The 3SLS estimator was selected over the two-stage least squares (2SLS) estimator because the 3SLS model is asymptotically more efficient than the 2SLS estimator if the equation disturbances are sufficiently highly correlated (Kennedy 1992, p. 136). We used Hausman's (1978) m-statistic to evaluate whether three stage least squares (3SLS) estimation was preferred to ordinary least squares (OLS) estimation. The m-statistic is sufficiently high to reject the null hypothesis that OLS provides consistent and efficient estimation in favor of the alternative hypothesis that the total pay and return variables are jointly determined and that only the 3SLS estimates are consistent. An evaluation of condition indices indicated that the variables do not exhibit high multicollinearity in either equation (Belsley et al. 1980).

Results of the 3SLS estimation for CEOs at IT firms are presented in Table 1. Variables that are included separately for the year 2000 are in bold type. Results of estimating the model are broadly consistent with expectations based on prior research. In the compensation equation, stock returns ($Return_t$) have a significantly positive effect on total pay during the 1993–1999 period. The coefficient on the $Return_t$ **2000* variable is nearly the same as the coefficient during the 1993–1999, period indicating that the influence of stock returns on total pay in the up period persisted unremitted during the down market.

[2]We provide the incremental effects in separate panels of the tables below.

Table 1. Results of Three-Stage Least Squares Estimation of *Compensation* and *Performance* Equations for CEOs of IT Firms

Panel A: Coefficients for 1993–1999 and 2000

	Compensation $ln(Total\ pay_t)$		***Performance*** $Return_t$	
	Coefficient	**p-value**	**Coefficient**	**p-value**
Intercept	1.7224	<.0001	-32.3682	0.0889
$ln(Total\ pay)_t$			18.4978	0.0032
$\boldsymbol{ln(Total\ pay)_t * 2000}$			16.9988	0.0128
$ln(Total\ pay)_{t-1}$	0.6402	<.0001	-16.7725	0.0012
$Return_t$	0.0053	<.0001		
$\boldsymbol{Return_t * 2000}$	0.0063	0.0001		
$Return_{t-1}$	0.0011	<.0001		
$Stock\ held_t / total\ pay_t$	-0.0013	<.0001	0.0587	0.0712
$Stock\ held_t / firm\ equity_t$	0.0016	0.0121	-0.1278	0.0435
$Exercisable\ options_t / total\ pay_t$	-0.0204	0.0027	1.4529	0.0252
$Exercisable\ options_t / firm\ equity_t$	0.0067	0.0759	-0.8781	0.0129
$Unexercisable\ options_t / total\ pay_t$	-0.1011	<.0001	6.7689	<.0001
$Unexercisable\ options_t / firm\ equity_t$	0.0347	<.0001	-1.5449	<.0001
$\boldsymbol{Stock\ held_t / total\ pay_t * 2000}$	-0.0003	0.7115	0.1474	0.0846
$\boldsymbol{Stock\ held_t / firm\ equity_t * 2000}$	0.0013	0.5050	-0.4387	0.0243
$\boldsymbol{Exercisable\ options_t / total\ pay_t * 2000}$	-0.0265	0.0888	5.2342	0.0004
$\boldsymbol{Exercisable\ options_t / firm\ equity_t * 2000}$	-0.0097	0.5502	-3.7498	0.0209
$\boldsymbol{Unexercisable\ options_t / total\ pay_t * 2000}$	-0.0110	0.6122	-4.1852	0.0785
$\boldsymbol{Unexercisable\ options_t / firm\ equity_t * 2000}$	0.0430	0.0266	4.3709	0.0203
$Per\ capita\ option\ grant_t$			0.0000	0.6735
$\boldsymbol{Per\ capita\ option\ grant_t * 2000}$			0.0000	0.3711
$ln(Sales_t)$	0.1955	<.0001		
Industry turnover	-0.1251	0.1301		
ROA_t			2.7245	<.0001
ROA_{t-1}			-1.6327	<.0001
Volatility			64.2605	<.0001
$Dividend\ payout_t$			0.0014	0.7378
$Debt\ to\ assets_t$			-21.9127	0.0861
Sales growth			0.2215	0.0016
	n = 2340, system weighted $R^2 = 0.5543$			

Panel B: Differences in Coefficients Between 1993–1999 and 2000

	Compensation $ln(Total\ pay_t)$		***Performance*** $Return_t$	
	Coefficient	**p-value**	**Coefficient**	**p-value**
$\boldsymbol{ln(Total\ pay)_t * 2000}$			-1.4991	0.2346
$\boldsymbol{Return_t * 2000}$	0.0010	0.3351		
$\boldsymbol{Stock\ held_t / total\ pay_t * 2000}$	0.0010	0.2530	0.0887	0.2768
$\boldsymbol{Stock\ held_t / firm\ equity_t * 2000}$	-0.0003	0.8733	-0.3109	0.0869
$\boldsymbol{Exercisable\ options_t / total\ pay_t * 2000}$	-0.0061	0.6894	3.7813	0.0082
$\boldsymbol{Exercisable\ options_t / firm\ equity_t * 2000}$	-0.0164	0.2595	-2.8717	0.0472
$\boldsymbol{Unexercisable\ options_t / total\ pay_t * 2000}$	-0.0901	0.2595	-10.9541	<.0001
$\boldsymbol{Unexercisable\ options_t / firm\ equity_t * 2000}$	0.0083	<.0001	5.9158	0.0004
$\boldsymbol{Per\ capita\ option\ grant_t * 2000}$			0.0000	0.8691

The coefficients on the convergence of incentives variables (*Stock held$_t$ /total pay$_t$*, *Exercisable options$_t$ /total pay$_t$*, and *Unexercisable options$_t$ /total pay$_t$*) for the 1993–1999 period are significantly negative in the total pay equation as anticipated by the argument that less incentive compensation is required when executives have more of their wealth tied to the firm. The coefficients on the entrenchment variables (*Stock held$_t$ /firm equity$_t$*, *Exercisable options$_t$ /firm equity$_t$*, and *Unexercisable options$_t$ /firm equity$_t$*) for the 1993–1999 period are significantly positive, consistent with less market discipline (higher pay) of more entrenched executives.

For the 2000 period, the coefficients on *Exercisable options$_t$ /total pay$_t$*2000* is significantly negative but the coefficient on *Unexercisable options$_t$ /total pay$_t$*2000* is not significantly different from zero. This suggests that the incentive value of unexercisable options dropped appreciably between the earlier periods and the year 2000.

In the performance equation, *ln(Total pay$_t$)* continues to have a significantly positive influence on stock returns during the 2000 period, as it did in the 1993–1999 period, consistent with better performance by higher paid executives. The coefficients on *Exercisable options$_t$ /total pay$_t$*, and *Unexercisable options$_t$ /total pay$_t$* of 1.4529 and 6.7689 are both significantly positive (p-values = 0.0252 and 0.0001, respectively) during the 1993–1999 period, consistent with convergence of interests. The coefficient on *Exercisable options$_t$ /total pay$_t$* increases significantly to 5.2342 (p-value = 0.0004), indicating higher performance-effectiveness of exercisable options in 2000.[3] But the coefficient on *Unexercisable options$_t$/total pay$_t$* drops to –4.1852 (p-value = 0.0785), indicating that the positive performance-effectiveness of unexercisable options was lost in 2000.

The coefficients on the entrenchment variables, *Exercisable options$_t$ /firm equity$_t$* and *Unexercisable options$_t$ /firm equity$_t$* are significantly negative during the 1993–1999 period (coefficients = -0.8781 and –1.5449, p-values = 0.0129 and 0.0001), consistent with less market discipline (poorer performance) as managers obtain greater effective ownership of the firm. The negative influence on performance is actually strengthened for *Exercisable options$_t$ /firm equity$_t$*2000* (coefficient = -3.7498, p-value = 0.0209) but is lost for *Unexercisable options$_t$ /firm equity$_t$*2000* (coefficient = 4.3709, p-value = 0.0203). The negative entrenchment effect is also sharpened for the stock holdings variable. The coefficient on *Stock held$_t$ /firm equity$_t$* changed from –0.1278 (p-value = 0.0435) to –0.4387 (p-value = 0.0243) in 2000.

For comparative purposes, results of estimation of the model for non-IT CEOs is presented in Table 2. We observe, as a caveat to this comparison, that the down market of 2000 was particularly hard on IT firms versus non-IT firms. In the performance equation for non-IT firms, the convergence of interest variables, *Exercisable options$_t$/total pay$_t$* and *Unexercisable options$_t$ /total pay$_t$*, have significantly positive performance effects in the years 1993 through 1999. The performance effects are stronger for *Exercisable options$_t$ /total pay$_t$* in the year 2000 and are not diminished for *Unexercisable options$_t$ /total pay$_t$*.

Of interest, the coefficient on *Per capita option grant* is significantly positive for the non-IT firms in 1993 through 1999 and increases significantly in 2000 for the non-IT firms. These results indicate that wider distribution of options had greater positive performance effects for the non-IT firms during the year 2000. For the IT firms (Table 1), this variable is not significantly positive for the 1993–1999 period or for 2000.

6 CONCLUSION

Stock options have been criticized as an unusually expensive and inefficient way to convey compensation to executives (Ferlauto 2001). This and similar criticisms are based primarily on analyses that look at the cost of options or the dilution of equity associated with stock options. They do not consider the effects that stock options ultimately have on firm performance. In fact, very few empirical studies have examined the performance-effectiveness of options, particularly in weak financial markets. We observe that stock options have strong incentive power in up markets and that, for exercisable options, this incentive power is sustained in down markets.

[3]The incremental effect of 3.781 (p-value = 0.0082) is shown in panel b of Table 1.

Table 2: Results of Three-Stage Least Squares Estimation of *Compensation* and *Performance* Equations for CEOs of Non-IT Firms

Panel A: Coefficients for 1993–1999 and 2000

	***Compensation* $ln(Total\ pay_t)$**		***Performance* $Return_t$**	
	Coefficient	**p-value**	**Coefficient**	**p-value**
Intercept	1.2393	<.0001	17.1401	0.0005
$ln(Total\ pay)_t$			13.3781	<.0001
$ln(Total\ pay)_t$ *2000			13.9373	0.0001
$ln(Total\ pay)_{t-1}$	0.7004	<.0001	-15.1208	<.0001
$Return_t$	0.0078	<.0001		
$Return_t$ *2000	0.0093	<.0001		
$Return_{t-1}$	0.0018	<.0001		
$Stock\ held_t / total\ pay_t$	-0.0006	0.0043	0.0256	0.1062
$Stock\ held_t / firm\ equity_t$	0.0002	0.2250	-0.0127	0.3159
$Exercisable\ options_t / total\ pay_t$	-0.0297	<.0001	1.2904	<.0001
$Exercisable\ options_t / firm\ equity_t$	0.0114	<.0001	-0.1695	0.0111
$Unexercisable\ options_t / total\ pay_t$	-0.0609	<.0001	3.5824	<.0001
$Unexercisable\ options_t / firm\ equity_t$	0.0288	<.0001	-0.2197	0.0362
$Stock\ held_t / total\ pay_t$ *2000	-0.0011	0.1569	0.0112	0.8320
$Stock\ held_t / firm\ equity_t$ *2000	0.0009	0.2165	-0.0107	0.9020
$Exercisable\ options_t / total\ pay_t$ *2000	-0.0359	0.0001	2.4789	0.0001
$Exercisable\ options_t / firm\ equity_t$ *2000	0.0100	0.0134	-0.2509	0.3916
$Unexercisable\ options_t / total\ pay_t$ *2000	-0.0506	0.0001	3.9275	0.0001
$Unexercisable\ options_t / firm\ equity_t$ *2000	0.0254	0.0001	-0.6193	0.1748
$Per\ capita\ option\ grant_t$			0.0000	<.0001
Per capita option grant$_t$ *2000			0.0001	0.0004
$ln(Sales_t)$	0.1968	<.0001		
Industry turnover	-0.2114	<.0001		
ROA_t			1.4033	<.0001
ROA_{t-1}			-1.0737	<.0001
Volatility			-10.8889	0.0063
$Dividend\ payout_t$			-0.01536	0.0013
$Debt\ to\ assets_t$			-18.8151	<.0001
Sales growth			0.1453	<.0001
	n = 11816, system weighted R^2 = 0.6146			

Panel B: Differences in coefficients between 1993–1999 and 2000

	***Compensation* $ln(Total\ pay_t)$**		***Performance* $Return_t$**	
	Coefficient	**p-value**	**Coefficient**	**p-value**
$ln(Total\ pay)_t$ *2000			0.5592	0.0825
$Return_t$ *2000	0.0015	0.0997		
$Stock\ held_t / total\ pay_t$ *2000	-0.0004	0.5453	-0.0144	0.7658
$Stock\ held_t / firm\ equity_t$ *2000	0.0007	0.2855	0.0060	0.9026
$Exercisable\ options_t / total\ pay_t$ *2000	-0.0063	0.3888	1.1885	0.0228
$Exercisable\ options_t / firm\ equity_t$ *2000	-0.0014	0.7001	-0.0814	0.7555
$Unexercisable\ options_t / total\ pay_t$ *2000	0.0103	0.3697	0.3451	0.6790
$Unexercisable\ options_t / firm\ equity_t$ *2000	-0.0035	0.5327	-0.3996	0.3237
Per capita option grant$_t$ *2000			0.0001	0.0218

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