

WORKING PAPER SERIES

When Stock Options Fail to Motivate: Attribution and Context Effects on Stock Price Expectancy

Benjamin B. Dunford
John W. Boudreau
Wendy R. Boswell

Working Paper 02 - 04



When Stock Options Fail to Motivate: Attribution and Context Effects on Stock Price Expectancy

Benjamin B. Dunford

School of Industrial and Labor Relations
Cornell University
393 Ives hall
Ithaca, New York 14853-3901
bd33@cornell.edu
Tel: 607-255-7622
Fax: 607-255-1836

John W. Boudreau

Center for Advanced Human Resource Studies
Cornell University
393 Ives Hall
Ithaca, New York 14853-3901
jwb6@cornell.edu
Tel: 607-255-7785
Fax: 607-255-1836

Wendy R. Boswell

Mays College & Graduate School of Management
Texas A&M University
College Station, TX 77843-4221
wboswell@tamu.edu
Telephone: (979) 845-4045
Fax: (979) 845-9641

Abstract

This study draws on attribution theory and literature from compensation and strategy to investigate executives' perceptions about their influence over the firm's stock price. We define stock price expectancy as the extent to which executives feel that they can influence the firm's stock price. Results from of a survey of 435 U.S. executives suggest that stock price expectancy is related to both attributional and contextual antecedents. Based on these findings we discuss implications for the extension of expectancy theory and the design and administration of incentive systems.

Key words: STOCK OPTIONS, MOTIVATION AND EXPECTANCY THEORY.

Introduction

In a recent review, Heneman, Ledford and Gresham (2000) observe that the state of the compensation literature is strikingly similar to that of the 1960s when Opsahl and Dunnette (1966) called for research to catch up with practice. Heneman and colleagues note that: "Pay for performance is increasingly based on collective (team, unit and corporate) rather than individual performance...The ratio of variable performance based pay to base pay is increasing...These new approaches to compensation are in need of research that helps us understand their effectiveness with key design variables that explain success and failure. As in 1966, the practice of compensation has far outrun the research literature" (2000: 196).

One of the ways in which compensation practice has outrun research is the widespread use of stock option grants which are often used as a motivational tool (Brenner, 1995). Huddart observes that "a common rationale for granting an option to an employee is to motivate the employee to take actions to increase the stock price" (Huddart, 1994: 211). A common problem however, is that such incentives are often designed and administered in ways that seriously undermine their capacity to motivate employees (Bannister & Gentry, 1999; Brenner, 1995; Heneman, 1998; Milkovich & Milkovich, 1992; Tully, 2000).

Expectancy theories of motivation (e.g., Vroom, 1964) state that to motivate employees, incentive systems must establish a strong relationship between employee effort and performance (Expectancy), clearly link performance to rewards (Instrumentality), and make rewards large enough to justify the effort required to earn them (Valence). Arguably, a chief reason why incentive systems repeatedly fail to motivate employees is because the accomplishment of the firm's desired performance goals *lies beyond the control of the individual*. Nearly a decade ago, Milkovich and Milkovich (1992) observed that: "An often noted problem with profit sharing and bonus plans as a motivational tool is the 'line of sight' argument. Very few employees see a direct connection between their behaviors and their firm's profits. Forces inside the organization (e.g., decisions by executives to relocate facilities or revamp

product lines) as well as outside (e.g., changes in exchange and interest rates) weaken the link between individual work behavior and corporate profits, particularly for lower level employees” (p. 59). In other words, the failure of incentive systems to motivate employees is often attributed to a lack of expectancy. This criticism of incentive systems certainly applies to stock options, which measure executives’ (and others’) performance using the stock price of the firm. Indeed, critics have voiced concerns about the use of stock options as a motivational tool on the grounds that stock price is a performance criterion over which even high level executives have limited control: “As a form of compensation, stock options are fundamentally flawed and always have been, precisely because their value is largely a matter of luck...The fundamental weakness is that most of the rise and fall in their value comes not from good or bad management but from the normal ebb and flow of the stock market” (Tully, 2000: 157-158).

The use of stock options as a motivational tool fits Heneman and colleagues’ (2000) description of a compensation practice that has far outrun the research. We know of no study that has empirically investigated stock option holders’ perceptions of control over the firm’s stock price, nor have we encountered any research on the broader issue of how employees perceive stock options from a motivational standpoint. Given that options are so commonly used to motivate employee behavior (Brenner, 1995; Tully, 2000), this lack of research represents an important gap. As a first step towards filling this gap, the purpose of this paper will be to investigate the antecedents of *stock price expectancy* which we define as the degree to which stock option holders (executives in our sample) perceive that they can influence the firm’s stock price. We feel that a scholarly investigation of stock price expectancy could substantially inform the effectiveness of stock options as a motivational tool and address calls for compensation research to guide practice (Heneman, et al., 2000; Opsahl & Dunnette, 1966).

First, we will briefly review the applied psychological literature for research on antecedents of expectancy cognitions and argue that these antecedents seem to be insufficient for explaining stock option holders’ perceptions of control over the firm’s stock price. Second,

based on these limitations we will review scholarly theoretical and applied (practitioner) literature which may inform our understanding of stock price expectancy. From these sources we will offer hypotheses and test them with a sample of US executives. Finally, we will discuss the implications of the results for both the future development of motivation theory and the practical administration and design of stock options as well as other ownership-based incentives.

Review of Motivation Literature: Determinants of Expectancy Cognitions

The applied psychological literature has empirically examined several determinants of expectancy cognitions, primarily individual characteristics and some organizational factors (Dellva, Wacker, & Teas, 1985). Among individual characteristics, substantial attention has been paid to self esteem (Lawler, 1970), self efficacy (Bagozzi, 1978), employee tenure (Walker, Churchill, & Ford, 1977), and locus of control (Broedling, 1975). Empirical evidence suggests that self efficacy, global self esteem, job tenure, and internal locus of control are positively related to expectancy cognitions (Dellva, et al., 1985). A second body of studies has investigated organizational factors such as leadership style and organizational communication mechanisms as determinants of expectancy. In this vein, initiation of structure and consideration (Tyagi, 1982), participative management (Sims, Szilagy & McKenney, 1976) and performance feedback (Teas, 1981) have been shown to be positively related to expectancy cognitions.

It is noteworthy that in the applied psychological literature, expectancy cognitions are typically studied in settings where performance is measured at the individual level (e.g., Dellva et al., 1985; Porter & Lawler, 1968; Teas, 1981; 1982). Under these circumstances, the antecedents previously researched in applied psychology are likely to explain much of the variance in expectancy cognitions. However, in settings where performance is measured at higher levels of aggregation (e.g., stock price) expectancy cognitions are likely to involve much more than the previously studied antecedents. Stock prices vary as a result of a host of

factors—fluctuations in the economy, politics, consumer confidence, etc (Tully, 2000). It seems reasonable to assume that performance measured at the market level is much more complex than performance measured at the individual level. As useful as the previously studied antecedents have been in predicting individual-level performance expectancies, it seems logical that other factors may predict stock-price expectancy. In the current study we propose that literature from attribution theory, the applied compensation literature and strategy may be particularly relevant to expectancy cognitions.

Positive Outcomes and Causal Attributions: The Self Serving Bias.

Among all of the biases in social cognition, the self-serving bias is regarded as one of the most pervasive (Hewstone, 1989: 59). This bias refers to the tendency for people to attribute successful outcomes to internal factors such as ability and failures to external factors such as chance or task difficulty. The self-serving attributional bias has been detected in numerous studies, and enjoys a large body of supporting empirical research (Zuckerman, 1979). For example, a study by Greenberg, Pyszczynski, and Solomon (1982) found evidence of the self-serving bias among students. Students who were led to believe that they performed poorly on a cognitive ability test were more likely to indicate that their performance was attributed to their teachers. Conversely, students who were led to believe that they had performed well were more likely to attribute their success to their own ability and effort. The self-serving bias has been found to be robust across tasks, settings and even cultures, though less prominent in eastern cultures (Bradley, 1978; Fletcher & Ward, 1988; Zuckerman, 1979).

Research from attribution theory strongly indicates that the direction of outcomes has a great impact on causal perceptions. Individuals tend to make attributions about causal events that favor or protect their ego; research clearly demonstrates that individuals have a tendency to take credit for successes and blame external forces for failures on salient outcomes. This robust bias may be highly informative to the notion of stock price expectancy. The attributions literature suggests that individuals' perceptions about their influence over firm outcomes will be

strongly affected by whether those outcomes are positive or negative. Thus, we propose that executives are likely to incorporate a self-serving bias when thinking about their influence over the firm's stock price. Following attribution theory we suggest that stock price expectancy (i.e., perceived influence over stock price) will be influenced by the performance of an executive's portfolio of stock options. More specifically, we expect executives whose portfolio of stock options is performing poorly (i.e., a large percentage of options are underwater¹) will report lower levels of stock price expectancy than executives whose portfolio of stock options is performing relatively well (i.e., a smaller percentage of options are underwater).

A related justification for hypothesizing a negative relationship between stock price expectancy and the percentage of stock options underwater is that executives likely envision their influence on the stock price to have a positive effect. So, an executive's general belief about stock price appreciation may create an upper limit on the level of personal influence they perceive. If executives believe that the stock price will appreciate very little, there is little upward movement for them to influence, and vice versa. We would expect a positive relationship between stock price expectancy and perceived stock price appreciation. This also suggests that the effect of underwater stock options on stock price expectancy may be clearer after controlling for variability in executives' general perceptions about future stock price appreciation.

Hypothesis 1: Controlling for perceived stock price appreciation, the percentage of stock options that are underwater will be negatively related to stock price expectancy, such that employees with a higher percentage of under water stock options will report a lower degree of stock price expectancy than employees with a lower percentage of underwater options.

¹ "Underwater" stock options are those in which the exercise price exceeds the current market price, rendering the options virtually worthless. Options are referred to as "in the money" when their exercise price is below the market price.

Insights on Stock Price Expectancy from Compensation and Strategy

In addition to attribution theory, literature from the areas of compensation and strategy may also inform our understanding of stock price expectancy.

Employee Level The compensation literature has identified employee level as a critical variable to consider in the design of effective incentive systems. For example, Bannister and Gentry (1999) observe that employees at different levels of the firm can only influence certain kinds of firm outcomes. Stock options are problematic in that all option holders share the same performance criterion—the stock price—regardless of their position in the firm’s hierarchy. Huddart (1994) observes that “Where the employer grants stock options to low and mid-level employees it seems likely that the effect of any individual employee’s action or exercise strategy on stock price is negligible. Accordingly the incentive effect of these options for those employees should be small” (p.212). In most firms, lower level employees have much less input on strategic decisions that could potentially effect outcomes such as firm performance and the firm's stock price, thus suggesting a negative relationship between stock price expectancy and organizational level.

We propose that even among high level executives there is variance in the degree to which they feel they can influence the firm’s stock price. Moreover, we know of no research that has looked that the relationship between stock price expectancy and organizational level, for executives or any other employees.

Hypothesis 2: Organizational level will positively related to stock price expectancy such that the higher the organizational level, the greater the stock price expectancy.

Board of Director Relationships

The purpose of boards of directors is to serve as a monitoring device for the management of organizations (Barney, 1996). In most corporations today, CEOs and other high level executives report to a board of directors which monitors and ratifies their decisions regarding the firm’s strategic objectives (Fama & Jensen, 1983). Research suggests that

executive boards have become increasingly active in monitoring firm performance and taking a more active role in managing the firm's operations (Kosnik, 1990; Kener & Johnson, 1990). Barney (1996) argued that boards of directors can actually be counter productive by over supervising executives: "If firms go too far in actively managing a firm on a day to day basis, the efficiency advantages of the separation of ownership and control begin to break down."

This research from the strategy literature highlights boards of directors as a critical contextual factor in understanding stock price expectancy. Intuitively, executives who feel they have a supportive board should be more likely to perceive that they individually have an influence on the value of stock options because they are less constrained by the board's wishes. Executives who have poor relations with their board may be less likely to feel they can influence the firm's stock price.

Hypothesis 3: Executive board support will be positively related to stock price expectancy, such that executives who feel more supported by their board will report higher levels of stock price expectancy than executives who feel constrained by their board of directors.

Firm Size

An important variable likely to be related to expectancy perceptions is firm size. In an interview with the author, a line manager at a large, diversified telecommunications corporation² observed that "especially in large companies, people don't see a link between their performance and the stock price." In larger companies, it is possible that a greater number of factors influence the stock price as opposed to smaller firms. This may be due to greater diversification or competition in a wider range of product markets. For example, in a large diversified firm such as GE, one product division may be doing quite well, but have little effect on the performance of the company as a whole or little impact on the stock price. On the other

² This line manager's firm had recently been acquired by the telecommunications giant. In an interview with the author, he described how perceptions of stock price expectancy had much greater among employees prior to the acquisition, when the firm was independent and dramatically smaller. Personal communication (1999) with the author.

hand, it may be more feasible (or at least perceived feasible) to influence stock price in a smaller company.

Hypothesis 4. Firm size measured by the firm's yearly revenue will be negatively related to stock price expectancy.

Stock Price Volatility

Stock price volatility may also relate to one's perceptions of stock price influence. Naturally, not all firms experience the same amount of volatility over time, and this is likely to influence employee perceptions of stock price expectancy. Tully (2000) notes for example that in the recent past, technology stocks have been much more volatile than traditional manufacturing or "old economy" stocks "because they are much more hitched to ideas than to assets or earnings, and where investors are constantly recalculating these ideas. Even established techs like Yahoo or Intel vary more dramatically in the market than a GE or a Ford" (Tully, 2000). Previous research has demonstrated that too much volatility can have negative influence on performance (Bloom & Milkovich, 1998). In a sense, stock price volatility may be a negative outcome in and of itself. Consider for example, a stock option that is in the money, but whose value fluctuates dramatically. Even though the stock option may be in the money, the fact that it is volatile may make it perceptually similar to a stock option that is underwater. This suggest that like stock option performance (Hypothesis 1), the volatility of a firm's stock price may similarly associate with an employee's perceived influence over the firm's stock price.

Thus,

Hypothesis 5. Perceived stock volatility will be negatively related to stock price expectancy.

Tenure

Finally, as noted above, employee tenure has been linked to expectancy cognitions in previous applied psychological research (Dellva, et al, 1985). Presumably, employees who have greater organizational and job tenure may be more inclined to feel as though they have an

influence over the value of their stock options. Thus, we anticipate that both organization and job tenure will be positively related to stock price expectancy.

Hypothesis 6a. Organizational tenure will be positively related to stock price expectancy.

Hypothesis 6b. Job tenure will be positively related to stock price expectancy

Methods

Procedure and Subjects

Surveys were sent to 11,968 high-level managers contained in the database of a US based executive search firm. In addition to the survey, information was obtained directly from the search firm's database. It should be noted that this search firm's clients are the companies searching for employees. The search firm does not accept resumes or applications from managers searching for jobs; rather, it identifies potential candidates in response to client needs by examining publicly available information (e.g., proxy material, professional association mailing lists). Thus there is no reason to expect that participants of this study have higher turnover intent or are searching more actively than the general population of U.S. managers.

The surveys were prepared and mailed by the search firm. Surveys were encoded so that those returned could be matched with information contained in the search firm's database. Participants were instructed to return the survey (business reply envelope included) directly to the researchers, under assurances of strict confidentiality. A total of 1,601 subjects responded to the survey (13.38% response rate). Respondents were primarily married (90%) and male (89%), and had been in their jobs an average of 2.7 years and in their present organization 5.5 years. The average respondent had a yearly total compensation (base plus bonus) of \$236,188, and was two levels below the CEO. Due to the moderate response rate, we assessed whether respondents were representative of non-respondents by comparing the two groups on information contained in the search firm's database (e.g., salary, demographics, company size).

Only age revealed a statistically significant difference (respondent mean=49.15, non-respondent mean=50.00) and it was small. For the analyses of the current study, usable data were available for 435 executives in the sample. A large percentage (55%) of the respondents were excluded from these analyses because they are employed in private companies.

Measures

Dependent Variable

Stock Price Expectancy. Stock price expectancy was measured with a 4 item Likert scale based self-report measure (scale ranging from 1= strongly disagree to 6=strongly disagree). Sample items include, "I can personally influence the value of my stock options" and "My personal performance influences my company's stock price." Interitem reliability was acceptable, $\alpha=.85$. The mean response on stock price expectancy was 3.84 (with a standard deviation of 1.34), suggesting that the average executive in this sample felt a marginal degree of influence over the value of his/her stock options.

Independent Variables

Perceived Stock Price Appreciation. Perceived Stock price appreciation was measured with a single item. Participants rated on a scale of 1 (very large depreciation in price) to 3 (price will not significantly change) to 5 (very large appreciation in price) on the following question: "Which of the following best describes your outlook toward your company's share price for the upcoming year?" The mean response was 3.68 (with a standard deviation of .85), suggesting that on average, executives felt that the stock price would increase slightly over the next year.

Percentage of Stock Options Underwater. The percentage of underwater stock options was assessed by asking respondents how many stock options they had from their present company and how many of those options were currently underwater (i.e., meaning that at the date of the survey the strike price exceeded the market price for a given option share). The percentage of underwater options was then calculated by dividing the total number of underwater options by the total number of options held. At the time of the survey (administered

in the fall of 2000), 25% of respondents had all of their options underwater and nearly 46% had all of their options in the money. The mean percentage of underwater options was 37%, yet the modal percentage was 0%.

Organizational Level. Organizational level was measured with a single item. Respondents indicated how many levels below the CEO their position was at the time of the survey. The mean organizational level was 1.94 (Standard deviation was 1.45), suggesting that this sample was comprised of mostly upper level executives. For the sake of clarity, we reverse coded the data (by multiplying the raw organizational level times negative one), such that a higher number would reflect a higher organizational level.

Executive Board Relations. Executive board relations was measured with three items designed to assess the relationship between the executive and the board of directors. Items were based on a Likert scale format, where respondents indicated on a scale of 1 (strongly disagree) to 6 (strongly agree) the extent to which they agreed with items such as “This executive board or council understands my problems and needs” and “This executive board or council would ‘bail me out’ at its expense when I really need it.” Interitem reliability was acceptable, $\alpha=.81$. The mean response was 3.57 (with a standard deviation of 1.15) suggesting that on average executives felt that their boards were supportive.

Perceived Stock Price Volatility. Perceived stock price volatility was measured with a single item. On a scale of 1 (very volatile) to 5 (very stable) subjects were asked to rate the overall volatility of their company’s share price. The mean volatility rating was 2.58 (with a standard deviation of 1.23) suggesting that on average executives perceived a moderate degree of volatility in their share price.

Firm Size. Firm size was measured with the log of firm revenue obtained from the search firm’s archival database. The mean firm revenue from the sample was \$428 million (median = \$450 million) suggesting that the sample consists primarily of large firms.

Tenure. Two measures of tenure were assessed using survey items. Organizational tenure was measured by asking participants to indicate how many years they had worked for their present employer. Job tenure was measured by asking participants to indicate how many years they had worked in their present position. Mean organizational and job tenure were 5.52 and 2.69 respectively indicating a modest amount of tenure.

Results

Table 1 reports the means, standard deviations and interrelationships between the dependent, independent and control variables. Hypotheses 1-6 were tested using standard OLS regression (see Table 2). Stock price expectancy was regressed on to the independent variables corresponding to the hypotheses (see Table 2).

**Table 1
Correlation Matrix**

<i>Variable</i>	<i>Mean</i>	<i>SD</i>	<i>Stock Option Expectancy</i>	<i>Perceived Stock Price Appreciation</i>	<i>Percentage of options Underwater</i>	<i>Level</i>	<i>Executive Board Relations</i>	<i>Revenue</i>	<i>Org Tenure</i>	<i>Job Tenure</i>	<i>Stock Price Volatility</i>
Stock Option Expectancy	3.86	1.34	.85								
Perceived Stock Price Appreciation	3.68	.854	.187**	--							
Percentage of options Underwater	.28	.55	-.135**	-.162**	--						
Level	1.94	1.45	-.528**	-.035	.008	--					
Executive Board Relations	3.57	1.14	.458**	.189**	-.096*	-.311**	.81				
Log of Revenue	20.26	2.59	-.194**	.001	.016	.167**	-.079	--			
Org Tenure	5.52	6.30	-.106**	-.061	.023	.153	-.024	.049	--		
Job Tenure	2.69	2.99	-.002	-.045	.000	-.111**	.038	-.035	.382**	--	
Perceived Stock Price Volatility	2.58	1.23	.000	.063	-.193	.075*	.077*	.022	.002	.016	--

Note: **p<.01, *p<.05, Where appropriate, inter-item correlations (alpha) are reported in bold on the diagonal.

Table 2
OLS Regression Analysis

<i>Step</i>	<i>Variable</i>	β	<i>t</i>	<i>p</i>
<u>DV</u> : Stock Price Expectancy				
	Perceived Stock Price Appreciation	.157	2.585	.010
	% of Stock Options Underwater	-.220	-2.309	.021
	Organizational Level	.393	10.164	.000
	Executive Board Support	.347	7.320	.000
	Log of Firm Revenue	-.027	-1.338	.182
	Perceived Stock Price Volatility	-.016	-.401	.688
	Organizational Tenure	.000	.101	.920
	Job Tenure	-.027	-1.482	.182

Note: N=435, R²=.40, Adjusted R²=.39

The model shows moderate support for Hypothesis 1 and strong support for Hypotheses 2 and 3. The model shows that after controlling for the perceived stock price appreciation³, stock price expectancy is negatively related to the percentage of stock options underwater ($\beta = -220$, $p < .05$), lending support to the prediction that outcomes influence expectancy cognitions in a self-serving direction.

In addition, the model demonstrates that organizational level ($\beta = .393$, $p < .001$) and executive board relations ($\beta = .347$, $p < .001$) are strongly related to stock price expectancy both in the direction predicted (Hypotheses 2 & 3). Specifically, employees at higher organizational levels and greater board support perceived greater influence over their stock price. In fact these effects are the most robust of the model.

Finally, Hypotheses 4-6 were not supported. Firm revenue (our measure of firm size), perceived stock price volatility, and tenure (both organizational and job) were not significantly related to stock price expectancy.

Discussion

This study has sought to fill an important gap in our understanding of expectancy cognitions by testing attributional and contextual determinants of stock price expectancy. Results from the present study uncover some interesting initial insights and suggest areas for future research. First, these results provide support that outcomes affect expectancy cognitions. After controlling for perceived stock price appreciation, executives whose portfolio of stock options was “performing poorly” (i.e., where a large percentage were under water) reported lower levels of stock price expectancy than executives whose portfolio of options was performing relatively better (i.e., where a smaller percentage of options were underwater). This relationship, though moderate in magnitude appears consistent with the self-serving bias found in the attribution literature (Fiske & Taylor, 1991). These results appear to be consistent with

³As expected, perceived stock price appreciation was significantly related to stock price expectancy ($\beta = .157$, $p < .05$).

the interpretation that executives attribute less influence over negative outcomes and more influence over positive outcomes. Causal attributions and ego defense mechanisms may play a prominent role in employees' perceptions about how their effort relates to performance, particularly when performance is measured at high levels of aggregation (e.g., at the market level). Motivation theory may be enhanced by greater attention to attributional processes in the development of expectancy cognitions.

Future research is necessary before conclusive statements can be made about the self-serving bias in expectancy cognitions toward stock options or any other type of incentive system. However, if the self-serving bias does influence expectancy cognitions, it would raise interesting implications for the design and administration of incentives. Traditional logic might suggest that when options are underwater, it would be a strong motivator to work to raise the stock price. Yet our results suggest that employees may be *less* motivated by underwater options than they would be in the money options. More specifically, if employees attribute less influence over the value of options (less expectancy) when the options are performing poorly, then the overall motivational force will be low (and vice versa).

The strategic compensation and literature has long suggested that pay should be made contingent on performance criteria that can be influenced by employees (Gerhart, 2000; Milkovich and Newman, 1993). This study addressed variables that the strategic compensation literature suggest are likely to be important to stock price expectancy. First, we hypothesized that stock price expectancy would be higher for executives at higher levels of the firm's organizational hierarchy. Our results strongly supported this hypothesis and lend credence to the argument that employees at low levels do not feel as though they have an impact on high level outcomes such as the stock price and the value of stock options (Huddart, 1992; Milkovich & Milkovich, 1992; Tully, 2000). The strong relationship between organizational level and stock price expectancy provides further support for concerns about the motivational impact of stock options on lower level employees.

Finally, stock price expectancy was strongly related to executives' relationships with their board of directors. Executives highly constrained by their boards may be less motivated by stock options because of low expectancy. In general, these findings suggest that expectancy cognitions are complex—involving both attributional and contextual elements that play an important role in their development.

In summary, our findings support calls in the applied compensation literature for incentives to be tied to performance criteria that are within the influence of individual employees (Bannister & Gentry, 1999; Lawler, 1987; Milkovich & Milkovich, 1992). Our findings also appear to be consistent with arguments that broad based stock option grants are unlikely to motivate lower level employees (Tully, 2000).

Limitations and Future Research

First, this study looked at only a few of perhaps innumerable contextual determinants of stock price expectancy. For example, an executive's relationship with the board of directors represents just one of a host of control or governance related variables that could impact expectancy cognitions. Environmental variables such as legislation, consumer spending habits, and political forces are all contextual variables that could be studied in the future.

A second important limitation of the study is its between subjects design. A more powerful test of the self-serving bias could be accomplished with a within subjects design using longitudinal data. It would be interesting, for example, to examine how executive's expectancy cognitions change as the value of their stock options fluctuates. However, one strength of this study is our use of an employee sample to investigate theories typically explored in laboratory settings.

Conclusion

In conclusion, this study represents a step toward addressing Heneman et al's (2000) call for compensation research to catch up with compensation practice. In this paper we have noted that stock options represent an interesting platform by which expectancy cognitions can be studied. Initial evidence suggests that stock price expectancy cognitions may reflect a self-serving bias, and further are strongly linked to contextual variables, underscoring the importance of linking rewards to performance criteria that are within the reach of employees.

References

- Bagozzi, R. P. (1978). Sales force performance and satisfaction as a function of individual difference, interpersonal, and situational factors. Journal of Marketing Research (4): 517-531.
- Bannister, R. J., & Gentry, W. (1999). Aligning executive pay and company performance. In H.R. Risher (Ed.) Aligning pay and results: Compensation strategies that work from the boardroom to the shop floor. (pp. 43-79). New York: Amacom.
- Barney, J. B. (1996) Gaining and sustaining competitive advantage. Reading, Mass: Addison-Wesley.
- Bradley, G. W. (1978). Self serving biases in the attribution process: A reexamination of the fact or fiction question. Journal of Personality and Social Psychology, 36, 56-71.
- Brenner, L. (July, 1995). The myth of incentive pay. CFO, 11 (7), 26-32.
- Broedling, L. A. (1975). The relationship of internal external control to work motivation and performance in an expectancy model. Journal of Applied Psychology, 60 (1): 65-72.
- Burwaza, J. (July, 2000). Two firms' broad based stock option programs show diverse challenges of this employee ownership tool. Employee Benefit Plan Review, 38-41.
- Dellva, W.L., Wacker, J.G., & Teas, R. K. (1985). Motivational antecedents: a test of predictor models. Psychological Reports 56, 447-461.
- Fama, E. F., & Jensen, M. C. (1983). Separation of ownership and control. Journal of Law and Economics, 26, 301-325.
- Fiske, S. T., & Taylor, S. E. (1991). Social cognition. New York: McGraw Hill.
- Fletcher, G. J. O., & Ward, C. (1988). Attribution theory and processes: A cross cultural perspective. IN M. H. Bond (Ed.) The cross cultural challenge to social psychology (pp.230-244). Newbury Park, CA: Sage Publications.
- Gerhart, B. (2000). Compensation strategy and organizational performance. In S.L. Rynes, & B. Gerhart (Eds.) Compensation in Organizations (pp 151-194). San Francisco: Jossey-Bass.
- Greenberg, J., Pyszczynski, T., & Solomon. (1982). The Self-Serving Attribution Bias: Beyond Self-Presentation. Journal of Experimental Social Psychology, 18, 56-67.
- Hays, S. (February, 1999). "Ownership cultures" create unity. Workforce, 60-64.
- Heneman, H. G., III. (1998). Assessment of the motivational reactions of teachers to a school-based performance award program. Journal of Personnel Evaluation in Education, 12(1), 43-59.
- Heneman, R. L., Ledford, G. E., Gresham, M. T. (2000). The changing nature of work and its effects on compensation and delivery. In S.L. Rynes, & B. Gerhart (Eds.) Compensation in Organizations (pp 195-240). San Francisco: Jossey-Bass.
- Hewstone, M. (1989). Causal attribution: From cognitive processes to collective beliefs. Cambridge, MA: Basil Blackwell.
- Huddart, S. (1994). Employee Stock Options. Journal of Accounting and Economics, 18, 207-231.
- Jensen, M. C., & Zimmerman, J. L. (1985). Managerial compensation and the managerial labor market. Journal of Accounting and Economics, April, 3-9.
- Kesner, I. F., & Johnson, R. B. (1990). An investigation of the relationship between board composition and stockholder suits. Strategic Management Journal, 11, 327-336.
- Kosnik, R. D. (1990). Effects of board demography and directors' incentives on corporate greenmail decisions. Academy of Management Journal, 33, 129-150.
- Lawler, E. E. (1970). Job attitudes and employee motivation—Theory research and practice. Personnel Psychology, 23 (2): 223.
- Lawler, E. E. (1987). The design of effective reward systems. In J. W. Lorsch (Ed.) Handbook of Organizational Behavior (pp. 255-271). Englewood Cliffs, NJ: Prentice Hall.

- Milkovich, G. T., & Milkovich, C. (November-December, 1992). Strengthening the pay-performance relationship: The research. Compensation and Benefits Review, 53-62.
- Milkovich, G. T., & Newman, J. (1993). Compensation (4th Edition). Homewood, Illinois: Irwin.
- Opsahl, R., & Dunnette, M. D. (1966). The role of financial compensation in Industrial Motivation. Psychological Bulletin, 66, (2), 94-118.
- Porter, L. W., & Lawler, E. E. (1968). Managerial attitudes and performance. Homewood, Illinois: Richard D. Irwin, Inc.
- Sims, H.P., Szilagyi, A. D., & McKemey, D. R., (1976). Antecedents of work related expectancies. Academy of Management Journal, 19 (4): 547-559.
- Teas, R. K. (1981). An empirical test of models of sales persons job expectancy and instrumentality perceptions. Journal of Marketing Research, 18 (2): 209-226.
- Teas, R. K. (1982). Performance reward instrumentalities and the motivation of retail sales people. Journal of Retailing, 58 (3): 4-26.
- Tyagi, P. K. (1982). Perceived organizational climate and the process of salesperson motivation. Journal of Marketing Research, 19 (2): 240-254.
- Tully, S. (June 26, 2000). The party's over. Fortune, 156-160.
- Vroom, V. (1964). Work and motivation. New York: Wiley.
- Walker, O. C., Churchill, G. A., & Ford, N. M. (1977). Motivation and performance in industrial selling: Present knowledge and needed research. Journal of Marketing Research, 14 (2): 156-168.
- Zuckerman, M. (1979). Attribution of success and failure revisited, or: The motivational bias is alive and well in attribution theory. Journal of Personality, 47, 245-287.
- Zullow, H. M., & Seligman, M. E. P. (1990). Pessimistic ruination predicts electoral defeat of presidential candidates. Psychological Inquiry, 1, 52-61.