



WHEN DO HIGH-LEVEL MANAGERS BELIEVE THEY CAN INFLUENCE THE STOCK PRICE? ANTECEDENTS OF STOCK PRICE EXPECTANCY COGNITIONS

BENJAMIN B. DUNFORD, WENDY R. BOSWELL, AND JOHN W. BOUDREAU

Stock based rewards are often used to motivate high-level managers to take actions to increase the stock price of the firm. However, numerous constraints may weaken the perceived link between individual effort and stock price appreciation for many recipients. This study introduces a new construct, stock price expectancy, which we define as individuals' perceptions of influence over their firm's stock price. We examined its antecedents in a sample of 349 high-level U.S. managers and found that employment at corporate headquarters, firm size, hierarchical level, and contact with investment analysts predicted stock price expectancy perceptions. © 2010 Wiley Periodicals, Inc.

Keywords: motivation, incentive pay, employee ownership, executive compensation

For more than 30 years, a multidisciplinary body of research has examined how to optimize managerial compensation packages to maximize shareholder value (Bryan, Hwang, & Lilien, 2000; Larcker, 1983; Rajgopal & Shevlin, 2002; Sanders, 2001; Wu, 2007). Much of the initial research on this topic drew on the prescriptions of agency theory (Eisenhardt, 1989; Jensen & Meckling, 1976; Jensen & Murphy, 1990; Marcus, 1982), which argues that when monitoring is difficult, stock based rewards are an efficient way to motivate managers to take actions that benefit share-

holders. Hall and Murphy (2002) noted, for example, that some scholars presume that stock options motivate “by providing a direct link between company performance and executive wealth, thereby providing incentives for executives to take actions that increase share prices” (p. 4). This agency based reasoning assumes that managers who make wise strategic decisions (e.g., on investments, research and development, mergers, acquisitions, and divestitures) have a direct impact on performance and share prices.

Although stock based rewards are considered vital to principal-agent goal alignment,

Correspondence to: Benjamin B. Dunford, Krannert School of Management, Purdue University, 403 West State Street, West Lafayette, IN 47907-2056, Phone: 765-496-7877, Fax: 765-496-1778, E-mail: bdunford@purdue.edu.

Human Resource Management, January/February 2010, Vol. 49, No. 1, Pp. 23–43

© 2010 Wiley Periodicals, Inc.

Published online in Wiley InterScience (www.interscience.wiley.com).

DOI: 10.1002/hrm.20332



agency theorists have also recognized that certain factors influence the appropriateness of performance-contingent pay. One critical factor is the degree of control that agents have over performance outcomes (Eisenhardt, 1989; Holmstrom, 1979). Some have observed that performance pay motivates agents to engage in behavior that benefits shareholders only to the extent that they control performance outcomes. Miller, Wiseman, and Gomez-Mejia (2002) noted that if managers with a high degree of pay at risk

The recognition of moral hazards in stock based rewards has resulted in numerous changes to U.S. accounting policies¹ and how executive pay is administered. Yet stock based rewards remain a fixture in managerial compensation.

cannot adequately control performance outcomes, then they may “react by withholding effort or taking evasive actions designed to reduce their risk exposure” (p. 746), which could be detrimental to shareholders. Indeed, risk plays a central role in shaping managerial behavior in response to stock based rewards. Wiseman and Gomez-Mejia’s (1988) behavioral agency model postulated that executives can be either risk averse or risk seeking in their decision making, depending on how much risk they can bear. Consistently with the behavioral agency model, Sanders and Hambrick (2007) found that top executives with heavily loaded stock option (more risky) compensation packages made more risky investment choices but also generated more big losses than they did big gains.

Along these lines, other empirical studies have exposed numerous perverse incentives in stock based rewards that lead to adverse consequences for shareholders (Bebchuk & Fried, 2004). Cheng and Warfield (2005) showed that managers with higher percentages of equity were more likely to engage in unlawful and opportunistic earnings manipulation practices. Similarly, Zhang, Bartol, Smith, Pfarrer, and Khanin (2008) showed that earnings manipulation practices were more likely when managers’ stock option portfolios were out-of-the-money.

The recognition of moral hazards in stock based rewards has resulted in numerous

changes to U.S. accounting policies¹ and how executive pay is administered. Yet stock based rewards remain a fixture in managerial compensation. Indeed, efforts to increase incentive alignment² and employee retention (Ittner, Lambert, & Larcker, 2003), combined with changes in U.S. tax laws,³ have led to increased use of stock based rewards in managerial compensation. During the 1980s, stock based rewards composed one fifth of average CEO pay but increased to one third by the mid-1990s (Hall & Liebman, 1998; Murphy, 1999). At the millennium, stock options (i.e., the right to purchase shares in a company at a certain “exercise” price, which is typically the fair market value of the stock on the grant date) composed the largest single component of top managers’ total compensation (Hall & Murphy, 2002). Similarly, nearly half of all Fortune 100 companies offered restricted stock shares (i.e., granting stock at a reduced price with rules on when they can be sold) in 2004, up from 29% in 2002 (Hewitt Associates, 2004). In 2007, long-term incentives based primarily on company stock composed nearly two thirds of CEOs’ total compensation in the United States (Mercer, 2008). The National Center for Employee Ownership (2008) estimated that stock options are granted to 9 million employees in the United States. Other scholars have suggested that high-level managers in subunits of the corporation commonly receive stock based rewards in conjunction with bonuses based on the performance of their business unit (Ericson, 2004; Griffing, 2004; “Stock Options from Parent,” 2002). Thus, a deeper understanding of the motivational effects of stock options remains an important question.

Despite recognizing that managerial control over performance outcomes plays a vital role in how managers respond to stock based rewards (Eisenhardt, 1989; Holmstrom, 1979; Miller et al., 2002), relatively little is known about managers’ *perceptions* of control or the factors that explain variability in their perceived control over performance outcomes such as the firm’s stock price. Yet, expectancy theories from applied psychology (Lawler, 1971; Vroom, 1964) have predicted that

motivation is greatly influenced by individuals' perceptions of the relationship between their effort and performance.⁴ If individuals perceive a weak link between their effort and performance, they are likely to have little motivation to complete a task. Empirical research in psychology bears out these predictions, showing that perceptions of influence or control over performance criteria are associated with motivation (Fisher, 1978) and task performance (Bandura & Wood, 1989).

Previous research in executive compensation has suggested that managers may vary in the extent to which they believe they influence the stock price. Ample evidence is noted earlier that CEOs influence the stock price of the firm through strategic decision making (Bryan et al., 2000; Rajgopal & Shevlin, 2002; Sanders, 2001; Sanders & Hambrick, 2007), but also by manipulating earnings and other illegitimate tactics (Bebchuk & Fried, 2004; Cheng & Warfield, 2005; Zhang et al., 2008). Thus, CEOs and other top executives may perceive they have a strong influence over the stock price. This may not always be the case for all managers in all situations, however. Indeed, a wide variety of factors influence stock prices (e.g., market shocks, bad luck, economic forces) that are beyond the control of even top corporate executive officers (Garvey & Milbourn, 2006; Oyer, 2004). Moreover, as corporations become larger and more structurally complex, they are arguably more difficult for managers to control (Hambrick & Finkelstein, 1987). As corporations become more hierarchical, a wider variety of managers act as stewards over increasingly fragmented business units (Hoskisson & Hitt, 1988). Divisional manager performance in highly fragmented corporations represents an increasingly small proportion of the corporation's overall performance. Thus, among managers of various types, numerous situational constraints are likely to impact influence over stock prices. This suggests that variation exists in the extent to which managers believe they can influence the stock price. In addition, some scholars have asserted that stock based rewards may have limited motivational impact because the perceived link between employee behavior and firm performance is

tenuous (e.g., Conte & Kruse, 1991; Lawler, 1991). Orlitzky and Rynes (2001), for example, observed that "alignment of interests may not provide motivational or performance incentives for employees because of the inherent risk of free-ridership as well as poor line of sight between employee behaviors and the stock price" (p. 61).

In sum, stock based rewards continue to be prevalent, at least in part to motivate high-level managers to maximize shareholder value. Elements of agency theory and expectancy theory suggest that managerial control over performance outcomes is a critical determinant of the extent to which agents are motivated to make decisions that benefit shareholders (Eisenhardt, 1989; Holmstrom, 1979; Wiseman & Gomez-Mejia, 1988). Yet, evidence showing the importance of influence over performance goals, coupled with emerging doubts about control over the stock price, suggests that managerial beliefs regarding their influence over stock prices would appear to vary to a great extent. A consistent feature of prior theory and research, whether theories suggest decreased or increased motivational effects from stock based rewards, is that it all draws upon the presumed concept of managers' expectations about their influence on the stock price. We know of no study, however, that has directly measured high-level managers' perceived influence over the stock price or examined what predicts variability in such perceptions. Addressing this gap can shed additional light on the conditions under which stock based rewards may provide the strongest motivation for recipients. This could thus offer organizations insight regarding potential motivational effects, even if motivating efforts to enhance the firm's stock price were not the reason (or sole reason) for granting stock based rewards.

As a step toward filling these gaps, the purpose of this paper is twofold. First, drawing on expectancy theories of motivation

Among managers of various types, numerous situational constraints are likely to impact influence over stock prices. This suggests that variation exists in the extent to which managers believe they can influence stock price.

(Ambrose & Kulik, 1999; Kanfer, 1990; Vroom, 1964) we introduce and measure a new construct, stock price expectancy (SPE), which we define as the degree to which individuals perceive that they can influence their firm's stock price. Second, we examine situational factors associated with stock price expectancy cognitions in a sample of high-level U.S. managers. This study will help organizations maximize the likelihood that recipients of stock based rewards will be motivated by those rewards or understand the conditions under which such motivation may be more difficult.

Defining Stock Price Expectancy

As noted, expectancy theories from applied psychology hold that motivation to complete

We introduce and measure a new construct, stock price expectancy (SPE), which we define as the degree to which individuals perceive that they can influence their firm's stock price.

a given task is driven in part by the individual's belief that increased effort will improve performance on that task. An important component of the theory is that expectancy perceptions are task specific (Ambrose & Kulik, 1999; Kanfer, 1990). Similarly, we define stock price expectancy as an effort-performance perception that is specific to the firm's stock price. As a domain specific perception, stock price expectancy is distinct from general perceptions of ability and influence such as generalized self-efficacy and locus of control.⁵ It is also distinct from managerial discretion (Hambrick & Finkelstein, 1987), which is defined as managers' *actual* discretion

over a much wider array of domains, both practical (resource allocation and product market selection) and symbolic (language, demeanor, and values). Managers can have multiple expectancy perceptions within the context of their total compensation system and job responsibilities. The prevalence of stock based rewards, however, argues for the importance of understanding the specific expectancy perceptions regarding stock price movement. Understanding the antecedents of stock price expectancy beliefs may provide

valuable insights for increasing the motivational effects of stock based incentives.

The moral hazards identified in the executive stock ownership literature (Bebchuk & Fried, 2004; Cheng & Warfield, 2005; Zhang et al., 2008) highlight potential ways that high-level managers may perceive they can influence their firm's stock price. High-level managers may perceive a high degree of SPE through ethical *or* unethical actions and through decisions that may eventually either harm or help shareholders. Consistently with expectancy theories (Ambrose & Kulik, 1999; Kanfer, 1990; Vroom, 1964) our conceptualization of the stock price expectancy construct makes no presumption about the precise means through which effort would be associated with performance. We hold to the definition of expectancy as a domain specific perception regarding the relationship between individual effort and performance (Vroom, 1964). While the means through which such expectancies are carried out are important, it is first necessary to establish the existence of such expectancies. Thus, irrespective of the reasons underlying stock price expectancy beliefs, SPE perceptions are likely to be an important determinant of managerial motivation and thus warrant research attention.

Predictors of Stock Price Expectancy

Previous research in the motivation literature has identified both dispositional and situational predictors of expectancy perceptions. Dispositional predictors of high expectancy include high self-esteem (Lawler, 1970), an internal locus of control (Broedling, 1975), and high self-efficacy (House & Dessler, 1974; Lawler, 1973). Research has also identified numerous situational predictors of expectancy perceptions such as situational restraints (e.g., machine downtime; Dachler & Mobley, 1973), supervisory behavior (e.g., feedback), and job characteristics (Sims, Szilagyi, & McKemey, 1976). While dispositional factors are important and worthy of future study regarding stock price expectancy, the organization is not often able to change such factors. In contrast, organizations often have

more discretion when it comes to situational factors. In this study, we focus on several situational factors that may be apparent to decision makers and that could be taken into account in decisions about where to allocate stock based rewards. We integrate the literatures of organization theory, strategic management, social psychology, and executive compensation to propose five position and organization characteristics that are likely to impact stock price expectancy perceptions: 1) the manager's position in the corporate structure (i.e., employment at corporate headquarters), 2) firm size, 3) stock performance, 4) hierarchical level, and 5) contact with the investment community. By so doing, we seek to build a profile of the positions and organizations wherein stock based rewards might be most motivating.

Employment at Corporate Headquarters

Most public corporations today have a hierarchical structure, consisting of a parent company and an array of subunits, such as divisions, subsidiaries, and affiliates (Bethel & Liebeskind, 1998). Ownership of voting shares gives the parent company a significant amount of influence on the strategic direction of the subunits. Corporate decisions often set the parameters for decisions made by leaders in organizational subunits (Milgrom & Roberts, 1992). For example, the parent company may decide who sits on the subunit's board of directors, establish performance criteria for rewards and promotions, and generally impose its policies (Yan & Gray, 1994).

Corporations design compensation packages for divisional (and other subunit) managers in many different ways, often to support their diversification strategy or organizational structure (Kerr, 1988; Salter, 1973). Given their specialized knowledge and stewardship (relating to their subunit), divisional managers receive bonuses that are weighted heavily on metrics tied to the division's performance (Kerr, 1988). Compensation experts, however, recommend stock based rewards (tied to the stock price of the parent

company) for divisional and subunit leaders to "effectively link the interests of the division personnel to the interests of the corporation" (Salter, 1973, p. 100). Indeed, recent evidence suggests that stock based rewards are granted across the corporate hierarchy such that employees in divisions or subunits often receive incentives tied to the stock price of the parent company (Ericson, 2004; "Stock Options from Parent," 2002). Similarly, stock based rewards are even extended to high-level managers in overseas subsidiaries (Griffing, 2004). This common practice of granting stock price related incentives to divisional (and other subunit) managers raises an interesting question about how stock price expectancy beliefs may differ across various levels of the corporate ownership hierarchy.

Hoskisson and Hitt (1988) observed that as corporations diversify and expand, the roles and responsibilities of high-level managers at corporate offices become increasingly distinct from those in organizational subunits. As Kerr (1988) noted, "In highly diversified firms, it is unlikely that corporate managers will have experience and understanding in more than a few of the corporation's businesses. The more diversity, the less corporate management is able to recognize and accurately interpret relevant business level data" (p. 216). Thus, multidivisional corporations have multiple top management teams: one for the parent company (corporate headquarters) and one for each organizational subunit such as subsidiaries, divisions, affiliates, and joint ventures.

Hoskisson and Hitt (1988) further argued that in multidivisional corporations, there are essentially two types of managerial roles. At the corporate level, managers are focused on strategic planning and managing the corporation as a whole. On the other hand, high-level managers in subunits typically

We integrate the literatures of organization theory, strategic management, social psychology, and executive compensation to propose five position and organization characteristics that are likely to impact stock price expectancy perceptions.

focus on strategic and operational issues associated with their subunit. Corporations are commonly designed such that subunit managers are subject to tighter financial controls, holding them accountable for the operating profits of their business unit (Williamson, 1975). Business unit managers are typically responsible for the performance of their subunit rather than the firm because organizational complexity makes it increasingly difficult for corporate managers to track day-to-day subunit operations (Hill & Hoskisson, 1987).

We expect that stock price expectancy should be higher for managers with corporate responsibility because they make decisions that affect the entire corporation rather than the operation of a specific subunit. The link between effort and performance is likely to be more *proximal* for corporate managers than it would be for managers working in organizational subunits.

Hypothesis 1: Stock price expectancy will be greater for high-level managers working at corporate headquarters than for high-level managers working in subunits of the corporation.

Firm Size

Firm size affects managers' ability to make and implement strategic decisions (see, e.g., Finkelstein & Hambrick, 1990; Hannan & Freeman, 1977). Indeed, research suggests that change (Aldrich, 1979) and innovation (Lodahl & Mitchell, 1980) are more difficult in larger organizations. Similarly, Hambrick and Finkelstein (1987) and Lawler (1997) noted that as firms increase in size, they become increasingly more difficult to affect and control. Consistently with these findings, Sesil, Kroumova, Blasi, and Kruse (2002) observed that as firm size increases, the line of sight between employee actions and firm outcomes blurs, with less connection between "one's efforts and the share price, profitability or other measures of firm performance" (p. 276). Accordingly, stock price expectancy perceptions of high-level managers may vary with firm size, because in larger firms, a manager's ability to control

decisions, implement change, and foster innovation decreases.

Hypothesis 2: Stock price expectancy will be negatively related to firm size.

Stock Performance

Research has shown that managers typically overestimate their influence over performance outcomes (Shapira, 1995). This finding is consistent with evidence from social psychology that individuals have pervasive illusions of control over randomly occurring events (Langer, 1975) and exaggerate their control over outcomes such as election results, games of chance, and sporting events (Brehm & Kassin, 1989).

Research from the causal attribution literature has further suggested that perceptions of exaggerated control are influenced by the success or failure of decision-making outcomes (Zuckerman, 1979). The *self-serving bias* refers to the tendency for individuals to attribute successful outcomes to internal factors such as ability and failures to external factors such as chance or task difficulty (Hewstone, 1989). 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 factors for failures (Brehm & Kassin, 1989).

Drawing from the causal attribution literature, we expect that managers' perceptions of influence over the stock price will be influenced by the performance of the stock price. High-level managers are likely to perceive they had greater influence (i.e., "made good managerial decisions") when the stock has performed well and that they had little influence (i.e., "was not their fault") when the stock has performed poorly. In other words, we expect managers to demonstrate a self-serving bias in their stock price expectancy perceptions. Managers whose firms have experienced negative stock returns over the past year will report lower levels of stock price expectancy than those whose firms experienced positive stock returns.

Hypothesis 3: Stock price expectancy will be positively related to the firm's stock returns over the previous year.

Hierarchical Level

Research has demonstrated that managers' hierarchical level is closely associated with their input in strategic decisions that could affect firm performance and stock price (Hall, 1991). Hierarchical level is also a strong predictor of perceived control over strategic decisions (Carpenter & Golden, 1997). Researchers have suggested that even among the top group of officers in a business unit, CEOs, CFOs, and COOs have the most decision-making authority (e.g., Zorn, 2004). This suggests an important role for level within the organizational hierarchy in an individual's perceptions of stock price expectancy.

Indeed, it has been suggested that incentives can be ineffective when recipients share the same performance criterion regardless of their level of authority within the firm. This is the case with broad-based grants where stock options are given to employees at many organization levels (Sesil et al., 2002). As Huddart (1994) observed, "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 decisions that could potentially affect the corporation's stock price (Hall, 1991). The same may apply to managers at different hierarchical levels. Lower-level managers are unlikely to perceive as much influence on stock price as those at higher levels. Though observations from prior research have generally considered the difference between top-level executives and nonmanagerial employees, high-level managers—even only a few levels below the CEO—may likely perceive weak personal influence on the stock price. We note that most studies involving managerial stock ownership are focused on CEOs and top corporate officers (Hall & Murphy, 2002; Ittner et al.,

2003). In contrast, our sample consists of managers at various ranks (between 1 and 10 levels below CEO). This allows us to test the effect of hierarchical level even when the range of hierarchical levels is restricted to high managerial ranks.

Hypothesis 4: Hierarchical level will be negatively related to stock price expectancy such that higher-ranking managers (closer to the CEO level) will have greater stock price expectancy.

Contact with the Investment Community

Investor relations have become an increasingly valuable tool to help public companies forecast and influence their stock price and make strategic decisions (Coyne & Witter, 2002; Mahaffey, 2002). Investor relations have been defined as "the specialized part of corporate public relations that builds and maintains mutually beneficial relationships with shareholders and others in the financial community" (Cutlip, Center, & Broom, 1994, p. 19). This involves ongoing dialogue with members of the financial trade press, major shareholders, and analyst groups. Although investor relations are sometimes carried out by independent firms or specialized departments within organizations, high-level managers increasingly take personal responsibility for such activities (Petersen & Martin, 1996). The premise is that frequently communicating with the investment community will give managers a more accurate picture of investor sentiment and motivation (Coyne & Witter, 2002). Anecdotal evidence has suggested that manager involvement in investor relations helps companies forecast market reactions to strategic announcements (e.g., layoffs or M&A activity) or reports of firm performance (Coyne & Witter, 2002). Emerging research has also suggested that the frequency of contact between managers and the investment community affects how companies are valued (Mahaffey, 2002).

We expect that the extent of investor relations by high-level managers will influence perceptions of influence on the stock price. Not only does evidence suggest that

management contact with analysts and major shareholders actually does affect the stock price, but the act of communicating with these constituents may also provide a personal sense of influence.

Hypothesis 5: Stock price expectancy will be positively related to the frequency of contact with investment analysts.

Method

Procedure and Participants

A survey was mailed to 11,968 high-level U.S. managers included in the database of an executive search firm in October 2000. A total of 1,586 subjects responded to the initial survey, resulting in a response rate of 13%. This rate is comparable to other survey-based research of executives in U.S. firms (Cycyota & Harrison, 2002; Hambrick, Geletkanycz, & Fredrickson, 1993). Data obtained from the mailed survey were combined with archival data from a variety of sources to complete the dataset. Compensation data and demographic information were obtained directly from the search firm's archival database. Position and firm characteristics were obtained from the *Directory of Corporate Affiliations* (2000). Finally, historical firm performance data (stock returns) were drawn from CRSP (Center for Research in Security Prices, 2000).

Note that the search firm's clients are companies searching for employees. The search firm does not accept resumes or applications from managers searching for jobs, but rather identifies potential candidates in response to client needs by examining publicly available information (e.g., proxy material, professional association lists). In addition, the search firm serves clients of all sizes, industries, and regions, further suggesting that this sample is representative of the general population of high-level managers in terms of job and firm related characteristics.

The mail survey was designed by the researchers and then produced and sent by the search firm. Surveys included sufficient information so that returned surveys could be

matched with the information contained in the search firm's archival database and the other data sources (i.e., Center for Research in Security Prices, 2000; the Directory of Corporate Affiliations, 2000). A large portion of the overall sample did not receive stock based rewards, either because they were employed in privately held companies with no link to a publicly traded stock (nearly half, 46%), or because their company did not grant stock based rewards (22% of managers from public companies indicated that they did not own stock options). The focus of our study was on managers holding rewards tied to the stock price of a publicly owned firm. We excluded, therefore, respondents who did not hold stock based rewards tied to a public company (e.g., the parent). This resulted in a final sample of 349 high-level managers.

Analysis of Possible Nonresponse Bias

Because of the nature of the dataset, we explored possible nonresponse bias in three ways. First, we compared nonrespondents to respondents of the survey on an array of variables (e.g., salary, demographics, hierarchical level, industry, company size) contained in the search firm's database. Of these variables, only age revealed a statistically significant difference ($M_{\text{respondent}} = 49.15$, $M_{\text{nonrespondent}} = 50.00$; $F = 17.25$, $p < .01$). The magnitude of the difference was small, suggesting little systematic difference between the two groups.

Second, we compared the subsample of respondents possessing stock based rewards with survey respondents not possessing such rewards. We first compared these groups on a number of demographic characteristics such as age, organizational tenure, marital status, and total compensation. Of these demographic variables, we found a statistically significant difference only on organizational tenure ($M_{\text{with stock based rewards in public company}} = 7.64$, $M_{\text{without stock based rewards in public company}} = 5.41$; $t = -3.06$, $p < .01$). We also compared these two respondent groups on variables of focus in this study that were available for both groups (i.e., firm size, hierarchical level, employment in parent company) as well as data obtained

on work attitudes, job performance, and turnover (collected as part of a larger study). We found no differences between stock holding and non-stock holding respondents on firm size, level, affective commitment, or job performance. We found, however, that respondents possessing stock based rewards were more likely to be employed in the parent company than those who did not possess stock based rewards (59.82%_{with stock based rewards in public company} 42.42%_{without stock based rewards in public company}, $\chi^2 = 12.44$, $p < .01$). This difference was not surprising given that corporate managers tend to be stewards of the entire corporation rather than just a given division or business unit (Kerr, 1988; Salter, 1973).

We also found that turnover rates were slightly higher among respondents possessing stock based rewards than those not possessing stock based rewards (31.3%_{with stock based rewards in public company} 28.88%_{without stock based rewards in public company}, $\chi^2 = 4.12$, $p < .05$). This was somewhat unexpected, given that stock based rewards are often used as a retention incentive, typically subjected to vesting requirements before they can be exercised (Brandes, Dharwadkar, & Lemesis, 2003). It is possible that the higher voluntary turnover rates among stock holding managers could be explained by a signaling effect, as more talented (and thus more mobile) managers may receive more stock based rewards (Milkovich & Newman, 2004).

Respondents in the final sample were primarily male (91%), with an average age of 48 years. They had been in their present organization 7.6 years. The average respondent had an annual total salary (base plus bonus) of \$293,160 and was 2.4 levels below the CEO. Sixty-nine percent of the respondents were employed in parent companies. Among the 31% of respondents working in organizational subunits, 75% worked in subunits that reported directly to the parent. Survey respondents represented 340 different companies and a variety of industries (37% from manufacturing, 24% services, 14% finance, 4% transportation, 2% retail, 19% other). Again, this suggests that this sample was representative of the general population of high-level U.S. managers.

Measures

Stock Price Expectancy

Stock price expectancy was measured with a 4-item measure included on the mail survey. Sample items included "I can personally influence the value of my stock options" and "My personal performance influences my company's stock price" (1 = strongly disagree, 6 = strongly agree). Interitem reliability was acceptable, $\alpha = .85$. The mean response on stock price expectancy was 2.41 ($SD = .80$), suggesting that the average manager in this sample felt a moderately low degree of influence over the stock price.

Introducing the SPE construct and measure necessitated an empirical examination of its independence from conceptually related variables. Accordingly, we conducted a separate study to investigate the convergent and discriminant validity of the SPE scale using a sample of employees in a large midwestern commercial real estate firm. Usable surveys were obtained from 498 of 1,060 employees surveyed (47% response rate). In addition to stock price expectancy, our validation survey included the following variables: internal locus of control, psychological participation, job autonomy, and positive affect.

Internal locus of control has been defined as the degree to which individuals feel that they have generalized control over their destiny (Sims et al., 1976). We assessed internal locus of control with Rotter's (1966) ipsative measure, which asks individuals to identify which of a series of paired statements best describes them. A sample pair of statements was "Promotions are earned through hard work and persistence" and "Making a lot of money is largely a matter of getting the right breaks." We expected internal locus of control to be positively and modestly related to stock price expectancy, because previous research has linked locus of control to expectancy cognitions (Broedling, 1975), and because individuals with a generalized perception of control over their destiny may be more likely to believe they can influence the stock price.

Psychological participation has been defined as generalized perception of the extent to which individuals perceive they control what

occurs in their organization (Vroom, 1960). Accordingly, we used Vroom's (1960) 4-item psychological participation scale. A sample item was "In general, I have a lot of influence on what goes on in this organization." We expected psychological participation to be positively and modestly correlated with stock price expectancy, as it represents a general perception of influence within an organization. Employees who believe they have a high degree of influence over decision making, policies, and practices are also likely to perceive some level of influence over the stock price.

In contrast, *job autonomy* is a job specific construct that reflects employees' perceptions of their influence over their *work* domain (Sims et al., 1976). We measured job autonomy using Sims and colleagues' (1976) 5-item scale. A sample item was "My job gives me ample opportunity for independent thought and action." Because job autonomy is more domain specific than psychological participation and specific to one's work rather than an element of compensation, we expected its relationship to the stock price expectancy to be low to moderate.

Finally, *positive affectivity* is defined as the general tendency to experience positive emotions, such as being enthusiastic, active, or alert (Watson, Clark, & Tellegen, 1988). We assessed positive affectivity using the Watson et al. (1988) PANAS scale, which asks individuals to indicate the extent to which 10 statements (e.g., interested, excited, strong, enthusiastic, alert) accurately described them. We expected positive affectivity to have a moderately positive relationship with stock price expectancy. Individuals with positive tendencies may simply believe they have a

greater degree of control over work and organization related outcomes or report positively on experiences.

Our first step in validating the SPE scale was to examine its correlation with these selected variables (see Table I). As expected, stock price expectancy was significantly correlated with internal locus of control, psychological participation, job autonomy, and positive affect. The strongest stock price expectancy correlates were psychological participation ($r = .43$), positive affect ($r = .39$), and internal locus of control ($r = .38$). The relationship between autonomy and stock price expectancy was somewhat weaker, as expected ($r = .25$). These moderate correlations indicate support for the convergent validity of the stock price expectancy scale. In addition, the fact that the correlations were only moderate and significantly lower than the scale's reliabilities indicates evidence of discriminant validity (Campbell & Fiske, 1959).

Next, confirmatory factor analysis (CFA) using LISREL 8.52 provided additional support for the discriminant validity of the five scales ($\chi^2 [352, N = 405] = 864.75, p < .00$ [CFI = .94, NNFI = .93, RMSEA = .08]). The fit indices for the five-factor model met suggested rule of thumb cutoff values (Hu & Bentler, 1999). For the SPE scale specifically, all estimates were greater than .60 and statistically significant ($p < .01$). A one-factor model with all items in the various scales loading on one latent factor was also tested. The one-factor model, however, did not fit the data well ($\chi^2 [362, N = 405] = 2808.39, p < .00$ [CFI = .81, NNFI = .79, RMSEA = .16]), and a χ^2 difference test indicated that the five-factor model fit the data significantly ($p < .01$) better.

TABLE I Means, Standard Deviation, and Inter-Item Correlations for Validation Sample

Variable	Mean	SD	1	2	3	4	5
1 Stock Price Expectancy	2.92	.88	.85				
2 Internal Locus of Control	5.41	.97	.38**	--			
3 Participation	3.49	.73	.43**	.40**	.82		
4 Autonomy	3.77	.62	.25**	.17**	.33**	.73	
5 Positive Affect	4.01	.55	.39**	.30**	.37**	.23**	.89

Notes: N = 498. Where appropriate, coefficient alphas are listed in bold on the diagonal.

**Significant at the 0.01 level (two-tailed).

Employment at Parent

Following previous work (e.g., Broschak, 2004), we used a binary variable to measure whether respondents were employed at the parent company or a subunit such as a subsidiary, division, affiliate, or joint venture (Parent = 1 if the manager worked at the parent organization, 0 if otherwise). These data were obtained from the *Directory of Corporate Affiliations* (2000) on the basis of company information (i.e., name of each participant's employer) provided in the search firm's archival database.

Firm Size

Following previous work (e.g., Finkelstein & Hambrick, 1996), we used the total number of employees in the respondent's firm (i.e., all employees in the corporation, including the parent and subunits) to measure firm size. This information was obtained from the search firm's archival database.

Stock Returns

Following previous work (e.g., Cascio, Young, & Morris, 1997), we measured stock performance as the firm's 1-year stock return of the year *preceding* the completion of our mail survey. This was calculated as $[SP_{(t)}/SP_{(t-1)}]$ where $SP_{(t)}$ is the firm's closing price on the day the respondent completed the survey and $SP_{(t-1)}$ is the firm's closing price on that date 1 year earlier. Stock price data were drawn from the CRSP database.

Hierarchical Level

Respondents reported on the survey how many levels below the CEO they were positioned in their organization. The fewer the levels below CEO, the higher the rank.

Contact with Investment Analysts

Respondents indicated on the survey their level of agreement with the following item: "I have regular contact with analysts regard-

ing my company's stock (1 = strongly disagree to 6 = strongly agree)."

Control Variables

We controlled for total compensation, organizational tenure, industry type, and the number of stock option grants respondents held. The first three of these variables have been shown to predict attitudinal and motivational variables (Finkelstein & Hambrick, 1996; Tsui, Pearce, Porter, & Tripoli, 1997) and may also be related to certain antecedent variables of focus in this study (e.g., hierarchical level). Organizational tenure was assessed on the survey by asking how many years the respondent had been at the current firm. Total compensation and industry were obtained directly from the search firm's database. We measured total compensation as the sum of base and bonus for the previous year. Industry was measured using six indicator variables based on two-digit SIC codes. The groups were manufacturing; transportation; retail; finance, insurance, and real estate; services; and other. Manufacturing was the base case for the analysis as it was the most frequently occurring category. Finally, we controlled for the number of stock option grants respondents held (self-reported on the survey). Those with more option-laden compensation packages may be more sensitive to changes in the stock price and thus may be more inclined to believe they can impact the stock price.⁶

Results

Table II reports the means, standard deviations, and intercorrelations among the variables. The hypotheses were tested using ordinary least squares (OLS) hierarchical regression (see Table III), where stock price expectancy was regressed on the controls (model 1) and hypothesized predictor variables in stepwise fashion (models 2–6).

As shown in Table III, after controlling for organizational tenure, total compensation, industry, and number of stock option grants, SPE was positively associated with employment in the parent company. Thus,

TABLE II Means, Standard Deviations, and Intertem Correlations for Study Sample

#	Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Stock Price Expectancy	2.41	0.80	1.00													
2	Total Compensation [†]	293.16	209.03	.25**	1.00												
3	Organization Tenure	7.64	7.73	-.07	-.07	1.00											
4	Transportation	.04	0.20	-.02	-.06	-.02	1.00										
5	Retail	.02	0.13	-.08	.14**	.01	-.03	1.00									
6	Finance, Insurance, RE	.14	0.35	-.04	-.09	-.05	-.09	-.05	1.00								
7	Services	.24	0.43	.01	.02	.00	-.12*	-.07	-.23**	1.00							
8	Other	.20	0.40	.01	-.04	.01	-.11*	-.07	-.20**	-.28**	1.00						
9	Stock Holdings [†]	62.07	149.65	.34**	.44**	-.13*	-.01	.07	-.06	.06	.01	1.00					
10	Employment at Corporate	.64	0.48	.11*	-.06	-.03	.01	.01	-.02	-.06	.12*	.01	1.00				
11	Firm Size [†]	18.98	38.96	-.18**	-.06	.10	-.02	-.05	.05	-.06	-.02	-.10	.19**	1.00			
12	1 Year Stock Returns	3.17	13.96	-.03	.00	-.01	-.01	-.02	-.02	-.04	-.01	-.01	-.01	-.03	1.00		
13	Hierarchical Level	2.37	1.37	-.46**	-.24**	.16**	.02	.00	.06	-.07	-.02	-.35**	-.09	.21**	-.01	1.00	
14	Contact with Analysts	2.90	1.73	.38**	.19**	-.09	.04	.01	-.10	.00	.10	.32**	.06	-.02	.05	-.25**	1.00

Notes: Listwise N = 349. RE = real estate. † in thousands.
*p < 0.05 level two-tailed, **p < 0.01 level two-tailed.

TABLE III Predictors of Stock Price Expectancy: OLS Regression[†]

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Total Compensation	.11*	.11*	.11*	.12*	-.06	.12*	.09
Organization Tenure	-.01	.01	-.01	-.00	.03	-.02	.04
Transportation	-.07	-.06	-.07	-.05	-.04	-.06	-.03
Retail	-.09*	-.09*	-.09*	-.12**	-.09*	-.09*	-.12**
Finance, Insurance, & RE	-.02	-.02	-.02	-.04	-.02	-.02	.00
Services	-.05	-.05	-.06	-.06	-.07	-.03	-.06
Other	-.04	-.05	-.05	-.03	-.07	-.05	-.06
Stock Holdings	.30**	.29**	.30**	.30**	.19**	.21**	.12*
Employment at Parent		.13**					.10*
Firm Size			-.09*				-.13**
1 Year Stock Returns				-.02			-.06
Hierarchical Level					-.40**		-.31**
Contact With Analysts						.28**	.25**
R^2	.13	.15	.14	.13	.27	.21	.35
Adjusted R^2	.12	.13	.12	.12	.25	.19	.32
ΔR^2 From Model 1	--	.02**	.01*	.00	.14**	.08**	.22**

Notes: N = 349 using listwise deletion of missing data; * $p < .05$, ** $p < .01$ two-tailed; † Standardized coefficients.

consistently with Hypothesis 1, managers working in parent companies perceived significantly greater influence over the stock price than respondents working in subunits. Hypothesis 2 focused on firm size, predicting that respondents in smaller companies would report higher SPE than those in larger companies. We found that SPE was negatively associated with firm size, thus supporting Hypothesis 2. Hypothesis 3 predicted that SPE would be positively related to prior stock performance. Our analysis indicated no significant relationship between stock returns and SPE cognitions; thus Hypothesis 3 was not supported. Note that we ran this analysis using stock returns calculated at various time intervals, including 1 month, 2 months, 3 months, and 2 years from the date the respondent completed the surveys. The results were the same regardless of the time interval used to calculate stock returns. Hypothesis 4 focused on hierarchical level, proposing that managers at higher levels would perceive greater SPE. This hypothesis received support, as respondents closer to the CEO reported higher levels of SPE. Finally, Hypothesis 5 predicted that respondents

with more frequent contact with analysts would have higher levels of SPE. As Table III indicates, the data supported this hypothesis. In summary, with the exception of stock returns, all of the hypothesized antecedents were associated with SPE in the expected direction. We also note that each antecedent variable, again with the exception of stock returns, showed incremental variance over and above the control variables in predicting SPE with the ΔR^2 ranging from .01 to .14 ($p < .05$). The strongest effects in predicting SPE were found for hierarchical level, followed by contact with analysts.

Discussion

The purpose of this study was twofold. First, we introduced and measured stock price expectancy, which we define as the degree to which individuals perceive they can influence the stock price of their firm. Our second purpose was to examine the antecedents of stock price expectancy in a unique sample of high-level U.S. managers. The results of this study indicate that respondents' beliefs about their influence over the stock price vary as

predicted by theory, with position and organizational characteristics playing a role.

Agency theory (Jensen & Meckling, 1976) advocates the use of outcome based contracts (i.e., stock based incentives) to motivate managers to act in alignment with shareholder interests (Ittner et al., 2003). Some theorists (Eisenhardt, 1989; Holmstrom, 1979; Miller et al., 2002), however, have reasoned that the appropriateness of stock based rewards depends on recipients' ability (or perceived ability) to influence the firm's stock price, a perception that can be examined using expectancy theory (Lawler, 1971; Miller

et al., 2002). Our findings provide empirical support for these arguments and suggest that stock price expectancy perceptions are an important consideration in explaining how managers may respond to stock based rewards. It may behoove firms to enhance managers' stock price expectancy beliefs, because as expectancy theory (Vroom, 1964) suggests, increased expectancy beliefs help increase motivation to perform given tasks.

An important practical implication of our findings is that by understanding and removing certain constraints, firms may be able to enhance the degree to which stock based rewards motivate stock appreciating behavior.

The present research provides the basis to make such efforts significantly more specific. For example, our findings suggest that managers who interact more with investors had higher stock price expectancy. Thus, firms might ensure that management career paths include an active role in investor relations activities; that such activities are distributed among the entire top management team, rather than concentrated only with the CEO or the top financial officers; and that they occur early in the careers of high-potential leaders.

Of course, some organizational and positional constraints cannot be readily changed to improve stock price expectancy. Here, it may be important to clarify for individuals

their role in influencing firm-level outcomes. Because factors such as firm size or a manager's position within the corporate hierarchy act as constraints to an individual's perceived stock price expectancy, our results suggest that firms should focus communication efforts in situations where stock price expectancy perceptions are likely to be lowest, namely, in larger firms, for those at lower ranks, for those working at organizational subunits, and for those where frequent contact with analysts is not feasible. Firms might assist individuals (e.g., through performance management systems) to understand how their day-to-day effort contributes to the firm's stock performance.

Our findings also suggest that creating "line of sight" (cf. Boswell, 2006; Boswell & Boudreau, 2001) between individual actions and the firm's strategic objectives may be most important in these situations. Goal setting, training programs, and mentoring initiatives could be augmented with specific efforts to create logical connections for those in situations where stock price expectancy is generally lower. The stock price expectancy measure used in this study provides an opportunity to measure the effectiveness of such efforts directly.

Stock price expectancy may also be low because situational constraints simply make it objectively difficult for individuals to affect stock price. Again, measuring SPE provides a direct approach to identifying such situations. Where enhanced communication is not possible or in situations where augmenting the stock price expectancy perceptions is unlikely, organizations may rely on alternatives to stock based incentives to motivate effort. Such alternative incentives might be based on more proximal performance metrics that are known to impact the stock price. For example, unit-level managers are likely to have a much clearer line of sight to unit-level performance metrics such as operating income, product margin, and operating costs than they do to the stock price (Bannister & Gentry, 1999; Kerr, 1988; Salter, 1973). Firms can identify the metrics that drive overall firm success by carefully examining their business strategies, business processes, and

The results of this study indicate that respondents' beliefs about their influence over the stock price vary as predicted by theory, with position and organizational characteristics playing a role.

historical performance (Bannister & Gentry, 1999). Such incentives would motivate managers to take actions to increase subunit performance, which in turn may have a positive effect on the stock price. Thus, although subunit managers' SPE perceptions may be low, additional rewards could be given to incentivize the types of behavior that have an indirect, positive influence on the stock price.

In summary, our findings provide greater granularity to the typical recommendation that organizations use stock based incentives to foster motivation and a sense of ownership. A deeper understanding of stock price expectancy and the factors that affect it can identify organization and position characteristics where firms must devote extra effort to ensure that recipients of stock based rewards are motivated to engage in stock appreciating behavior. Such efforts may include giving high-level managers more stock price expectancy-enhancing opportunities (such as more contact with investors) and greater communication when the connection between performance and the stock price exists but is not understood or shifting away from stock based rewards where such connections are not perceived because they are, indeed, obscure.

Future Research Directions

Several future research themes can be enhanced by incorporating the SPE construct. First, stock based rewards continue to be central to management compensation (Hall & Murphy, 2002). Although stock based rewards are commonly used for goal alignment and motivational purposes, they are certainly used for other reasons, including attracting and retaining talent (Ittner et al., 2003) and complying with regulatory guidelines (Hall & Liebman, 2000). Thus, it is unlikely that stock based rewards will go away in the foreseeable future. This raises an interesting corporate governance question. Considering the pressures that managers face to increase the stock price, what happens when managers' stock price expectancy beliefs are weak?

As stock based rewards have become more prevalent, their moral hazards and perverse incentives have been uncovered (Beb-

chuk & Fried, 2004; O'Connor, Priem, Coombs, & Gilley, 2006). As noted, research has shown that earnings misrepresentation is more likely among managers with equity laden compensation packages (Cheng & Warfield, 2005). One possible explanation of this relationship is control. Miller and her colleagues (2002) theorized that when managers with high performance contingent pay cannot control performance outcomes, they may take "evasive actions to reduce their risk exposure" (p. 746). Indeed, there are many ways illegally or illegitimately to increase the stock price, including withholding bad news from shareholders or lying about good news (Harris & Bromiley, 2006). We reason that if managers do not perceive that they can influence the stock price by legitimate means (e.g., wise strategic decision making, strong leadership, good use of firm resources) they may be more likely to resort to illegitimate means (e.g., misrepresenting earnings) to do so. We acknowledge that manipulating earnings and other illegitimate means of influence over the stock price may be more of a concern for top corporate officers than for divisional managers. Drawing on previous research and theory suggesting that too much risk for managers who hold stock based rewards can lead to adverse shareholder outcomes, however (Holmstrom, 1979; Miller et al., 2002; Sanders & Hambrick, 2007), we propose that granting stock based rewards without regard to stock price expectancy perceptions may be problematic. At best, using heavy equity laden incentives for managers who face constraints on their SPE will likely do little to enhance their motivation to increase shareholder value. At worst, equity laden recipients with low stock price expectancy may be motivated to undertake evasive actions (Miller et al., 2002) that are not in the shareholders' best interest. Indeed, more research examining precisely how managers channel their efforts to increase the stock

Where enhanced communication is not possible or in situations where augmenting stock price expectancy perceptions is unlikely, organizations may rely on alternatives to stock based incentives to motivate effort.

price will be informative for shareholders and advance the literature.

Future research on stock price expectancy might fruitfully pursue the question of whether managers with high SPE are more motivated or perform better than those with low SPE. Expectancy theories suggest that effort and performance will be reduced when individuals do not perceive a strong link between effort and performance (Vroom, 1964), but no research has examined these predictions among managers and, more specifically, the role of stock price expectancy in influencing performance and motivation. In addition, examining the effects of SPE on work-related attitudes and retention is another important avenue for future research, particularly given that motivating effort is not the sole reason firms grant stock options. Perceiving influence over the firm's stock price is likely to create a sense of ownership, engagement, and belongingness with the firm, which may ultimately translate to positive affective reactions and retention. Another theoretical lens by which SPE might be studied in the future is Wiseman and Gomez-Mejia's (1988) behavioral agency model, which posits that framing effects can influence how managers respond to stock based rewards. For example, positive or negative changes in the stock price or other firm performance indicators may influence or interact with SPE and have implications for managerial behavior.

Study Limitations

This study has limitations that also provide directions for future research. First, the study was limited in its focus on high-level managers. Thus, its results may not generalize to nonmanagerial employees. Although our sample spanned more managerial ranks than most previous research on stock options, it would be interesting to study SPE specifically among lower-level employees. Broad-based stock option plans are still prevalent (National Center for Employee Ownership, 2008), making a portion of lower-level employees' pay contingent upon the firm's stock price. Yet, the stock price is a performance criterion

over which lower-level employees may perceive only very indirect (if any) influence. Measuring their stock price expectancy would reveal both the level of perceived influence and factors that affect it. Though it remains unclear whether nonmanagerial employees believe they can influence the stock price, our results for hierarchical level suggest that stock price expectancy perceptions may be weak among such employees.

Generalizability may also be limited in this study by the low response rate and missing data on study variables. Unfortunately, we did not have complete data on all of the variables of interest for every respondent in our sample. This was primarily due to the unique combination of data sources used for this study (e.g., combining survey data with archival data from external sources). Using multiple data sources strengthened our study by reducing common method and demand characteristics. Further, listwise deletion of missing data reduced our statistical power but suggests that our results may be conservative. The timing of our data (collected in 2000), at the beginning of the dot.com bust, provides an additional boundary condition on the generalizability of these results. Future research could advance the study of SPE by employing longitudinal designs using multi-source data that span fluctuations in the economy.

Our model of stock price expectancy antecedents focused on theoretically relevant organizational and job characteristics. This was certainly not, however, a comprehensive model of all potential constraints to stock price expectancy. It would be interesting, for example, to examine how dispositions or other individual differences (e.g., ability) impact SPE beliefs. Future research should examine the relative impact of organizational, position, and individual constraints. One such constraint is managerial discretion, which has been defined as a CEO's actual (not perceived) latitude for managerial action, which contains both skill and situational components (Finkelstein & Hambrick, 1990; Hambrick & Finkelstein, 1987). Hambrick and Finkelstein (1987) noted that managers vary with respect to the number of

domains over which they have control in their organization. Future research could examine how actual discretion impacts SPE.

Finally, this study did not directly investigate why or how managers believe they influence the stock price. Our finding that the extent of contact with analysts positively related to stock price expectancy provides tantalizing evidence that managers may possess specific beliefs about how they can influence the stock price. Those with regular contact with the investment community, major shareholders, or the press may feel that their influence over the stock price occurs through their personal persuasive ability or feel that interacting with the investment community better informs their own strategic and operational decisions. Future studies could improve on our measure of managerial contact with analysts by including other key members of the investment community (e.g., major investors and the media). It would also be interesting to examine whether SPE varies depending on the nature of a manager's resources or positional capacity. Do managers who have influence over financial decisions perceive more influence than those with influence over human capital or marketing decisions? The means of influence is not clear and suggests an important area for future research.

Conclusion

Stock based rewards are granted under the assumption that recipients have (or perceive they have) influence over their firm's stock price. Yet, managerial perceptions of stock price influence have never been directly examined. We clarified several boundary conditions on this general assumption by demonstrating the significant role an array of predictors has on high-level managers' perceived influence over the stock price. These findings underscore the importance of considering constraints to stock price expectancy

when designing pay systems for managers and offer insights that will be useful in future research on stock based rewards at all levels of the organization.

Notes

1. For example, the Sarbanes-Oxley Act of 2002 requires CEOs to take personal responsibility for overseeing all financial reporting (Zhang et al., 2008). Moreover, stock options are now expensed and subject to additional regulatory constraints (Cheng & Warfield, 2005).
2. Many S&P 500 corporations now require their CEOs to hold a certain multiple of their base salary in company stock. Executive Comp Analyst reports that in 2004, thresholds ranged from between 2 and 25 times base salary among S&P 500 CEOs (Business Wire, 2005).
3. Congress has enacted tax policies to encourage pay to be based on performance. For example, a 1993 tax code (IRS Code Section 162(M)) prohibited deducting executive pay forms above \$1 million that were not linked to performance (Hall & Liebman, 2000).
4. We focus on expectancy perceptions in this study (as opposed to valence and instrumentality) because they have been targeted as a key constraint by experts (Bannister & Gentry, 1999), and research links expectancy perceptions to behavioral outcomes (Ambrose & Kulik, 1999).
5. General self-efficacy is a belief in one's competence to effect requisite performances across a variety of situations (Eden, 2001). Individuals with an internal locus of control believe that they have generalized control over their destiny (Sims et al., 1976).
6. We thank an anonymous reviewer for making this observation.

Acknowledgments

We thank James Hayton and three anonymous reviewers for helpful feedback during the review process. We also thank Liang Zhu for help collecting data and Janet Yoakum for editorial assistance.

BENJAMIN B. DUNFORD, Ph.D., is an assistant professor of management at the Krannert Graduate School of Management, Purdue University. His research focuses on compensation and benefits, employee retention, and employee relations. His work has been published in journals such as *Journal of Applied Psychology*, *Personnel Psychology*, *Journal of Management*, *Advances in Industrial and Labor Relations*, and *Small Group Research*.

WENDY R. BOSWELL, Ph.D., is an associate professor and Mays Research Fellow in the Department of Management, Mays Business School, Texas A&M University. She is also the director of the Center for Human Resource Management at Texas A&M. Her research focuses on employee attraction and retention, job search behavior, workplace conflict, and work-life stress. Her work has appeared in such journals as *Academy of Management Journal*, *Academy of Management Review*, *Journal of Applied Psychology*, *Personnel Psychology*, *Human Resource Management*, *Journal of Vocational Behavior*, and *Journal of Management*. She serves on the editorial boards of the *Academy of Management Review*, *Journal of Applied Psychology*, and *Personnel Psychology* and is an associate editor for *Journal of Management*.

JOHN W. BOUDREAU, Ph.D., professor and research director at the University of Southern California's Marshall School of Business and Center for Effective Organizations, is recognized for breakthrough research on how decisions about human capital, talent, and human resources affect sustainable competitive advantage. He has published more than 50 books, articles, and chapters in journals such as *Management Science*, *Academy of Management Executive*, *Journal of Applied Psychology*, *Personnel Psychology*, *Asia-Pacific Human Resource Management*, *Human Resource Management*, *Journal of Vocational Behavior*, *Human Relations*, and *Industrial Relations*, with features in *Harvard Business Review*, *the Wall Street Journal*, *Fortune*, *Fast Company*, and *BusinessWeek*. His books include *Beyond HR*, with Pete Ramstad (Harvard Business School, 2007); *Investing in People*, with Wayne Cascio (Pearson, 2008); and *Achieving Strategic Excellence in Human Resource Management*, with Edward Lawler (Stanford University Press, 2009).

References

- Aldrich, H. (1979). *Organizations and environments*. Englewood Cliffs, NJ: Prentice Hall.
- Ambrose, M. L., & Kulik, C. T. (1999). Old friends, new faces: Motivation research in the 1990s. *Journal of Management*, 25(3), 231–292.
- Bandura, A., & Wood, R. (1989). Effect of perceived controllability and performance standards on self-regulation of complex decision making. *Journal of Personality and Social Psychology*, 56(5), 805–814.
- 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.
- Bebchuk, L., & Fried, J. (2004). *Pay without performance: The unfulfilled promise of executive compensation*. Cambridge, MA: Harvard University Press.
- Bethel, J. E., & Liebeskind, J. P. (1998). Diversification and the legal organization of the firm. *Organization Science*, 9(1), 49–67.
- Boswell, W. R. (2006). Aligning employees with the organization's strategic objectives: Out of "line of sight," out of mind. *International Journal of Human Resource Management*, 17(9), 1489–1511.
- Boswell, W. R., & Boudreau, J. W. (2001). How leading companies create, measure and achieve strategic results through "line of sight." *Management Decision*, 39(10), 851–859.
- Brandes, P., Dharwadkar, R., & Lemesis, G. V. (2003). Effective employee stock option design: Reconciling stakeholder, strategic and motivational factors. *Academy of Management Executive*, 17(1), 77–93.
- Brehm, S. S., & Kassin, S. M. (1989). *Social psychology*. Boston: Houghton Mifflin.

- Broedling, L. A. (1975). Relationship of internal-external control to work motivation and performance in an expectancy model. *Journal of Applied Psychology*, 60(1), 65–70.
- Broschak, J. (2004). Managers' mobility and market interface: The effect of managers' career mobility on the dissolution of market ties. *Administrative Science Quarterly*, 49(4), 608–640.
- Bryan, S., Hwang, L., & Lilien, S. (2000). CEO stock-based compensation: An empirical analysis of incentive-intensity, relative mix, and economic determinants. *Journal of Business*, 73(4), 661–693.
- Business Wire (2005, September 21). New product from the Corporate Library finds compliance with stock ownership guidelines a non-issue across CEOs of S&P 500 companies. Retrieved October 20, 2008, from http://findarticles.com/p/articles/mi_m0EIN/is_2005_Sept_21/ai_n15402821/print?tag=artBody;col1
- Campbell, D. T., & Fiske, D. W. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. *Psychological Bulletin*, 56(2), 81–105.
- Carpenter, M. A., & Golden, B. (1997). Perceived managerial discretion: A study of cause and effect. *Strategic Management Journal*, 18(2), 187–206.
- Cascio, W. F., Young, C. E., & Morris, J. R. (1997). Financial consequences of employment-change decisions in major U.S. corporations. *Academy of Management Journal*, 40(5), 1175–1189.
- Center for Research in Security Prices (2000). CRSP Stock File Guide. Chicago: University of Chicago.
- Cheng, Q., & Warfield, T. (2005). Stock-based compensation, insider trading, and earnings management. *Accounting Review*, 80(2), 441–477.
- Conte, M. A., & Kruse, D. (1991). ESOPs and profit-sharing plans: Do they link employee pay to company performance? *Financial Management*, 20(4), 91–100.
- Coyne, K. P., & Witter, J. W. (2002). Taking the mystery out of investor behavior. *Harvard Business Review*, 80(9), 68–78.
- Cutlip, S. M., Center, A. H., & Broom, G. M. (1994). *Effective public relations* (7th ed.). Englewood Cliffs, NJ: Prentice Hall.
- Cycyota, C. S., & Harrison, D. A. (2002). Enhancing survey response rates at the executive level: Are employee- or consumer-level techniques effective? *Journal of Management*, 28(2), 151–176.
- Dachler, H. P., & Mobley, W. H. (1973). Construct validation of an instrumentality-expectancy-task goal model of work motivation: Some theoretical boundary conditions. *Journal of Applied Psychology*, 58(3), 397–418.
- Directory of Corporate Affiliations (2000). New Providence, NJ: National Register.
- Eden, D. (2001). Means efficacy: External sources of general and specific subjective efficacy. In U. Erez, H. Kleinbeck, & H. Thierry (Eds.), *Work motivation in the context of a globalizing economy*. Hillsdale, NJ: Lawrence Erlbaum.
- Eisenhardt, M. K. (1989). Agency theory: An assessment and review. *Academy of Management Review*, 14(1), 57.
- Ericson, R. (2004). Value rules: Senior management incentives in the post-option era. *Benefits Quarterly*, 20(1), 23–29.
- Finkelstein, S., & Hambrick, D. C. (1990). Top-management-team tenure and organizational outcomes: The moderating role of managerial discretion. *Administrative Science Quarterly*, 35(3), 484–503.
- Finkelstein, S., & Hambrick, D. C. (1996). *Strategic leadership: Top executives and their effects on organizations*. St. Paul, MN: West.
- Fisher, C. D. (1978). The effects of personal control, competence, and extrinsic reward systems on intrinsic motivation. *Organizational Behavior and Human Performance*, 21(3), 273–288.
- Garvey, G., & Milbourn, T. (2006). Asymmetric benchmarking in compensation: Executives are rewarded for good luck but not penalized for bad. *Journal of Financial Economics*, 82(1), 197–226.
- Griffing, M. (2004). How to treat income from the sale of stock options. *Payroll Manager's Report*, 4(9), 5–8.
- Hall, B. J., & Liebman, J. B. (1998). Are CEOs really paid like bureaucrats? *Quarterly Journal of Economics*, 113(3), 653–691.
- Hall, B. J., & Liebman, J. B. (2000). The taxation of executive compensation. In J. Poterba (Ed.), *Tax policy and the economy* (Vol. 14, pp. 1–44). Cambridge, MA: MIT Press.
- Hall, B. J., & Murphy, K. J. (2002). Stock options for undiversified executives. *Journal of Accounting and Economics*, 33(1), 3–42.
- Hall, R. H. (1991). *Organizations: Structures, processes and outcomes* (5th ed.). Englewood Cliffs, NJ: Prentice Hall.
- Hambrick, D. C., & Finkelstein, S. (1987). Managerial discretion: A bridge between polar views of organizational outcomes. In B. M. Staw & L. L. Cummings (Eds.), *Research in organizational behavior* (Vol. 9, pp. 369–406). Greenwich, CT: JAI Press.

- Hambrick, D. C., Geletkanycz, M. A., & Fredrickson, J. W. (1993). Top executive commitment to the status quo: Some tests of its determinants. *Strategic Management Journal*, 14(6), 401–418.
- Hannan, M. T., & Freeman, J. H. (1977). The population ecology of organizations. *American Journal of Sociology*, 82(5), 929–964.
- Harris, J. D., & Bromiley, P. (2006). Incentives to cheat: The influence of executive compensation and firm performance on financial misrepresentation. *Organization Science*, 18(3), 350–367.
- Hewitt Associates, LLC. (2004, December 15). Fewer stock options for executives in 2004. Retrieved January, 11, 2005 from www.hewitt.com
- Hewstone, M. (1989). *Causal attribution: From cognitive processes to collective beliefs*. Cambridge, MA: Basil Blackwell.
- Hill, C. W. L., & Hoskisson, R. E. (1987). Strategy and structure in the multiproduct firm. *Academy of Management Review*, 12(2), 331–341.
- Holmstrom, B. (1979). Moral hazard and observability. *Bell Journal of Economics*, 10(1), 74–91.
- Hoskisson, R. E., & Hitt, M. A. (1988). Strategic control systems and relative R&D investment in large multiproduct firms. *Strategic Management Journal*, 9(6), 605–621.
- House, R. J., & Dessler, G. (1974). The path-goal theory of leadership: Some post hoc and a priori tests. In J. Hunt & L. Larson (Eds.), *Contingency approaches to leadership* (pp. 29–62). Carbondale: Southern Illinois University Press.
- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6(1), 1–55.
- Huddart, S. (1994). Employee stock options. *Journal of Accounting and Economics*, 18(2), 207–231.
- Ittner, C. D., Lambert, R. A., & Larcker, D. F. (2003). The structure and performance consequences of equity grants to employees of new economy firms. *Journal of Accounting and Economics*, 34(1–3), 89–127.
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305–360.
- Jensen, M. C., & Murphy, K. J. (1990). Performance pay and top-management incentives. *Journal of Political Economy*, 98(2), 225–264.
- Kanfer, R. (1990). Motivation theory and industrial and organizational psychology. In M. D. Dunnette & L. M. Hough (Eds.), *Handbook of industrial and organizational psychology: Vol. 1. Theory in industrial and organizational psychology*. (2nd ed., pp. 75–169). Palo Alto, CA: Consulting Psychologists Press.
- Kerr, J. L. (1988). Strategic control through performance appraisal and rewards. *Human Resource Planning*, 11(3), 215–223.
- Langer, E. J. (1975). The illusion of control. *Journal of Personality and Social Psychology*, 32(2), 311–328.
- Larcker, D. F. (1983). The association between performance plan adoption and corporate capital investment. *Journal of Accounting and Economics*, 5, 3–30.
- Lawler, E. E. (1970). Job attitudes and employee motivation—theory research and practice. *Personnel Psychology*, 23(2), 223–241.
- Lawler, E. E. (1971). *Pay and organizational effectiveness: A psychological view*. New York: McGraw-Hill.
- Lawler, E. E. (1973). *Motivation in work organizations*. Belmont, CA: Wadsworth.
- Lawler, E. E. (1991). Pay for performance: A motivational analysis. In H. Nalbantian (Ed.), *Incentives, cooperation, and risk sharing* (pp. 69–86). Totowa, NJ: Rowman & Littlefield.
- Lawler, E. E. (1997). Rethinking organization size. *Organizational Dynamics*, 26(2), 24–35.
- Lodahl, T. M., & Mitchell, S. M. (1980). Drift in the development of innovative organizations. In J. Kimberly & R. Miles (Eds.), *The organizational life cycle* (pp. 184–207). San Francisco: Jossey-Bass.
- Mahaffey, C. (2002, October 7). Financial expectations: Does corporate investor relations affect stock prices? *Chemical Market Reporter*, 3, 21–23.
- Marcus, A. J. (1982). Risk sharing and the theory of the firm. *Bell Journal of Economics*, 13(2), 369–378.
- Mercer (2008, May 15). Mercer Issues Study of US CEO Compensation Trends. Retrieved October 20, 2008, from <http://www.reuters.com/article/pressRelease/idUS210592+15-May-2008+BW20080515>
- Milgrom, P., & Roberts, J. (1992). *Economics, organization and planning*. New York: Prentice-Hall.
- Milkovich, G. T., & Newman, J. M. (2004). *Compensation* (8th ed.). Boston: McGraw-Hill/Irwin.
- Miller, J. S., Wiseman, R. M., & Gomez-Mejia, L. R. (2002). The fit between CEO compensation design and firm risk. *Academy of Management Journal*, 45(3), 745–756.
- Murphy, K. J. (1999). Executive compensation. In O. Ashenfelter and D. Card (Eds.), *Handbook of*

- labor economics (Vol. 3, Part 2, pp. 2485–2563). Amsterdam: North Holland.
- National Center for Employee Ownership (February 1, 2008). A statistical profile of employee ownership. Retrieved October 2, 2008, from http://www.nceo.org/library/eo_stat.html
- O'Connor, J. J. P., Priem, R. L., Coombs, J. E., & Gilley, K. M. (2006). Do CEO stock options prevent or promote fraudulent financial reporting? *Academy of Management Journal*, 49(3), 483–500.
- Orlitzky, M., & Rynes, S. L. (2001). When employees become owners: Can employee loyalty be bought? In C. L. Cooper and D. M. Rousseau (Ed.), *Trends in organizational behavior: Vol. 8. Employee versus owner issues in organizations* (pp. 57–79). Chichester, England: Wiley.
- Oyer, P. (2004). Why do firms use incentives that have no incentive effects? *Journal of Finance*, 59(4), 1619–1650.
- Petersen, B. K., & Martin, H. J. (1996). CEO perceptions of investor relations as a public relations function: An exploratory study. *Journal of Public Relations Research*, 8(3), 173–209.
- Rajgopal, S., & Shevlin, T. (2002). Empirical evidence on the relation between stock option compensation and risk taking. *Journal of Accounting and Economics*, 33(2), 145–171.
- Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs*, 33(1), 300–303.
- Salter, M. S. (1973). Tailor incentive compensation to strategy. *Harvard Business Review*, 51(2), 94–102.
- Sanders, W. G. (2001). Behavioral responses of CEOs to stock ownership and stock option pay. *Academy of Management Journal*, 44(3), 477–492.
- Sanders, W. G., & Hambrick, D. C. (2007). Swinging for the fences: The effects of CEO stock options on company risk-taking and performance. *Academy of Management Journal*, 50(5), 1055–1078.
- Sesil, J. C., Kroumova, M. K., Blasi, J. R., & Kruse, D. L. (2002). Broad-based stock options in US new economy firms. *British Journal of Industrial Relations*, 40(2), 273–294.
- Shapira, Z. (1995). *Risk taking: A managerial perspective*. Thousand Oaks, CA: Sage.
- Sims, H. P., Szilagyi, A. D., & McKemey, D. R. (1976). Antecedents of work-related expectancies. *Academy of Management Journal*, 19(4), 547–559.
- Stock options from parent. (2002, March). *Accountancy*, 129(1303), 114.
- Tsui, A. S., Pearce, J. L., Porter, L. W., & Tripoli, A. M. (1997). Alternative approaches to the employee-organization relationship: Does investment in employees pay off? *Academy of Management Journal*, 40(5), 1089–1121.
- Vroom, V. H. (1960). *Some personality determinants of the effectiveness of participation*. Englewood Cliffs, NJ: Prentice Hall.
- Vroom, V. H. (1964). *Work and motivation*. New York: John Wiley & Sons.
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, 54(6), 1063–1070.
- Williamson, O. W. (1975). *Markets and hierarchies: Analysis and antitrust implications*. New York: MacMillan Free Press.
- Wiseman, R. M., & Gomez-Mejia, L. R. (1988). A behavioral agency model of managerial risk taking. *Academy of Management Review*, 23(1), 133–153.
- Wu, M. C. (2007). Selecting suitable compensation plans of executive stock options. *Applied Economics*, 39(9), 1185–1193.
- Yan, A., & Gray, B. (1994). Bargaining power, management control, and performance in United States-China joint ventures: A comparative case study. *Academy of Management Journal*, 37(6), 1478–1517.
- Zhang, X., Bartol, K. M., Smith, K. G., Pfarrer, M. D., & Khanin, D. M. (2008). CEOs on the edge: Earnings manipulation and stock-based incentive misalignment. *Academy of Management Journal*, 51(2), 241–258.
- Zorn, D. M. (2004). Here a chief, there a chief: The rise of the CEO in the American firm. *American Sociological Review*, 69(3), 345–364.
- Zuckerman, M. (1979). Attribution of success and failure revisited: The motivational bias is alive and well in attribution theory. *Journal of Personality*, 47(2), 245–287.