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# Do Managers Value Stock Options and Restricted Stock Consistent with Economic Theory?\*

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## I. Introduction

We investigate whether current mid-level and future entry-level managers subjectively value stock options and restricted stock consistent with economic theory. We also investigate whether managers' subjective valuations are sensitive to changes in key characteristics of these equity instruments. We believe our investigation is important for three reasons. First, in recent years firms have granted the vast majority of options to employees who are not senior-level executives (Jensen, Murphy, and Wruck 2005).<sup>1</sup> Indirect anecdotal evidence suggests that these employees are less likely than senior-level executives to understand how stock options work.<sup>2</sup> Second, a fundamental premise underlying the traditional economics-based literature on stock options is that employees understand how to value them. If this premise does not hold, the efficacy of stock options as an incentive mechanism, and the findings from the literature relying on this premise, are called into question. Third, in 2005 the Financial Accounting Standards Board (FASB) began requiring firms to recognize the fair value of stock options on the income statement. Since that time, many firms have considered cutting broad-based stock option plans or switching from broad-based option plans to restricted stock plans (Deloitte 2005). If employees perceive the relative value of stock options and restricted stock differently than firms do, switching from stock options to restricted stock could create ill will, increase employee turnover, and dilute the incentive effects of issuing equity compensation.

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Ainslie, G., and N. Haslam. 1992. Hyperbolic discounting. In *Choice over Time*, eds. G. Lowenstein and J. Elster, 57–92. New York: Russel Sage Foundation.

Arya, A., and B. Mittendorf. 2005. Offering stock options to gauge managerial talent. *Journal of Accounting and Economics* 40: 189–210.

Barber, B., and T. Odean. 2001. Boys will be boys: Gender, overconfidence, and common stock investment. *Quarterly Journal of Economics* 116 (1): 261–92.

Benartzi, S. 2001. Excessive extrapolation and the allocation of company stock to retirement accounts. *Journal of Finance* 56 (5): 1747–64.

Bergman, N., and D. Jenter. 2007. Employee sentiment and stock option compensation. *Journal of Financial Economics* 84 (3): 667–712.

Bettis, J., J. Bizjak, and M. Lemmon. 2005. Exercise behavior, valuation, and the incentive effects of employee stock options. *Journal of Financial Economics* 76 (2): 445–70.

Brav, A., J. Graham, C. Harvey, and R. Michaely. 2005. Payout policy in the 21st century. *Journal of Financial Economics* 77 (3): 483–527.

Choi, J., D. Laibson, B. Madrian, and A. Metrick. 2004. Employees' investment decisions about company stock. NBER paper no. 10228.

Core, J., and W. Guay. 2001. Stock option plans for non-executive employees. *Journal of Financial Economics*

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Deloitte. 2005. *Options take a hit, but what will take their place?* The 2005 Deloitte Stock Compensation Survey. New York: Deloitte Development LLC.

---

Devers, C., R. Wiseman, and R. Holmes. 2007. The effects of endowment and loss aversion in managerial stock option valuation. *Academy of Management Journal* 50 (1): 191–208.

---

Farrell, A., S. Krische, and K. Sedatole. 2008. *Employees' subjective valuations of their stock options: Evidence on the use of heuristics*. Working paper, University of Illinois and Michigan State University.

---

Fidelity Investments. 2003. *Maximizing employee stock option plans*. Boston: Fidelity Investments.

---

Gebhardt, W., C. M. C. Lee, and B. Swaminathan. 2001. Toward an implied cost of capital. *Journal of Accounting Research* 39 (1): 135–76.

---

Goldstein, D., E. Johnson, and W. Sharpe. 2006. *Measuring consumer risk-return tradeoffs*. Working paper, London Business School, Columbia University, and Stanford University.

---

Golec, J., and M. Tamarkin. 1998. Bettors love skewness, not risk, at the horse track. *Journal of Political Economy* 106 (1): 205–25.

---

Graham, J., C. Harvey, and S. Rajgopal. 2005. The economic implications of corporate financial reporting. *Journal of Accounting and Economics* 40: 3–73.

---

Hall, B., and K. Murphy. 2002. Stock options for undiversified executives. *Journal of Accounting and Economics* 33: 3–42.

---

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---

Hemmer, T., S. Matsunaga, and T. Shevlin. 1994. Estimating the "fair value" of employee stock options with expected early exercise. *Accounting Horizons* 8 (4): 23-42.

---

Hitt, M., M. Dacin, E. Levitas, J. Edhec, and A. Borza. 2000. Partner selection in emerging and developed market contexts: Resource-based and organizational learning perspectives. *Academy of Management Journal* 43 (3): 449-67.

---

Hodder, L., W. Mayew, M. McAnally, and C. Weaver. 2006. Employee stock option fairvalue estimates: Do managerial discretion and incentives explain accuracy?. *Contemporary Accounting Research* 23 (4): 933-75.

---

Huddart, S., and M. Lang. 1996. Employee stock option exercises: An empirical analysis. *Journal of Accounting and Economics* 21: 5-43.

---

Ingersoll, J. 2006. The subjective and objective evaluation of incentive stock options. *Journal of Business* 79 (2): 453-87.

---

Jensen, N., K. Murphy, and E. Wruck. 2005. *Remuneration: Where we've been, how we got to here, what are the problems, and how to fix them*. Working paper, Harvard Business School.

---

Johnston, D. 2006. Managing stock option expense: The manipulation of option-pricing model assumptions. *Contemporary Accounting Research* 23 (2): 395-425.

---

Kahl, M., J. Liu, and F. Longstaff. 2002. Paper millionaires: How valuable is stock to a stockholder who is restricted from selling it? Working paper, National Bureau of Economic Research.

---

Kahneman, D., and A. Tversky. 1979. Prospect theory: An analysis of decision under risk. *Econometrica* 47 (2):

---

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Kedia, S., and Mozumdar, A. 2002. *Performance impact of employee stock options*. Working paper, Harvard University.

Kim, D. C. 1992. Risk preferences in participative budgeting. *The Accounting Review* 67 (2): 303-18.

Klassen, K., and A. Mawani. 2000. The impact of financial and tax reporting incentives on option grants to Canadian CEOs. *Contemporary Accounting Research* 17 (2): 227-62.

Kloss, A., E. Weber, and M. Weber. 2005. Investment decisions and time horizons: Risk perception and risk behavior in repeated gambles. *Management Science* 51 (12): 1777-90.

Korniotis, G., and A. Kumar. 2007. *Does investment skill decline due to cognitive aging or improve with experience?* Working paper, University of Texas at Austin.

Lambert, R., D. Larcker, and R. Verrecchia. 1991. Portfolio considerations in valuing executive compensation. *Journal of Accounting Research* 29 (1): 129-49.

Liang, N., and S. Weisbenner. 2002. *Investor behavior and the purchase of company stock in 401(k) plans* – The importance of plan design. Working paper, University of Illinois at Urbana Champaign.

Longstaff, F. 1995. How much can marketability affect security values?. *The Journal of Finance* 50 (5): 1767-74.

Longstaff, F. 2001. Optimal portfolio choice and the valuation of illiquid securities. *Review of Financial Studies* 14 (2): 407-31.

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---

Meulbroek, L. 2001. The efficiency of equity-linked compensation: Understanding the full cost of awarding executive stock options. *Financial Management* 30 (2): 5-30.

---

Nofsinger, J. 2008. *The psychology of investing*, 3rd ed. Upper Saddle River, NJ: Pearson Prentice Hall.

---

Olsen, R. 1997. Investment risk: The experts' perspective. *Financial Analysts' Journal* 53 (2): 62-6.

---

Oyer, P., and S. Schaefer. 2005. Why do some firms give stock options to all employees? An empirical examination of alternative theories. *Journal of Financial Economics* 76 (1): 99-133.

---

Pratt, S. 1989. *Valuing a business*. Homewood, IL: Irwin.

---

Sanders, W. 2001. Behavioral responses of CEOs to stock ownership and stock option pay. *Academy of Management Journal* 44 (3): 477-92.

---

St-Onge, S., M. Magnan, L. Thorne, and S. Raymond. 2001. The effectiveness of stock option plans: A field investigation of senior executives. *Journal of Management Inquiry* 10 (3): 250-66.

---

Slovic, P., and S. Lichtenstein. 1971. Comparison of Bayesian and regression approaches to the study of information processing in judgment. *Organizational Behavior and Human Performance* 6 (6): 649-744.

---

Taylor, S., and J. Brown. 1988. Illusion of well-being: A social psychological perspective on mental health. *Psychological Bulletin* 103 (2): 193-210.

---

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Weinstein, N. 1987. Unrealistic optimism about illness susceptibility: Conclusions from a community-wide sample. *Journal of Behavioral Medicine* 10 (5): 481–500.

Yates, F., and E. Stone. 1992. The risk construct. In *Risk-Taking Behavior*, ed. F. Yates, 1–25. New York: John Wiley & Sons.

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