

Employees' Perceived Values of Their Stock Option Holdings: How Training Affects the Cost-Value Gap

Summary of Preliminary Findings

An ongoing research project conducted by the authors examines how employee stock option recipients perceive the value of their option holdings and explores implications of a stock option education program as a mechanism for improving recipients' perceived value of their options. The data used in the study was obtained under a confidentiality agreement with Net Worth Strategies, Inc. (NWSI), a national leader in equity compensation planning services, from their employee stock-option training programs at five client sites during the period September 2004 through March 2006, and was supplemented with an experiment that replicates components of the education program.

The study analyzes the value that employees would forfeit from their current employee stock option holdings if they terminated their employment (Forfeit Value). The focus of the study is on the potential difference between an employee's perception of the Forfeit Value and the corresponding value as calculated using the Black-Scholes formula (Cost), and on how a stock option education program affects that difference.

Based on our analysis to date, we have identified the following preliminary findings from the NWSI data:

- Before training, the majority of employee stock option recipients in the sample (162 of 214, 76%) perceive the Forfeit Value of their stock option holdings to be less than the Cost. The median ratio of perceived Forfeit Value to Cost is 0.376, representing a statistically significant discount as well as an economically significant one. While these results vary across participating firms, the majority of the recipients in each firm initially discount their perceived Forfeit Value relative to Cost (with a statistically significant discount for the majority of the five firms).
- Completing the stock option education program (which explains stock option fundamentals and clearly articulates the value of the recipients' option holdings) significantly increases recipients' perceived Forfeit Values. These results are based on the subsample of recipients who completed an optional post-training survey, and also vary across participating firms (with the greatest difference in perceived value observed for the firms for which the before-training discount was largest).
- After training, there is no longer significant evidence of a median discount in recipients' perceived Forfeit Values relative to the Cost. This suggests that investments in particular types of employee education can significantly decrease the cost-value gap and increase the incentive benefit of employee stock options.
- There is evidence that training also improves recipients' confidence in their financial decision-making concerning their option holdings.

The before and after training results from the NWSI data are replicated with the perceived Forfeit Values of graduate business students who participated in the experiment. In the experiment, we also find that training generally shifts individuals away from using simple valuation heuristics (e.g., intrinsic value) toward attempting to apply more sophisticated valuation techniques (e.g., Black-Scholes). For further information contact the authors or access the full working paper at <http://ssrn.com/abstract=976641>.

THIS SUMMARY OF PRELIMINARY FINDINGS IS DATED MARCH 27, 2007 AND SUPERSEDES PREVIOUS SUMMARIES. IT IS BASED ON ON-GOING ACADEMIC RESEARCH THAT HAS NOT YET BEEN SUBJECTED TO PEER REVIEW; THUS, REPORTED FINDINGS MAY BE SUBJECT TO CHANGE AS ANALYSES PROCEED. PLEASE DO NOT QUOTE WITHOUT PRIOR PERMISSION.

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