
Class #18

“Employee Stock Options and Valuation

Management Compensation

- Key Issue: Managers are self-interested and risk-averse
- Management “Agency Problems”:
 - Horizon Problem
 - Over-retention Problem
 - Risk Aversion Problem
 - Effort Problem
- How can equityholders (the principals) overcome managerial agency problems?
 - Compensation contracts

Structure of Management Compensation Contracts

- Base Salary
 - Why?
- Short-term incentives:
 - Examples?
 - What do these address?
- Long-term incentives:
 - Long-term accounting based-performance plans
 - Stock holdings (restricted stock grants)
 - Stock options (vesting, sensitivity to risk)
 - Stock appreciation rights, other

Management Compensation

- Advantages of accounting-based comp:
 - Incentives to improve performance/profitability.
 - Can shield managers from risk of volatile stock price (outside their control?).
- Disadvantages of accounting-based comp:
 - Imposes risk on managers if events affecting accounting #'s are outside their control.
 - Focus on short-term accounting performance vs maximizing long-term value.
 - Provide distorted incentives (investment vs EPS)
 - Accounting numbers can be manipulated!

Stock Compensation

- Companies use stock options to augment cash compensation for several reasons:
 - Incentives: Help align managers/ employees' interests with those of shareholders
 - Financing: “Start-up” and high-growth companies are often “cash starved” and cannot afford to pay cash salaries today.
 - Reporting: Can increase EPS today (no comp charge for options) – But, future rule change
 - Taxes: Option comp is not taxable to employ on grant date (if options issued “at or out of money”) AND company gets tax write-off at exercise.

Employee/Executive Option Compensation Pricing

- The option gives the employee the right to:
 - Purchase company stock
 - For a pre-specified price (exercise or strike price)
 - After a specific date (vesting period)
 - Until a maturity date (expiration date)
 - European option versus American option
 - Value of stock option (use modified Black-Scholes formula):
 - Value of Call Option = $C(S, X, T, \sigma, r)$

Differences between Publicly-Traded Options and ESOs

- Typical Restrictions:
 - Required vesting period before exercise. Why?
 - Employees forfeit unvested options when employee leaves firm. Why?
 - Employees cannot sell options. Why?
 - Employees may not hedge options. Why?

How to Account for Stock Options

- How do firms account for salaries paid employees?
- Firms have a choice of accounting methods:
 - Choice #1: Intrinsic Value Method (APB 25)
 - Options issued “at or below the money” produce no compensation expense. Are these option worthless?
 - Options issued “in the money” are simply expensed as the difference between the stock price and the exercise price over the vesting period. Is this the true value of the option?
 - Must also report (in financial footnotes) the “true cost” of options and impact on EPS if company used SFAS 123.

How to Account for Stock Options

– Choice #2: Use SFAS 123

- A fair value method
- Use Modified Black-Scholes formula
- Key inputs:
 - Stock Price
 - Exercise Price
 - Vesting Period
 - Time to Expiration (Maturity)
 - Fraction of options that will be forfeited (employees leave before vesting).

How to Account for Stock Options

– Example:

- Stock options with 2 year vesting period and 3 years to maturity
 - Stock price when options issued = \$30 (at the money)
 - Strike (exercise) price of options = \$30
- Compare APB 25 versus SFAS 123.

Tax Implications of Stock Options

- Employee
 - None on grant date if
 - “incentive stock option” and issued “at the money”
 - Option exercise: Ordinary income
 - Sale of stock: Use Appropriate capital gains rate
 - AMT Implications for stock held:
 - See <http://www.mystockoptions.com>
- Company
 - None on grant date
 - Deduction from taxable income at corporate rate on exercise of option by employee
 - (difference between stock price and exercise price).

Next Classes

- Review Sessions for Quiz #2:
 - Attend either Tuesday evening OR Wednesday evening Class 13
- Readings for Class #20 –
 - Section J of Course Reader (Leases and Off-Balance Sheet Debt): Skim pages 531-543, 547-551, 554-557