

ANSWER OUTLINE

ECONOMICS 353

L. Tesfatsion/Fall 06

EXERCISE 8: Six Questions (8 Points Total) DUE: Tuesday, Nov. 14, 2006, 2:10pm

****IMPORTANT REMINDER: LATE ASSIGNMENTS WILL NOT BE ACCEPTED
– NO EXCEPTIONS****

EXERCISE INSTRUCTIONS:

- (1) Please **fill in your name and student ID number** on Side 1 of your bubble sheet and write **353-Ex8** in the top margin of Side 1.
- (2) Use a number 2 pencil to **mark your answers** on Side 1 of the bubble sheet to the first five questions Q1 through Q5, below, which are in multiple choice format.
- (3) The sixth question Q6 is a Web Exercise that asks you to consider the roll of stock options in the post-Enron era. Please put your **name and student ID number** at the top of your answer sheet for Q6 along with **353-Ex8:Q6** and **separately** hand in this answer sheet for Q6 in addition to your answer bubble sheet for questions Q1 through Q5.
- (4) Each question Q1 through Q5 is worth 1 point, and Q6 is worth 3 points.

Q1 (1 point). According to the FUNDAMENTAL finance view, stock prices are largely determined by

- A. behavioral fundamentals such as optimism, pessimism, and crowd following.
- B. the true (“fundamental”) financial conditions of firms.
- C. adaptive expectations regarding past stock prices.
- D. rational expectations regarding future stock prices.

Q2 (1 Point). According to the ONE-PERIOD VALUATION MODEL for common stocks discussed by Mishkin (Chapter 7, p. 152) with current stock price P_0 , expected end-of-period dividend payment Div_1 , required return on equity k_e , and expected end-of-period stock price P_1 , the current price P_0 INCREASES if

- A. Div_1 decreases.
- B. k_e increases.
- C. P_1 increases.
- D. all of the above.

Q3 (1 Point). By definition, a PRICE BUBBLE is said to exist for a stock if

- A.** the price of the stock exhibits high volatility over time.
- B B.** the current price of the stock differs from the present value of the stock's future expected dividend payments.
- C.** the price of the stock has sharply increased over the past few periods and is now suddenly in sharp decline.
- D.** the price of the stock is higher than the average price of all stocks.

Q4 (1 Point). The GENERALIZED DIVIDEND (VALUATION) MODEL described by Mishkin (Chapter 7, p. 153, equation (3)) predicts that a stock expected to never pay any dividends

- A.** will have a current price equal to the present value of its face value.
- B.** will have a current price equal to its required return on equity.
- C.** will have a current price equal to the present value of its future prices.
- D D.** will have a current price equal to zero.

Q5 (1 Point). By definition, if an expected inflation rate is a (strong-form) RATIONAL EXPECTATION, as described by Mishkin (Chapter 7, pp. 157-158),

- A.** it is an optimal weighted average of all past observed inflation rates.
- B B.** it is an optimal forecast of the inflation rate using all available information.
- C.** it is an average over expected future inflation rates.
- D.** it is a weighted average of the inflation rates expected by financial experts.

**SEE THE FOLLOWING PAGE FOR
Q6: WEB EXERCISE**

Q6: Web Exercise (3 Points). Stock options, especially for company executives, have been a hot-button issue since the dot.com bubble burst. This exercise asks you to consider the meaning of stock options, and what kind of role they should play in the compensation packages provided by companies to their employees.

Key References:

[1] Mishkin, Chapter 7

[2] Tutorial on Options, <http://www.investopedia.com/university/options/>

[3] Corey Rosen, “Reforming Stock Options in the Post-Enron, Post-WorldCom Era,” The National Center for Employee Ownership (NCEO), February, 2005.
http://www.nceo.org/library/reforming_stock_options.html

Q6: PART A (1 Point). Define what is meant by: (a) an OPTION; (b) a STOCK option; (c) a CALL stock option; and (d) an EMPLOYEE stock option (ESO).

Answer Outline for Q6:Part A. According to reference [2]:

- (a) An OPTION is a contract that gives the holder the right, but not the obligation, to buy or sell an underlying asset at a specific price on or before a specific date.
- (b) A STOCK option is an option for which the underlying asset is a particular stock.
- (c) A CALL stock option gives the holder the right to BUY shares of the underlying stock at a certain price within a specific period of time.
- (c) An EMPLOYEE stock option (ESO) is an option granted to specific employees of a company giving them the right, but not the obligation, to BUY stock shares in this company at a predetermined price on or before a specific date subject to various additional restrictions. For example, ESOs typically cannot be exercised until after a specified “vesting period” and typically they cannot be transferred to other parties.

Q6: PART B (1 Point). Explain briefly but carefully why holders of CALL STOCK OPTIONS hope that the stock price will increase substantially before the option expires.

Answer Outline for Q6:Part B. A holder of a call stock option has the right to purchase a specific stock at a specific price P_s (known as the STRIKE PRICE) on or before a specific date (known as the EXPIRATION DATE). Suppose the actual stock price P increases substantially before the expiration date, so that P is greater than the strike price P_s . Then the holder of the call stock option can actualize a gain in wealth by first exercising the option (i.e., buying shares of the stock at price P_s) and then selling these same stock share at price $P > P_s$.

Q6: PART C (1 Point). Some commentators have argued that the collapse of Enron and other dot.com companies was caused in part by their ESO systems. Briefly but carefully

describe at least TWO POTENTIAL BENEFITS and TWO POTENTIAL RISKS of ESOs as discussed, for example, in reference [3].

Answer Outline for Q6:Part C. As discussed in reference [3], POTENTIAL BENEFITS of ESOs include:

- alignment of employee and shareholder interests, since both now profit from a higher stock price;
- providing employees a stake in the performance of their companies (i.e., a way to share in the profits through acquisition of company stock shares), so they have an incentive to be more productive.
- enabling employers to provide compensation to employees in a form (stock options) that provide potential tax benefits to employees, since any ensuing profits to the employees from the exercise of the options are subject to a capital gains tax rate that is typically much lower than the tax rate that would be applied to compensation in the form of direct income (e.g. cash bonuses).
- enabling employers to provide compensation to employees that does not have to be expensed on company balance sheets (as would compensation in the form of direct income payments such as cash bonuses) unless and until the options are exercised. This typically permits employers to report higher profits to shareholders (although opening up the company to greater risk - see below).

On the other hand, as discussed in reference [3], POTENTIAL RISKS of ESOs include:

- large awards of ESOs to executives relative to regular employees can cause pay scales to get hugely out of whack relative to true productive contributions;
- executives receiving large awards of ESOs might be tempted to use dubious means (creative accounting practices, misleading reports to shareholders, etc.) to induce price increases or price spikes (volatility) in their companies' stock shares so that their ESOs can be profitably exercised;
- ESOs can disguise potential costs and hence financial risk. More precisely, if ESOs are not expensed on company balance sheets, they can represent huge potential costs to companies that are not visible to accountants, shareholders, employees, and/or regulators, thus making it hard for "outsiders" to judge the true financial condition of companies.