SIMON FRASER UNIVERSITY
Faculty of Business Administration

FINAL EXAM

BUS 417 Security Analysis 11-1
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EXAM INSTRUCTIONS: Please record all answers in the examination book provided. Calculators with enhanced capabilities such as the ability to input executable programs or attach external drives, whether such drives are attached or not, are prohibited. Use of devices with communications abilities, such as cell phones, is prohibited. The exam is closed book, no books or other supplementary materials are permitted to be used during the examination.

EXAM DURATION: TWO HOURS

DO ALL PARTS OF ALL QUESTIONS (Each question is worth 25 total points – 10 points for part a and 15 points for part b for two part questions)

1. The Graham and Dodd 'value investing' approach to security analysis emphasizes the importance of calculating an *intrinsic value* and comparing this value to the observed market price. A security is eligible for purchase if the difference between intrinsic value and market price exceeds the *margin of safety.* Finally, value investing requires an acceptable level of *diversification*. Using this approach, identify the best value investing portfolio of **FIVE** common stocks selected from all of the different sectors that were examined during the in-class presentations. (Hint: Be sure to explain the value investing rationale for each stock selected.)

2.a) Contrast the solutions to the life annuity valuation problem developed by de Witt, Halley and de Moivre. Be sure to identify relevant assumptions used to obtain the solutions and to explain the connection of each life annuity pricing formula to pricing using discounted expected value.

b) "Whether the bond market moves up or down, high-convexity portfolios will always outperform low-convexity portfolios of equal duration and yield." Explain the argument supporting this statement and the connection to the classical immunization strategy. What factors would tend to undermine the validity of the statement? What are the implications of this result for the asset/liability managers seeking to control interest rate risk for the fixed income portfolio of a life insurance company? Is it true that "the cost of a higher convexity is a lower yield"?

3. a) Derive a formula for the Macaulay duration of : i) a perpetuity; and, ii) a life annuity (assume arithmetically declining survival rates).

b) Philip Fisher makes the following observation in *Developing an Investment Philosophy* (1980):

> For those primarily seeking major appreciation of their capital, de-emphasize the importance of dividends. The most attractive opportunities are most likely to occur in the profitable, but low or no dividend payout groups. Unusual opportunities are much less likely to be found

in situations where a high percentage of profits is paid to stockholders.

Comment on the implications of this statement for the valuation of common stocks. In your answer be sure to provide an assessment of the validity of the statement as well as a discussion of the potential bias in the equity security selection process that adhering to this observation could produce.

4.a) Describe the evolution of security analysis from 1900 to the present. In your answer be sure to identify seminal contributions to the different approaches to the subject and to provide an overview of the essential elements of these possible approaches.

b) In chapter 12 of The General Theory J.M. Keynes described the process of valuing common stocks as: "a game of Snap, of Old Maid, of Musical Chairs – a pastime in which he is victor who says *Snap* neither too soon nor too late, who passes the Old Maid to his neighbour before the game is over, who secures a chair for himself when the music stops." What are the implications of this statement for the time series behaviour of equity security prices? In your answer be sure to provide an assessment of the validity of the statement as well as a discussion of how the management of an equity security portfolio would have to be conducted if the statement were correct.

BONUS QUESTIONS: (5 points each)

B1. You are in the market for a house. Your effective all-in market borrowing rate for a second mortgage from a bank is 7.25%. The vendor of one of the houses you are considering purchasing is willing to undertake a $400,000 second mortgage, with a 5 year term at 5.25%, and a 25 year amortization period. The asking price on the house is $800,000. What adjustment to the sales price of the house is warranted if, as part of the purchase, you take up the vendor's second mortgage offer?

B2. The new rules announced by the federal government on Oct. 31, 2006, and implemented in the March 2007 Federal budget, regarding the use of a unit trust structure by publicly traded Canadian companies required the elimination of favourable corporate tax treatment no later than Jan.1, 2011 Provide a discussion of the actual equity market reaction to the transition of unit trusts to corporate status in 2011. (Hint: Be sure to discuss the implications for entities that were exempt from the rules).