SIMON FRASER UNIVERSITY
Faculty of Business Administration

FINAL EXAM

BUS 417-E100 Security Analysis 15-2
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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)

1.a) The Fisher (1975) approach to company analysis emphasizes the importance of “four dimensions” to assess in determining the value of a company’s common stock: people factors, business factors, ‘the investment characteristics of some businesses’ and ‘the price of the investment’. Using these factors identify the **MOST** outstanding common stock purchase from all of the different sectors that were examined during the in-class presentations. Where there any elements of Fisher’s factors that could not be directly applied to this company?

b) 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.

2. a) 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 **TWO** best value investing 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.)

b) An important drawback of "traditional yield spread analysis" is the "failure to take into account future interest rate volatility that would affect the expected cash flow" of a fixed income security. What is option adjusted spread analysis? How does this technique correct for the “failure” of traditional yield spread analysis in the valuation of bonds with embedded option features? Once the option adjusted spread has been determined, how can the cost of option be calculated? What are some important pitfalls of using option adjusted spread analysis to value mortgage backed securities and other collateralized debt obligations?

3. In "Economic Psychology and the Value Problem", *QJE* (1925) Frank Knight observed:

> "Human beings act, not on the basis of fact and reality as such, but on the basis of *opinions* and *beliefs about facts,* and what is called *knowledge*, but which at best falls notoriously short of the implications of that term. From a logical point of view therefore, one who aspires to explain or understand human behavior must be, not finally but first of all, an epistemologist."

Comment on the implications of this statement for the analysis and valuation of securities. In your answer be sure to provide an assessment of the validity of the statement as well as a discussion of how investment strategy would have to be formulated if the statement were correct.

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) "The search for the 'correct' way to value common stocks, or even one that works, has occupied a huge amount of effort over a long period of time....the implementation of a system to selectively value or select common stocks is a difficult task. This is a task that a valuation model purports to accomplish."
Describe the **discounted dividend** cash flow valuation models conventionally used to analyse common stocks. How do these models differ from valuation models that discount cash flows other than dividends? What are some important limitations of using accounting data to implement discounted cash flow valuation?

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 with a seven year term from a bank is 4.55%. The vendor of one of the houses you are considering purchasing is willing to undertake a $700,000 second mortgage, with a 7 year term at 2.25%, and a 25 year amortization period. The asking price on the house is $900,000. 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. Provide brief definitions or descriptions of the following:
i) Free cash flow ii) 10-Q iii) Sedar iv) warrant bond v) sinking fund