SIMON FRASER UNIVERSITY
Faculty of Business Administration

FINAL EXAM

BUS 417 Security Analysis 10-1
Prof. Geoffrey Poitras

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. 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.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) 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 high percentage of profits is paid to stockholders.

Comment on the implications of this statement for the management of a portfolio 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 security selection process that adhering to this observation could produce.

2.a) Explain this statement: "...the larger the convexity on a portfolio, the less the value of the portfolio rises over time if the interest rate remains unchanged." What are the implications of this result for the asset/liability managers seeking to control interest rate risk for a the fixed income portfolio of a life insurance company? Is it true that "the cost of a higher convexity is a lower yield"? (Hint: In your answer be sure to address the tradeoff between time value and convexity.)

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? Explain the rationale for your selection.

3. In the *General Theory* J.M. Keynes observes:

> It might have been supposed that competition between expert professionals, possessing judgment and knowledge beyond that of the average private investor, would correct the vagaries of the ignorant individual left to himself. It happens, however, that the energies and skill of the professional investor and speculator are mainly occupied otherwise. For most of these persons are, in fact, largely concerned, not with making superior long-term forecasts of the probable yield of an investment over its whole life, but with foreseeing changes in the conventional basis of valuation a short time ahead of the general public. They are concerned, not with what an investment is really worth to a man who buys it "for keeps", but with what the market will value it at, under the influence of mass psychology, three months or a year hence. Moreover, this behaviour is not the outcome of a wrong-headed propensity. It is an inevitable result of an investment market organised along the lines described. For it is not sensible to pay 25 for an investment of which you believe the prospective yield to justify a value of 30, if you also believe that the market will value it at 20 three months hence.

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 security selection strategy would have to be formulated if the statement were correct.

4.a) You are given the following information about a (fictional) Government of Canada yield curve:
1 year treasury bill 0.75% 2 year par bond 2.0% 3 year par bond 2.75% 4 year par bond 3.25%
Calculate all possible implied forward interest rates. (Hint: You will need to calculate the implied zero coupon interest rates to do this.)
b) Assuming arithmetically declining survival rates and an interest rate of 5%, what is the Macaulay duration of a life annuity for a 25 year old person that cannot live beyond 95 years. (Hint: It is possible to solve this without taking the derivative.)

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 7.5%. One of the houses you are considering purchasing has an assumable $500,000, 4 year second mortgage at 5.75%, with a 22 year amortization. The asking price on the house is $800,000. What change in the sales price of the house is warranted if, as part of the purchase, you assume the vendor's mortgage?

B2. Outline 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. What exemptions to the new rules were provided? Provide a discussion of the potential equity market reaction to the transition of unit trusts to corporate status in 2011