SIMON FRASER UNIVERSITY
Faculty of Business Administration

FINAL EXAM

BUS 417 Security Analysis 10-3
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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.a) Philip Fisher makes the following observation in Developing an Investment Philosophy (1980):

> There are a relatively small number of truly outstanding companies. Their shares frequently can't be bought at attractive prices. Therefore, when favorable prices exist, full advantage should be taken of the situation. Funds should be concentrated in the most desirable opportunities. For those involved in venture capital and quite small companies, say with annual sales of under $25,000,000, more diversification may be necessary. For larger companies, proper diversification requires investing in a variety of industries with different economic characteristics. For individuals (in possible contrast to institutions and certain types of funds), any holding of over twenty different stocks is a sign of financial incompetence. Ten or twelve is usually a better number. ... As an individual's holdings climb toward as many as twenty stocks, it nearly always is desirable to switch from the least attractive of these stocks to more of the attractive..

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 minimum possible time period a stock would have to be held after purchase if the statement were correct.

b) 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 **THREE** outstanding common stock purchase from all of the different sectors that were examined during the in-class presentations.

2.a) Assuming arithmetically declining survival rates and an interest rate of 3.5%, what is the Macaulay duration of a life annuity for a 22 year old person that cannot live beyond 95 years. (Hint: It is possible to solve this without taking the derivative.)

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. What are the implications of using alternative definitions of dividends? How do these models differ from valuation models that discount cash flows other than dividends?

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) 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? 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?

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 a the fixed income portfolio of a life insurance company? Is it true that "the cost of a higher convexity is a lower yield"?

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 6.5%. One of the houses you are considering purchasing has an assumable $500,000, 4 year second mortgage at 5.25%, 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