AFRICAN ECONOMIC RESEARCH CONSORTIUM

Collaborative Masters Programme in Economics for Anglophone Africa (Except Nigeria)

JOINT FACILITY FOR ELECTIVES (JFE) 2018

JUNE - SEPTEMBER

FINANCIAL ECONOMICS II

Second Semester: Final Examination

Duration: 3 Hours **Date: Wednesday, September 26, 2018**

INSTRUCTIONS:

1. There are **FIVE** questions in this examination.
2. You are required to answer **ANY THREE** questions.
3. All questions carry equal marks.

Question 1: [20 Marks]

(a) Clearly distinguish between convertible bond and exchangeable bond. Explain the main features of a convertible bond and its usefulness to a growing firm. **(8 Marks)**

(b) Consider a firm with 8% 20-year convertible bond of $1,000 par value and a conversion price of $50 per share. The share is currently trading in the stock market at $61 and the convertible is trading in the bond market at $1,480. If an investor decides to exercise the option on this convertible, calculate his total profit from the conversion and estimate the conversion premium. Use an appropriate graphical model to analyze the conversion premium. How would you generally describe the behaviour of convertible bond? **(12 Marks)**

Question 2: [20 Marks]

(a) Carefully discuss the signalling theory of dividend relevance in relation to information asymmetry and compare it with the Gordon model of dividend relevance. Which one do you consider more relevant in explaining the role of dividend policy in firm valuation? **(10 Marks)**

(b) The Put-Call Parity represents the equilibrium condition in the options market. Present this condition and carefully explain its contents. Assume the option market is characterized by current stock price $42, put price $2.2, exercise price $36, risk-free rate 7%, and expiration period of 1 year. Use discrete time valuation to estimate the call price. Distinguish between Originating Company and Special Purpose Company in asset securitization. Which one do you consider more prominent in the process? **(10 Marks)**

Question 3: [20 Marks]

(a) Present the Capital asset pricing model and critically discuss its properties. Compare this model with Modigliani-Miller proposition II without taxes. Explain the importance of taxes in fostering the value of firm. **(10 Marks)**

(b) Consider a firm's capital structure with 20 percent leverage, tax rate 50 percent, expected market return 17 percent, systematic risk 0.5, and risk-free rate 7 percent which is also the cost of debt. Use an appropriate model to estimate cost of equity for the firm and the weighted average cost of capital. Examine the implication of leverage on cost capital. **(10 Marks)**

Question 4: [20 Marks]

(a) Critically discuss the binomial option pricing model and carefully indicate its usefulness to investors in the financial derivatives market. **(8 Marks)**

(b) Consider a three month call option on a firm's stock with an exercise price of $45, current stock price $50, Treasury bill rate 20 percent, and standard deviation of return on the stock of 40 percent. Apply Black-Scholes model to compute value of the call option. Suppose the option is currently selling at $7, will you invest your money in it? How would you describe the current state of the option? **(12 Marks)**

Question 5: [20 Marks]

(a) Discuss the method employed by firms to raise equity funds from the capital market. Suppose a firm does not want to source funds from the capital market, what is the most viable private alternative for raising funds? Provide reasons why a firm may not want to increase its equity capital. **(10 Marks)**

(b) Carefully analyze Fisher's separation theorem and its relevance in determining wealth and utility maximization of investors under capital market conditions. Explain a typical scenario of agency problem that may inhibit the maximization of shareholders' wealth in a firm. **(10 Marks)**