



AFRICAN ECONOMIC RESEARCH CONSORTIUM
Collaborative Masters Programme in Economics for Anglophone Africa
(Except Nigeria)
JOINT FACILITY FOR ELECTIVES (JFE) 2013
JUNE - SEPTEMBER
CORPORATE FINANCE AND INVESTMENT II
Second Semester: Final Examination

Duration: 3 Hours

Date: Friday, September 20, 2013

INSTRUCTIONS:

1. There are **FIVE** questions in this examination.
 2. You are required to answer **ANY FOUR** questions.
 3. All questions carry equal marks.
 4. Be neat and clear and start each question on a new page.
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Question 1

The 'Bowie bonds' were popularized after David Bowie obtained a significant amount of funding from his music royalties using a financing technique known as securitization.

- (a) Explain what is meant by "asset securitization". **[3 marks]**
- (b) Explain three reasons why a company may want to securitize assets. **[6 marks]**
- (c) Describe four key players in the asset securitization process. **[8 marks]**
- (d) Compare and contrast between an Asset-Based Security and a Mortgage-Based Security, and explain two types of mortgage backed securities. **[8 marks]**

Question 2

- (a) A major motive for one company merging with or acquiring another company is said to be the possible gains in efficiency (referred to as synergies) from combining operations of the two companies.
 - (i) Define the general expression for synergy gains and briefly explain the sources of synergy in a merger/acquisition. **[10 marks]**
 - (ii) Explain two other motives for mergers/acquisitions. **[4 marks]**



(b) Kenya Breweries Limited is analyzing the possible acquisition of Kericho Brewers Company. Both firms have no debt. Kenya Breweries believes the acquisition will increase its total after-tax annual cash flows by Shs. 3,360,000 indefinitely. The current market value of Kericho is Shs. 78 million, and that of Kenya Breweries is Shs. 135 million. The appropriate discount rate for the incremental cash flows is 12 percent. Kenya Breweries is trying to decide whether it should offer 40 percent of its stock or Shs. 95 million in cash to Kericho's shareholders.

- (i) What is the cost to Kenya Breweries Limited of each alternative? [4 marks]
- (ii) What is the NPV to Kenya Breweries Limited of each alternative? [4 marks]
- (iii) Which alternative should Kenya Breweries choose? [3 marks]

Question 3

(a) When personal taxes on interest income and bankruptcy costs are considered, the general expression for the value of a levered firm in a world in which the tax rate on equity distributions equals zero is given as:

$$V_L = V_U + \{1 - [(1 - t_C)/(1 - t_D)]\} \times D - C(D)$$

Where:

V_L = The value of a levered firm.

V_U = The value of an unlevered firm.

D = The value of the firm's debt.

t_C = The tax rate on corporate income.

t_D = The personal tax rate on interest income.

$C(D)$ = The present value of the costs of financial distress.

- (i) In their no-tax model, what do Modigliani and Miller assume about t_C , t_D , and $C(D)$? What do these assumptions imply about a firm's optimal debt-equity ratio? [4 marks]
- (ii) In their model with corporate taxes, what do Modigliani and Miller assume about t_C , t_D , and $C(D)$? What do these assumptions imply about a firm's optimal debt-equity ratio? [4 marks]
- (iii) Consider an all-equity firm that is certain to be able to use interest deductions to reduce its corporate tax bill. If the corporate tax rate is 34 percent, the personal tax rate on interest income is 20 percent, and there are no costs of financial distress, by how much will the value of the firm change if it issues Shs. 1 million in debt and uses the proceeds to repurchase equity? [4 marks]



- (b) Mathare Company and Muthaiga Company are identical firms except that Muthaiga is more levered. Both companies will remain in business for one more year. The companies' economists agree that the probability of the continuation of the current expansion (boom) is 80 percent for the next year, and the probability of a recession is 20 percent. If the expansion continues, each firm will generate earnings before interest and taxes (EBIT) of Shs. 20 million. If a recession occurs, each firm will generate earnings before interest and taxes (EBIT) of Shs. 8,000,000. Mathare's debt obligation requires the firm to pay Shs. 7,500,000 at the end of the year. Muthaiga's debt obligation requires the firm to pay Shs. 10 million at the end of the year. Neither firm pays taxes. Assume a discount rate of 15 percent.
- (i) Compute the potential payoffs in one year to Mathare's stockholders and bondholders, and also for those for Muthaiga's. **[8 marks]**
 - (ii) Mathare's CEO recently stated that Mathare's value should be higher than Muthaiga's because the firm has less debt and therefore less bankruptcy risk. Do you agree or disagree with this statement? **[5 marks]**

Question 4

Corporate governance is primarily concerned with public listed companies i.e. those listed on a Stock Exchange. However, the intent behind corporate governance can also be useful to non-listed companies alike.

- (a) Describe the four pillars of corporate governance. **[10 marks]**
- (b) List and briefly explain six potential benefits that corporate governance can lend to a corporate entity. **[15 marks]**

Question 5

- (a) Joe Mukwanazi holds a one-year call option on Clear Fabric Industries common stock. It is a European call option and can be exercised at Shs. 1,500. Assume that the expiration date has arrived.

What is the value of the Clear Fabric call option on the expiration date if:

- (i) Clear Fabric Industries is selling at Shs. 2,000 per share? **[2.5 marks]**
 - (ii) Clear Fabric Industries is selling at Shs. 1,000 per share? **[2.5 marks]**
- (b) A US trader enters into a short forward contract on 100 million yen. The forward exchange rate is \$0.0080 per yen.



Find out how much the trader gains or losses in the following circumstances:

- (i) The exchange rate at the end of the contract is \$0.0074 per yen. **[4 marks]**
 - (ii) The exchange rate at the end of the contract is \$0.0091 per yen. **[4 marks]**
- (c) A trader buys a European put on a share for Shs. 30. The stock price is Shs. 420 and the strike price is Shs. 400.
- (i) State the circumstances under which the trader will make a profit. **[2 marks]**
 - (ii) State the circumstances under which the option will be exercised. **[2 marks]**
 - (iii) Draw a diagram in support of your answers above, showing the variation of the trader's profit with the stock price at the maturity of the option. **[8 marks]**