



AFRICAN ECONOMIC RESEARCH CONSORTIUM

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

JOINT FACILITY FOR ELECTIVES (JFE) 2011

JUNE - SEPTEMBER

CORPORATE FINANCE AND INVESTMENT II

Second Semester: Final Examination

Duration: 3 Hours

Date: Monday, September 19, 2011

INSTRUCTIONS:

1. This examination has **FIVE QUESTIONS**.
 2. You are required to attempt **FOUR QUESTIONS** in total.
 3. Question 1 is **COMPULSORY**.
 4. Each question carries **TWENTY FIVE (25)** marks.
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Question 1 (COMPULSORY)

- (a) Briefly describe an efficient market **(3 marks)**
- (b) How efficient are the stock markets in sub-Saharan Africa at the weak or semi-strong levels in terms of market reactions to :
- (i) Past information
 - (ii) Stock split
 - (iii) Dividend initiations and omissions
 - (iv) Earnings announcements
 - (v) Changes in corporate leadership

Briefly cite one country level empirical evidence in answering each of (i) to (v) above.

(10 marks)

- (c) Aerotech, an aerospace-technology research firm, announced this morning that it has hired the world's most knowledgeable and prolific space researchers. Before today, Aerotech's stock had been selling for 100 Kenya shillings.
- (i) What do you expect will happen to Aerotech's stock? **(2 marks)**



(ii) Consider the following scenarios:

- (I) The stock price jumps to 118 Kenya shillings on the day of announcement. In subsequent days it floats up to 123 Kenya shillings then jump back to 116 Kenya shillings.
- (II) The stock jumps to 116 Kenya shillings and remains there.
- (III) The stock gradually climbs to 116 Kenya shillings over the next week.

Which scenario indicates market efficiency? Which do not? Why? **(6 marks)**

- (d) Briefly discuss securitization and the role it played in the initiation and propagation of the global financial turmoil of 2007-2008. **(4 marks)**

Question 2

- (a) In spite of the theoretical argument that dividend policy should be irrelevant, the fact remains that many investors like high dividends. Outline and briefly discuss the arguments in favour of a high dividend policy. **(8 marks)**
- (b) What are homemade dividends in the context of Modigliani and Miller (MM)? Why might a shareholder want such a dividend? **(7 marks)**
- (c) Why Worry Electric Company has \$1000 of extra cash. It is considering two policies.

Policy A: It can retain the cash and invest in Treasury bills yielding 10 percent, or

Policy B: It can pay the cash to shareholders as a dividend. Shareholders can also invest in Treasury bills with the same yield.

Suppose the corporate tax rate is 34 percent, and the personal income tax rate is 28 percent. How much cash will investors have after five years under each policy? **(10 marks)**

Question 3

- (a) Summarize the Modigliani-Miller propositions on capital structure without taxes and bankruptcy costs. **(5 marks)**
- (b) Outline and briefly explain the direct and indirect costs of financial distress. **(6 marks)**
- (c) Can costs of debt be reduced? If so, how? **(4 marks)**
- (d) Panasharp Company has a corporate tax rate of 35 percent and expected earnings before interest and taxes of \$2 million each year. Its entire earnings after taxes are paid out as dividend. The firm is considering two alternative capital structures. Under plan A, Panasharp would have no



debt in its capital structure. Under plan B, the company would have \$8 million of debt. The cost of debt is 10 percent and the cost of capital is 20 per cent.

- (i) What is the total cash flow to the shareholders and the bondholders under the two plans?
- (ii) What are the unlevered value and the levered value of Panasharp?

(10 marks)

Question 4

- (a) Outline the main differences between options, futures contracts and swaps. **(6 marks)**
- (b) Mr. R. Besaved is planning to invest a sum of \$18,000 in options or direct stock transaction in Eternity PLC. The current value of Eternity stock is \$90. A 6 –month maturity call option with exercise price \$90 sells for \$10, and the semi-annual interest rate is 2 percent. The firm is not paying any dividend until after the options expire. Share price can either fall \$5 below the current value to \$85 or rise in multiples of \$5 to \$110. He is considering the following three strategies.

Strategy A: Invest entirely in stock. Buy 200 shares each selling for \$90

Strategy B: Invest entirely in at-the-money call options. Buy 1800 calls, each selling for \$10. 18 contracts, each for 100 shares.

Strategy C: Purchase 200 call options for \$2,000. Invest remaining \$16,000 in six-month Treasury-bills, to earn 2 percent interest.

- (i) What are the possible values of these three portfolios as a function of stock prices when the options expire in 6 months? **(6 marks)**
 - (ii) What are the possible rates of return on investment in these three portfolios as a function of stock prices when the options expire in 6 months? **(6 marks)**
- (c) Briefly describe the South African derivatives market? What policy lessons can other Sub-Saharan African countries learn from the market? **(7 marks)**

Question 5

- (a) Panasharp PLC is a dynamic, expanding firm. Panadull PLC is a solid but unambitious firm operating in the same industry. Panasharp PLC has recently launched a takeover bid for Panadull PLC. The offer is that Panasharp PLC will give one of its shares to a shareholder in Panadull PLC in exchange for three shares in the latter firm.

After-tax savings are estimated to be 8 million Ghanaian cedis per annum as a result of administrative efficiencies, compared with the total costs historically incurred by the two firms.



Summarised accounting statements for the year just ended are:

Profit and Loss Account		
	Panasharp PLC	Panadull PLC
	Million of Cedis	Million of Cedis
Turnover	650	200
Profit before Tax	72	17
Taxation	24	6
Profit after Tax	48	11
Dividends	7	5
retained Profit for the year	41	6

Balance Sheet for the year ended 31st December, 2010

	Panasharp PLC	Panadull PLC
	Million of Cedis	Million of Cedis
Fixed assets	350	200
Net current assets	110	50
	460	250
Financed by		
Capital and Reserves		
Ordinary shares of C0.50 each	170	90
Reserves	110	100
	280	190
Long term liabilities	180	60
	460	250
Pre-bid price earnings ratio (PE)	18	14

Market observers believe that, following the take-over, the PE of Panasharp PLC will be 16. Assuming that the market value of their shareholdings is the only factor of concern,

- (i) Calculate the pre-takeover price of Panasharp PLC and Panadull PLC.
 - (ii) Calculate the earnings per share, the new PE ratio after the take-over.
 - (iii) Would the shareholders of each of the firm welcome a successful takeover? **(10 marks)**
- (b) List and briefly explain the principal reasons for merger. **(8 marks)**
- (c) Briefly describe the internal and external mechanisms of corporate governance in sub-Saharan African firms. **(7 marks)**