



ZIMBABWE EZEKIEL GUTI UNIVERSITY

FACULTY OF LAW, BUSINESS INTELLIGENCE AND ECONOMICS

**DEPARTMENT OF ACCOUNTING, FINANCE AND HUMAN CAPITAL
MANAGEMENT**

EXAMINATION PAPER

MODULE CODE : CAC214
MODULE TITLE : Corporate Finance
DURATION : 3 Hours
LEVEL : 2.1

10 FEB 2025

INSTRUCTIONS TO CANDIDATES:

1. No cell phones are allowed in the examination venue.
2. Use of silent, non-programmable calculators is allowed
3. Answer all questions Section A and in Section B.
4. Begin each question on a new page.
5. The number of marks for each question or part question is shown in brackets []
6. Show all workings, where applicable.

SECTION A

Question 1

Read the following case study and answer questions that follow

Peter, a new finance manager at Mlondolozzi Investments is worried about the company not applying the concept of time value of money in analysing cash-flows. His boss, Maria believes that time value of money is an old concept that does not have any place in modern corporate finance. Peter counters Maria's argument saying that there are four primary reasons why time value of money is still a valid concept in contemporary corporate finance. Peter highlighted the present value of a 3-year investment that will make a series of \$11 300 000 payments at the beginning of year is different from the present value of a 3-year investment that will make a series of \$11 300 000 payments at the end of year, even if they have the same discount rate of 10%. Peter went on to state he was yet to decide on which bank Mlondolozzi Investments should borrow from in order to finance the Masvingo plant expansion project. Peter indicated that Chimbado Bank offers 16.2% compounded daily, Mutakunanzva Bank offers 16.5% compounded monthly, Bank of Mayezi offers 17.5% compounded quarterly, Mfuleni Capital Bank offers 15.3% compounded semi-annually, and Reconciliation Bank offers 15% compounded annually.

Required

- a) Evaluate the four reasons that make time value of money a valid and relevant concept in modern corporate finance. **[12 marks]**
- b) Calculate the present value of an annuity and present value of annuity due presented in the case study. **[6 marks]**
- c) Using the effective annual rate, determine the bank which Mlondolozzi Investments should borrow from in order to finance the Masvingo plant expansion project. **[7 marks]**

SECTION B: ANSWER ALL QUESTIONS

QUESTION 1

- a) Nyathi Mhenyu Investments has two projects it wants to undertake. Project A cost US\$ 144,000 and yields an annual cash inflow of US\$36 052 for 6 years. Project B

costs US\$ 199 577 and has an annual cash inflow of US\$45 101 for 6 years. Determine the payback period and appraise Nyathi Mhenyu Investments on project it should undertake. **[5 marks]**

b) Evaluate the types of decisions that are made in capital budget risk analysis.

[10 marks]

c) ZEGU wants to invest in two projects which have the following information.

Possible Event	Project A		Project B	
	Cashflow (\$)	Probability	Cashflow (\$)	Probability
Drought	12 000	0.43	27 000	0.39
Good rainfall	23 000	0.19	16 000	0.28
Floods	16 000	0.38	9 000	0.37

Apply the coefficient of variation to determine the appropriate project that ZEGU should undertake. **[10 marks]**

QUESTION 2

a) Critique the applicability of capital asset pricing model (CAPM) in determining value of assets and portfolios. **[13 marks]**

b) Evaluate the motives for holding cash by a publicly listed organisation in Zimbabwe. **[12 marks]**

QUESTION 3

a) Doink (Pvt) Ltd is involved in the production of radio and presented the following operating information for the year 2023 to its board of directors:

Item	US \$
Selling price per unit	5.81
Variable costs per unit	2.94
fixed costs	15 238

i) Find the total costs associated with producing 1 500 radios. **[2 marks]**

ii) Calculate the break-even quantity of radio for Doink (Pvt) Ltd for the year 2023
[4 marks]

iii) Calculate the break-even in sales for Doink (Pvt) Ltd for the year 2023.
[2 marks]

b) If there was inflation such that the selling price and variable cost increase. The selling price per unit increases by 25% and variable costs per unit increase by 28%. Calculate the new break-even quantity of radios for Doink (Pvt) Ltd for the year 2023.
[4 marks]

c) Evaluate the problems associated with financial statement analysis as used by firms in Zimbabwe. **[13 marks]**

END OF EXAMINATION QUESTION PAPER

FORMULAS

$$FV_n = PV * (1 + r)^n$$

$$r = \left(\frac{FV}{PV}\right)^{1/n} - 1$$

$$PV_0 = \frac{FV}{(1+r)^n}$$

$$PV \text{ Perp} = \frac{C}{r}$$

$$PV \text{ annuity due} = (1 + r) * PV \text{ of annuity} \quad FV \text{ ann due} = (1 + r) * FV \text{ of annuity}$$

$$r = \frac{QR}{m}$$

$$EAR = \left(1 + \frac{QR}{m}\right)^m - 1$$

$$PBP = \frac{\text{Original cost of the project (initial outlay) (IO)}}{\text{Annual cash inflow (CF)}}$$

$$\text{Payback period} = Y + \frac{B}{C}$$

$$AAR = \frac{\text{Av Inc}}{\text{Av Inv}} * 100$$

$$NPV = \sum \frac{CF_n}{(1+r)^n} - IO$$

$$PI = \frac{PV \text{ of CFs}}{IO}$$

$$IRR = A + B * \frac{C}{D}$$

$$ENCF = \sum CF_i * P_i$$

$$ENPV = \left(\sum \frac{ENCF}{(1+r)^n}\right) - IO$$

$$\text{Variance } (\delta^2) = \sum (CF - ENCF)^2 * P_i \quad \text{Standard deviation } (\delta) = \sqrt{\delta^2}$$

$$\text{Coef of var} = \frac{\text{Standard deviation}}{\text{Expected return/Expected cashflow}} \quad RADR = R_f + R_p$$

$$NPV = \sum \left(\frac{\alpha_n * CF_n}{(1+r_f)^n}\right) - IO$$

$$WACC / K_o = \sum W_i K_i$$

$$K_e = \frac{D}{MP}$$

$$K_e = \frac{D}{MP} + g$$

$$K_p = \frac{D}{NP}$$

$$NP = \text{Issue Price} - \text{Flotation price}$$

$$K_e = \frac{EPS}{MP_e}$$

$$K_e = R_f + (R_m - R_f) * \beta$$

$$K_e = R_f + \beta_1 * RP_1 + \dots + \beta_n * RP_n + \mu K_d = \frac{I}{NP} * (1 - t)$$

$$NP = \text{Amnt of D} - \text{D Acq fees} + \text{Prem} - \text{Disc} \quad K_r = K_e * (1 - t) * (1 - b)$$

maximum level

$$= \text{reorder level} - (\text{minimum consumption}) * (\text{minimum lead times}) + \text{reordering quantity}$$

$$\text{minimum level} = \text{reorder level} - (\text{average usage} * \text{average lead time})$$

$$\text{Reorder level} = \text{maximum usage} * \text{maximum lead time or minimum level} + \text{consumption during lead time.}$$

$$E(R_i) = R_f + \beta_1 (R_{m1} - R_f) + \dots + \beta_n (R_{mn} - R_f)$$

$$E(r) = \sum (\text{Prob} * \text{Return})$$

$$\delta^2 = \sum \text{Prob} * (R - E(r))^2$$

$$\text{Standard deviation } \delta = \sqrt{\delta^2}$$

$$Er(p) = \sum W_i * E(r)_i$$

$$CV = \frac{\delta}{x}$$

$$CV = \sum P_i (R_x - E(R_x)) (R_y - E(R_y))$$

$$\delta_{AB}^2 = W_A^2 \delta_A^2 + W_B^2 \delta_B^2 + 2W_A W_B Cov_{AB}$$

$$\delta_p = \delta_m * W_m$$

$$RP = (R_m - R_f)$$

$$NCA + CA = NCL + CL + E$$

Total CF = CF from operating activities + CF from investing activities
+ CF from financing activities

$$\text{Current ratio} = \frac{CA}{CL}$$

$$\text{Cash ratio} = \frac{CA+CE}{CL}$$

$$\text{Debt-equity ratio} = \frac{TD}{TE}$$

$$\text{Interest cover ratio} = \frac{EBIT}{Int}$$

$$\text{Days' sales in inventory} = \frac{365 \text{ days}}{Inv T/O}$$

$$\text{Receivables turnover} = \frac{S}{TA}$$

$$ROA = \frac{NI}{TA}$$

$$EPS = \frac{E}{\text{Ordinary shares in issue}}$$

$$BEP = \frac{FC}{Cont}$$

$$\text{Dividends per share} = \frac{\text{Dividends announced during the period}}{\text{Number of shares in issue}}$$

Value of target firm = Market share price * number of outstanding shares

Value of target firm = Total assets - total liabilities

$$CV = \frac{1}{n} * \sum (R_x - E(R_x)) (R_y - E(R_y))$$

$$r_{xy} = \frac{\text{Covariance}_{xy}}{\delta_x \delta_y}$$

$$CML(R_p) = R_f + \frac{E(R_m - R_f)}{\delta_m} * \delta_p$$

$$E(R_i) = R_f + \beta (R_m - R_f)$$

$$TA = TL + E$$

$$NWC = CA - CL$$

$$\text{Acid/quick test ratio} = \frac{CA - Inv}{CL}$$

$$\text{Total debt ratio} = \frac{TA - TE}{TA}$$

$$\text{Equity multiplier} = \frac{TA}{TE}$$

$$\text{Inventory turnover} = \frac{COGS}{Inv}$$

$$\text{Receivables turnover} = \frac{S}{TR}$$

$$\text{Profit margin} = \frac{NI}{S}$$

$$ROE = \frac{NI}{TE}$$

$$P/E \text{ ratio} = \frac{\text{price per share}}{EPS}$$

$$Cont = SP - VC$$