



ZCAS University

BBF 3201 INVESTMENT AND PORTFOLIO MANAGEMENT

FINAL EXAMINATION

DATE: MONDAY 27TH MAY 2024

TIME: 12:30-15:30 HOURS

TIME ALLOWED: THREE HOURS (plus 5 minutes to read through the paper)

INSTRUCTIONS:

1. Section A: this question is **compulsory** and must be attempted.
2. Sections B: Answer Three (3) questions from this section.
3. This question paper carries a total of **100 marks**.
4. Candidates must **not turn this page** until the invigilator tells them to do so.

SECTION A: Question 1 is compulsory and must be attempted.

Question 1

Assume that you are evaluating the performance of two portfolio managers, Jake and Kate and you have gathered annual return data for the past decade as follows:

Year	Manager Jake's Return (%)	Manager Kate's Return (%)
2011	-1.5	-6.5
2012	-1.5	-3.5
2013	-1.5	-1.5
2014	-1.0	3.5
2015	0.0	4.5
2016	4.5	6.5
2017	6.5	7.5
2018	8.5	8.5
2019	13.5	12.5
2020	17.5	13.5

Required:

(a) For each manager, calculate:

- i. The average annual return (2 marks)
- ii. The standard deviation of returns (10 marks)
- iii. The semi-deviation of returns. (Use the average return as the minimum acceptable return). (6 marks)

(b) Assuming that the average annual risk-free rate during the 10-year sample period was 1.5 percent, calculate the Sharpe ratio for each portfolio. Based on these computations, which manager appears to have performed better? (10 marks)

(c) Calculate the Sortino ratio for each portfolio, using the average risk-free rate as the minimum acceptable return threshold. Based on these computations, which manager appears to have performed better? (10 marks)

(d) When would you expect the Sharpe and Sortino measures to provide (1) the same performance ranking, or (2) different performance rankings? Explain. (2 marks)

(Total: 40 marks)

SECTION B: Attempt any THREE questions in this section.

Question 2

One of the major advances in the investment field during the past few decades has been the recognition that you cannot create an optimum investment portfolio by simply combining numerous individual securities that have desirable risk-return characteristics. Specifically, it has been shown that an investor must consider the relationship among the investments to build an optimum portfolio that will meet investment objectives. The recognition of how to create an optimum portfolio was demonstrated in the derivation of portfolio theory.

Required:

- (a) Describe what is meant by risk aversion and provide Two (2) pieces of evidence available to support the concept of risk aversion in practice. **(5 marks)**
- (b) Explain Two (2) measures of risk of returns used in portfolio and investment management other than standard deviation or variance of returns. **(5 marks)**
- (c) Compute the covariance and correlation coefficient for two stocks namely Cable Plc and Smart Bank Zambia whose monthly returns for a six-month period in 2024 are as follows.

Month	Cable PLC	Smart Bank Zambia
January	-0.04	0.07
February	0.06	-0.02
March	-0.07	-0.10
April	0.12	0.15
May	-0.02	-0.06
June	0.05	0.02

Comment whether these two stocks would be a good choice for diversification.

(10 marks)

Total (20 marks)

Question 3

Passive and Active equity portfolio management are Two (2) generic strategies that investors use in equity portfolio management.

Required

(a) Describe what is meant by passive and active portfolio management strategies pointing out the difference in their objectives. **(5 marks)**

(b) Fundamental analysis, Technical analysis, and Anomalies and Attributes are Three (3) different active equity portfolio management strategies employed in equity portfolio management. **(15 marks)**

Explain each strategy.

(Total:20 marks)

Question 4

Asset valuation is an important step in investment management for investors. Investors seek to determine the intrinsic value of equity so that they can compare this value with the market value of equity before they make the investment decision. Assume that you have a stock with a current dividend of K1 a share. You believe that, over the long run, this company's earnings and dividends will grow at 7 percent which implies that you expect the dividend next year to be K1.07. For the long run, you expect a nominal risk-free rate of about 6 percent and a risk premium for this stock of 5 percent.

Required:

(a) Explain the two (2) most common methods used to value common stock. **(4 marks)**

(b) Using information given above, calculate the required rate of return. **(2 marks)**

(b) Calculate the value of this stock using the Dividend Discount Model. **(4 marks)**

(d) Calculate the present value of equity using the Discounted Cashflow Method (DCF) given the following data:

Company XYZ has a projected cash flow of K100,000 for year 1, increasing by 10 percent annually for the next Four (4) years. The terminal value is estimated to be K600,000 after the Five (5) -year period and the discount rate is 12 percent. **(10 marks)**

(Total:20 marks).

Question 5

Investors seek to earn a return on their investments. They are therefore concerned about how to measure returns on their investment as well as the risks associated with the returns. Assume that you are an investment analyst and have been requested to write a paper for the board of directors of your company explaining the concept of the required rate of return and risk.

Required:

- (a) Explain Three (3) factors that determine the required rate of return on an investment. **(6 marks)**
- (b) Describe the following types of risks faced in investment management:
- i. Financial risk **(3 marks)**
 - ii. Business risk **(3 marks)**
 - iii. Country (or Political risk) **(3 marks)**
 - iv. Liquidity risk **(3 marks)**
 - v. Exchange rate risk. **(2 marks)**

(Total:20 marks)

END OF EXAMINATION