The Management University of Africa

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UNDERGRADUATE UNIVERSITY EXAMINATIONS

SCHOOL OF MANAGEMENT AND LEADERSHIP

DEGREE OF BACHELOR OF COMMERCE

FIN 414: PORTFOLIO ANALYSIS MANAGEMENT

DATE: 17TH DECEMBER 2024

DURATION: 2 HOURS

MAXIMUM MARKS: 70

INSTRUCTIONS:

1. Write your registration number on the answer booklet.
2. **DO NOT** write on this question paper.
3. This paper contains **SIX (6)** questions.
4. Question **ONE** is compulsory.
5. Answer any other **THREE** questions.
6. Question **ONE** carries **25 MARKS** and the rest carry **15 MARKS** each.
7. **Write all your answers in the Examination answer booklet provided.**

QUESTION ONE

Read the Case Study below carefully and answer the questions that follow:

Market Efficiency and Behavior of Investors

The efficient markets hypothesis (EMH) remains one of the cornerstones of modern finance theory. It implies that, on average, assets trade at prices equal to their intrinsic values. As we note in the text, the logic behind the EMH is straightforward. If a stock's price is "too low," rational traders will quickly take advantage of this opportunity and will buy the stock. Their actions will quickly push prices back to their equilibrium level. Likewise, if prices are "too high," rational traders will sell the stock, pushing the price down to its equilibrium level. Proponents of the EMH argue that prices cannot be systematically wrong unless you believe that market participants are unable or unwilling to take advantage of profitable trading opportunities.

While the logic behind the EMH is compelling, many events in the real world seem to be inconsistent with the EMH. Rather than assuming that investors are rational, behavioral finance theorists borrow insights from psychology to better understand how irrational behavior can be sustained over time. Pioneers in this field include psychologists Daniel Kahneman and Amos Tversky and Richard Thaler, who is a professor of finance at the University of Chicago. Their work has encouraged a growing number of scholars to work in this promising area of research. In business or trading an overestimation of one's abilities and of the precision of one's forecasts. Overconfident people set overly narrow confidence intervals in making predictions. They tend to overweigh their own forecasts relative to those of others.

The self-serving attribution bias, under which individuals attribute past successes to their own skills and past failures to bad luck, can lead to overconfidence. In the context of financial markets, the confidence of a self -attributing investor increases when public information is in line with his or her forecast, but it does not decrease as much when public information contradicts his or her forecast. The investor therefore gains excessive confidence over time, after receiving different confirming and disconfirming public news.

In psychology, a heuristic is an easy-to- compute procedure or "rule of thumb" that people use when forming beliefs, judgments or decisions. Psychologists Amos developed the familiarity heuristic based on the discovery of the availability heuristic. The familiarity heuristic can be applied to various situations that individuals experience in day-to-day life. When these situations appear similar to previous situations, especially if the individuals are experiencing a high cognitive load, they may regress back to the state of mind in which they have felt or behaved before. This heuristic is useful in most situations and can be applied to many fields of knowledge; however, there are both positives and negatives to this heuristic as well. Fear, greed, risk seeking, evasion, and peer pressures all play a role in the underperformance of many investment managers relative to their objectives. Behavioral finance with its roots in psychology of human decision making explains to us why most investment managers are:- More confident than they should be in their forecasting ability; Do not process information efficiently; Experience illusion of control; Do not act as if the choices they make come from a probability distribution; and Give undue credence to management and research.

Required:

a) " Proponents of the EMH argue that prices cannot be systematically wrong unless you believe that market participants are unable or unwilling to take advantage of profitable trading opportunities." Evaluate the validity of this statement **(5 marks)**

b) One of the assumptions of EMH is that investors are rational. However, this assumption can sometimes be challenged based on the works of psychologists that have proven that irrational behavior can be sustained over time thereby going against the assumption of rationality of investors. Propose the main reason why rationality of investors cannot be upheld at all times. **(5 marks)**

c) Apart from behavioral biasness, financial markets tend to have systematic biasness. Explain four systematic biasness that exist in financial markets **(8 marks)**

d) Assess the relevance of the Efficient Market Hypothesis to Finance Managers and Investors **(7 marks)**

QUESTION TWO

a) Explain the investment process in portfolio and investment analysis **(5 marks)**

b) Two portfolios have the following characteristics:

Portfolio	Return	Beta
A	8%	0.7
B	7%	1.1

Required:

Given a market return of 10% and a risk-free rate of 4%, evaluate the performance of both portfolios using Jensen's Alpha **(7 marks)**

c) Explain the equation used to express the relationship between the returns on stock and market portfolio **(3 marks)**

QUESTION THREE

a) The following securities are under consideration by an investor. The estimated rates of return are shown below:

Probability	Rate of return (%)			
Occurrence	A	B	C	D
0.1	10.0%	6.0%	14.0%	2.0%
0.2	10.0	8.0	12.0	6.0
0.4	10.0	10.0	10.0	9.0
0.2	10.0	12.0	8.0	15.0
0.1	10.0	14.0	6.0	20.0

Required:

Determine each security's expected rate of return and standard deviation **(10 marks)**

b) Examine how portfolio management contributes to market efficiency and investor confidence **(5 marks)**

QUESTION FOUR

a) Assess three factors that determine how much bonds change in price with interest rates **(6 marks)**

b) Graphically illustrate how an optimal portfolio is arrived at using the Capital Allocation Line. **(6 marks)**

c) Assess three assumptions that are made for a capital market to be efficient **(3 marks)**

QUESTION FIVE

a) Suppose a $ 1,000 corporate bond with an annual interest rate of 5%, makes semi-annual interest payments for 2 years, after which the bond matures and the principal must be repaid. If the Year To Maturity is 3% determine the value of the bond **(8 marks)**

b) Explain why investors prefer the Capital Asset Pricing Model to the Arbitrage Pricing Model **(4 marks)**

c) Examine how indifference curves are used to select the most desirable portfolio **(3 marks)**

QUESTION SIX

a) Examine four advantages of investing in fixed income securities **(8 marks)**

b) Graphically illustrate how an optimal portfolio choice is made **(7 marks)**