



**STRATHMORE BUSINESS SCHOOL  
BACHELOR OF FINANCIAL SERVICES  
END OF SEMESTER EXAMINATION  
BNK 4104: TREASURY AND RISK MANAGEMENT**

**DATE:** Wed, 31<sup>st</sup> July 2024

**TIME:** 10:30 – 12:30

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**Instructions:**

Answer Question **ONE (COMPULSORY)** and any other **TWO** questions.

**Question One**

a). After the 2008 financial crisis, the role of a bank's Treasury has evolved from being merely a transactional cash manager to becoming the custodian of the balance sheet.

**Required:**

Discuss **six** roles of treasury department in maintaining bank stability. **(6 marks)**

b). Mapesa Ltd has significant exposure to the Japanese yen (JPY) due to its import operations in Japan. The volatility of the exchange rate between the yen (JPY) and the Kenyan shilling (KES) can significantly impact the company's portfolio and overall stability. To protect itself from adverse currency fluctuations, Mapesa Ltd has decided to hedge this exposure using derivative instruments. By locking in an exchange rate, Mapesa Ltd can mitigate the risk of KES depreciation against the JPY, ensuring predictable cash flows for its Japanese operations.

**Required:**

Using examples, recommend to Mapesa Ltd four derivative instruments that can be used to hedge forex exposure. **(8 marks)**

c). Zamora recently inherited a significant sum from her late grandmother. Being risk-averse, she seeks to invest a portion of her funds in low-risk options and secure a steady income stream. She is particularly interested in the process of purchasing government bonds.

**Required:**

Provide a clear guide on how to invest in Kenyan bonds with Central bank of Kenya.

**(6 marks)**

d) Moreover, Zamora has conducted research and collected information about two bonds issued by the Republic of Kenya 2024, as detailed below:

**Bond A:** FXD 1/2024/3

Face value: \$1,000

Coupon rate: 5%

Maturity: 3 years

Yield-to-maturity (YTM): 6%

**Bond B:** IFB 1/2024/7

Face value: \$1000

Coupon rate: 4%

Maturity: 6.5 years

Yield-to-maturity (YTM): 10%

**Required:**

Assessing the current macroeconomic conditions, which bond should Zamora invest and why?

**(10 marks)**

## Question Two

a). Euro bank Ltd is a multinational financial institution that operates in a highly dynamic and volatile interest rate environment. As part of its operations, the bank holds a significant portfolio of fixed-rate assets, such bonds, which exposes it to interest rate risk. To manage this risk and protect its financial position, Euro bank Ltd decides to implement interest rate risk management strategies effectively.

**Required:**

As a treasury and risk management expert, discuss **six** risks associated with fixed income securities.

**(6 marks)**

b). As a BFS student tasked with evaluating investment opportunities in money market funds (MMFs), it's crucial to analyze several factors before making investment decisions, despite MMFs offering low-risk and highly liquid investments.

**Required:**

Highlight **six** considerations when assessing the suitability of MMFs.

**(6 marks)**

c). You've been tasked with analysing potential investment opportunities in the stock market. Specifically, you're evaluating two stocks, Thando Ltd (A) and Tanya Ltd (B), to determine their investment potential. You have access to historical data for both stocks as well as the market index as follows.

**Historical Data for five-year period:**

- ✓ Stock Returns (Thando Ltd): 10%, 6%, 5%, 10%, -2%, 1%
- ✓ Stock Returns (Tanya Ltd): 5%, 7%, 9%, 3%, 6%, -2%
- ✓ Market Returns (Market Index): 6%, 4%, 6%, 7%, 5%, -3%

**Required:**

Using the data, estimate the beta for each stock, interpret the results and explain which stock you will invest. **(8 marks)**

**Question Three**

a). ABC bank Ltd is a multinational company with a dedicated treasury department responsible for managing the company's investments in equities. The treasury team aims to maximize returns while ensuring the preservation of capital. However, they face several risks inherent in investing in equities.

**Required:**

As a treasury and risk management expert, discuss four approaches for estimating equity risk exposure in ABC bank Ltd? **(8 marks)**

b). NIB Ltd is considering investing in a portfolio of corporate bonds paying coupon once in a year. The treasury department wants to assess the potential impact of various economic scenarios on the bond portfolio's performance. Perform stress tests to evaluate the portfolio's sensitivity to increase in interest rate and credit rating downgrade from AAA to BBB.

**Bond 1: FXD 1/2024/4**

Face value: \$1,000

Coupon rate: 5%

Maturity: 4 years

Yield-to-maturity (YTM): 5%

**Bond 2: FXD 1/2024/5**

Face value: \$1,000

Coupon rate: 6%

Maturity: 6.5 years

Yield-to-maturity (YTM): 7%

**Scenario 1:** A sudden increase in interest rates by 0.5% which could impact cost of the bank's short-term deposits while the interest income from fixed-rate loans remains unchanged,

**Scenario 2:** A downgrade from AAA to BBB, resulting in an increased Yield to Maturity (YTM) by 1% which would affect the cost of new debt issuances.

**Required:**

Based on the above stress scenarios, which bond should NIB bank Ltd invest and why. **(12 marks)**

#### Question Four

a) In bonds market, interest rates have the tendency of rising or falling in practice. The intensity of interest rate risk would be higher on bonds with long maturities than bonds with short maturities.

**Required:**

Using diagram, show how bond maturity influences bond's price and its sensitivity to changes in interest rates. **(7 marks)**

b) Unity Bank Ltd, a mid-sized commercial bank in Nairobi, Kenya, offers various financial services and aims to maintain profitability while managing financial risks. The Asset Liability Management (ALM) function is crucial in ensuring the bank can meet its obligations without incurring unacceptable losses.

Unity Bank Ltd has experienced significant growth in its loan portfolio, particularly in real estate and SMEs. However, this growth has led to an increased mismatch between its assets and liabilities. The bank's ALM Committee (ALCO) must manage this mismatch to optimize returns while controlling risks related to interest rates, liquidity, and currency fluctuations.

The ALCO faces a volatile economic environment with fluctuating interest rates and exchange rates. The depreciation of the Kenyan Shilling (KES) against major currencies has increased the cost of servicing foreign currency-denominated liabilities. Additionally, potential interest rate hikes by the Central Bank of Kenya (CBK) could impact the bank's interest income and funding costs.

**Required:**

Given the economic environment, what strategic recommendations would you make to enhance Unity Bank's ALM practices and financial stability? **(13 marks)**

#### Question Five

a). Stan Bank is a prominent financial institution that is exposed to equity risks due to its investment activities, including equity holdings and equity-linked products. Stock price volatility can impact the bank's investment portfolio.

**Required:**

Discuss the **four** strategies available to Stan bank to manage equity risk exposure. **(8 marks)**

b). In international finance and currency markets, understanding the determinants of exchange rates is crucial for businesses, investors, and policymakers. Several theories have been advanced to explain how of exchange rate is determined.

**Required:**

As treasury expert, critique three theories of exchange rates determination using examples.

**(12 marks)**