Finance, Risk and Uncertainty
Individual Assignment 2025/2026
University of Edinburgh

Professor Andrew Marshall

a.marshall@strath.ac.uk

ANSWER ALL QUESTIONS

SECTION A Questions 1, 2 and 3

40 MARKS - RISK MANAGEMENT CASE STUDIES

SECTION B Questions 4 to 10

40 MARKS - EXAM BASED QUESTIONS

SECTION C Question 11

20 MARKS – CASE STUDY- RESEARCH BASED QUESTION

Online Submission by 4pm Friday 23rd January 2026

This assignment is 50% or your overall mark.

SECTION A

Question 1

RODGERS Plc is an international leading electronic manufacturing company and is based in the UK where its main operations and head office are based. The business is a FTSE 250 company and reports in GBP(£). The marketplace is competitive with four other suppliers of the same electronics, three based in Europe and the other based in the US. RODGERS Plc customers are mostly based in the Americas where it sells its goods in USD based on a price list set for one year at the start of the year. It imports materials from European suppliers who require a lead time of three months from invoice to delivery.

It has one wholly owned subsidiary in Malaysia where it has a manufacturing site and a small sales office. There are outline plans to move more production to Malaysia away from the UK and thus RODGERS Plc will need to invest in larger manufacturing plant.

Financial Projections for 2026

£m

Sales 2,000

Purchases 1,100

Foreign Currency Exposures for 2026

Local currency

USD 1200 (assume spread equally over the year)

EUR 600 (assume spread equally over the year)

Hedging strategy:

The company has been using forward contracts to hedge both sales and purchases. The policy dictates that 100% of cover is put in place for the first six months and 75% for the following six months exposure for sales. The company buy the whole amount (i.e. 6 months of USD exposure) at the six month forward rate.

For purchases, the committed exposure is hedged and full cover is taken out i.e. 100%, every 3 months.

Foreign exchange rates – Spot and Forward US$/£1

Spot 1.3500

(Forward points for US$/£1 are +90 points for six months and +180 for 12 months).

Forward Rates

Six Month Forward 1.3590

12 Month Forward 1.3680

Foreign exchange rates – Spot and Forward EUR/£1

Spot 1.2000

(Forward points for EUR/£1 then are minus 35 points for three months)

3 Month Forward 1.1965

Foreign exchange rates – Spot Malaysian Ringgit/£1

Spot Malaysian Ringgit 5.7/£1

Bank currency forecast versus GBP over the next year

Currency	GBP Direction
USD	Weaken i.e. GBP will weaken
EUR	Strengthen
MALAYSIA	Strengthen

a) Critically examine the main foreign exchange risks to which RODGERS Plc is subject. Explain the impact on the business if exchange rates move as forecast and how this risk might be mitigated without using derivatives.

(8 marks)

b) Critically evaluate RODGERS Plc's hedging strategy.

(7 marks)

(TOTAL 15 MARKS)

Question 2

MARTIN Plc, a UK-headquartered company, offers products and services to the defence, security and aerospace markets with both government and large global companies as its main customers. Approximately 30% of revenues is derived from contracts with the US government.

The company operates primarily in the United Kingdom, the United States and continental Europe. The geographic locations of revenues and non-current (fixed) assets are given in the table below for the financial years ended 31 March 2025 and 2024, respectively.

	Revenue		Non-current assets	
GDP	2025	2024	2025	2024
US	492.6	407.2	578.4	728.6
UK	111.5	114.2	275.7	257.9
EU	152.6	143.3	137.7	158.5
Dubai	113.3	123.6	53.1	43.8
Rest of the World	166.0	137.6	61.1	71
	1,036.0	925.9	1,106.0	1259.8

Business Strategy

In the year ended 2025, MARTIN Plc had the following strategic focus areas:

- Investment in innovative and differentiated technology to align product investment to customer demand: during the year, the company invested GBP69m (2024: GBP49m) in research and development (R&D).
- Allocation of capital and investment on those areas that will deliver the best financial returns.

The ability to generate profitable organic revenue growth consistently is a key strategic objective and driver of value creation. This is supplemented by merger and acquisition (M&A) activity. In 2025, ACT made further progress in integrating US company AirCu (acquired in June 2025 for GBP400m) and exited certain markets and technologies to further focus on core capabilities.

Debt and Financing

Borrowings of USD-denominated bonds have total principal value of GBP463.9m / USD683.8m (2023: GBP438.5m / USD683.8m) and mature between March 2025 and October 2031.

Bank borrowings are denominated in USD (GBP188.0m) and EUR (GBP98.9m) and mature between December 2025 and May 2030

ACT's debt carries either fixed rate or floating rates of interest. In managing its borrowing costs, the company monitors its exposure to movements in interest rates and, where necessary, uses interest rate swaps to manage the interest rate risk. One such swap agreement was entered into two years ago with original tenor five years under which MARTIN Plc pays a fixed rate of 4.9% against receiving LIBOR flat on notional of USD10m.

Current USD swap rates are:

Swap Maturity (years)	Par swap rate
1	5.60% - 5.58%
2	5.47% - 5.45%
3	5.42% - 5.40%
4	5.42% - 5.40%
5	5.43% - 5.41%
6	5.44% - 5.42%
7	5.47% - 5.45%

For the purposes of this case, you can assume that any replacement benchmark rate for LIBOR will not be materially different from LIBOR.

Questions

1. Evaluate key financial risks that might potentially materially affect MARTIN Plc's profitability.

(7 marks)

2. Calculate the value of interest rate swap mentioned in the scenario (under Debt and Financing).

(3 marks)
(TOTAL 10 MARKS)

Question 3
Africa Air Jet (AAJ)
Business activities

Africa Air Jet (AAJ) is a low-cost airline headquartered in Nairobi, Kenya operating mainly across Africa and the Middle East. It prides itself on its industrial relations record and its sustainable environmental policy to minimize its carbon footprint.

Fuel price
AAJ hedges its fuel requirements using derivatives contracts based on Brent Crude (ICE). A surge in fuel price above USD7 per barrel would have a significant impact on AAJ's profits with fuel making up key cost components for operations. SAAJ uses swap contracts and collar contracts, and has entered the following three-way collar on fuel:
• Bought calls at USD60
• Sold puts at USD45
• Bought puts at USD35

AAJ hedges up to 70% of total expected fuel requirement for the next twelve months on a rolling annual basis, up to 60% in the following 12-month period and 50% in the subsequent 12-month period.

Foreign exchange
AAJ's policy is to hedge between 65% – 85% of the next 12 months' forecast surplus cash flows on a rolling basis, and 45% – 65% of the following 12 months' forecast surplus cash flows on a rolling basis.

It has entered a chooser option contract where it can choose to sell KES7,000.0m to a counterparty at an exchange rate of USD1 = KES95 or purchases 1,500,000 barrels of oil at USD60 per barrel on December 31, 2025.

The exchange rate at December 31, 2024 was USD1 = KES102.22 and the oil price was USD56.14. (A chooser option is an option contract that allows the holder to decide whether it is to be a call or put prior to the expiration date. Chooser options usually have the same expiration date regardless of what decision the holder makes).

Interest rate
Interest rate exposure arises from AAJ's floating rate borrowings and is managed by interest rate swap contracts where appropriate, to generate the desired fixed interest rate profile.

The table gives the breakdown of borrowings by fixed rate and floating rate exposure:

KES millions	**2025**	**2024**
Fixed rate borrowing	228,454	253,428
Floating rate borrowing	36,025	61,893
	264,479	**315,321**

- Principal prepayment amount: USD7 million
- Prepayment date: January 5, 2024

- Loan period: 7-year loan, beginning October 1, 2020
- Current interest period: October 1, 2024 to April 1, 2025
- Current interest rate: 5.684% (margin = 1.50%)
- Assume LIBOR from January 5, 2025 to April 1, 2025: 4.50%

Credit

AAJ's deposits and bank balances and derivative financial instruments are placed or transacted with major financial institutions and reputable parties. As AAJ does not hold collateral, the maximum exposure to credit risks is represented by the total carrying amount of these financial assets in the balance sheet. The Directors are of the view that the possibility of non-performance by these financial institutions is remote due to their financial strength and support of their respective governments. All transactions are with investment grade counterparties other than KES8.5 million of derivatives exposure.

Capital management.

AAJ remains focused on maintaining an efficient capital structure that provides the lowest cost of capital and adequate financial reserves to withstand negative impacts from exogenous shocks. It reduced debt levels in the last financial year to achieve a capital structure that is consistent with a credit rating of BB.

Required

i. Analyse the fuel price and currency derivatives hedges that AAJ's has implemented and assess the market risks the company remains exposed to, despite these hedges.

(5 marks)

ii. Assess the risks that AAJ may encounter by using derivatives.

(5 marks)

iii. Evaluate the benefits and drawbacks for AAJ of using a sensitivity to a USD 5 change up or down in the price to measure the impact of moves in the price of fuel on net profit. Discuss one other approach could they take to measure sensitivity of fuel price and net profit?

(5 marks)

(15 MARKS)

TOTAL 40 MARKS

SECTION B

Question 4

Date: 25 September 2025

You work as the Treasurer for a US-based company that is scheduled to make a £400 million payment to a UK supplier in June 2026. To hedge the FX risk associated with this large future payment, you decide to use GBP/USD futures contracts traded on the Chicago Mercantile Exchange (CME).

Market Data (as of 25 Sept 2025):

Instrument	**Value**	
Spot rate (USD/£1)	**$1.3497 - $1.3500/£1**	
GBP Futures Price (June 2026)	**$1.3410 - $1.3420**	
GBP Futures contract size	**£62,500**	CME standard size

i. Using this information **set out the hedge** for your company's £400 million FX exposure using GBP/USD futures. Assume that you will pay £400 million on the same day as the June futures contracts mature.

(3 marks)

ii. If the spot rate in June 2026 turns out to be 1.3700 USD/GBP, and the futures contract settles at 1.3700 USD/GBP, **illustrate the cash flows** showing:

- The gain or loss on the futures position, and
- The effective USD cost of the £400 million payment after hedging.

(3 marks)

(TOTAL 6 MARKS)

Question 5

ChisJon Ltd – Managing Foreign Exchange Exposure

You work for **ChisJon Ltd**, a small Canadian exporting firm. ChisJon Ltd is interested in managing its exchange rate exposure on foreign currency transactions. This month, the firm agrees to sell goods to a US customer. A receipt of **US$25,000,000** is due in **90 days**.

You obtain the following information from the international money markets:

Market/Instrument	**Bid**	**Ask**
Spot Exchange Rate (C$/US$)	1.3655	1.3685
90-day Forward Rate (C$/US$)	1.3800	1.4020

90-day C$ Interest Rate (annualized)	5.50% (lend)	5.45% (borrow)
90-day US$ Interest Rate (annualized)	5.00% (lend)	4.90% (borrow)

90-day Call Option on C$ (Strike C$1.3850/US$1)

Premium: C$195,000 for US$25M contract

Use a 360-day basis for interest calculations and 90 days = 0.25 years.

i. Determine the C$ value of the US$ receivable if you lock in this amount using a forward contract.

(1 marks)

ii. Illustrate money market hedge ChrisJon Ltd for this situation by borrowing/lending in the respective currencies. Present and explain your steps.

(4 marks)

iii. Calculate the break-even spot rate at maturity if ChrisJon Ltd uses the currency option and discuss in which scenarios the option hedge is preferable to the forward hedge.

(2 marks)

(TOTAL 7 MARKS)

Question 6

The treasurer of GOJET plc is considering borrowing £160 million for a period of 4 years. GOJET has a strong credit rating and can borrow at fixed rate of 6.5% per annum, or floating rate of 3-month SONIA + 2.8% per annum. The treasurer believes interest rates are likely to decline over the next four years and thus prefers borrowing at the floating rate.

ATLANTA Inc., a smaller company with a lower credit rating, is also looking to borrow £160 million for four years. ATLANTA can borrow at fixed rate of 9.8% per annum, or floating rate of 3-month SONIA + 5.2% per annum. ATLANTA prefers a fixed-rate loan to avoid interest rate risk. A swap market making bank suggests that GOJET and ATLANTA engage in an interest rate swap to mutually benefit from their comparative advantages in borrowing. The bank charges a commission of 0.5% per annum on the notional amount for arranging the swap. The bank proposes that any net swap benefits after the bank's commission should be shared equally between the two companies.

Required:

i. Explain how the interest rate swap would be structured and the series of cash flows each party will make and receive. Draw a swap diagram illustrating the flow of payments between GOJET, ATLANTA, and the bank. Calculate the financial benefits to GOJET and ATLANTA from entering the swap, showing all calculations clearly.

(3 marks)

ii. Assuming 3-month SONIA is currently 1.0%, analyze the impact on each company if interest rates fall by 0.5% one year into the loan. How does this affect the attractiveness of the swap for GOJET and ATLANTA?

(2 marks)

(TOTAL 5 MARKS)

Question 7

Today is 21 March 2025. You are planning to invest £150 million in June for three months (i.e. June → September). You want to guarantee a minimum yield using interest rate futures options. You use the 94 875 option to protect downside in rates. The futures contract has tick value £12.50 and contract size £500,000.
You obtain the following market information on 21 March:

June futures price = 94.50

Strike 94.875 options

Put Option premium for strike 94.875 = £40,000 for the exposure sized to your investment

Call Option premium for strike 94.875 = £1,125 for the exposure sized to your investment

The option's time to expiry = 3 months (i.e. until June)

On expiry, the relevant 3-month interest rate will imply a futures price = 100 – interest rate (in %)

The tick value is £12.50, and the contract value is £500,000.

You wish to set up a hedge so that your investment earns at least a minimum rate while retaining upside if rates move favorably.

Required:

i. On 21 March, **set up the hedge**: how many option contracts to buy (or sell), whether you also need a futures position, and in which direction, so that you guarantee a minimum yield but preserve upside.

(2 marks)

ii. Draw the option payoff graph (on futures price axis) for your net position, labelling the maximum and minimum effective yields and the premium cost (Note you will have to convert the premium from the £ value).

(2 marks)

iii. Suppose before expiry, the futures price is 94.50. Compute the intrinsic value and time value of the option at that date.

(1 marks)

iv. At expiry, assume the observed 3-month interest rate realized = 4.00% p.a. and a futures price of 96.00 (i.e. 100 – 4.00). **Illustrate the cash flows**: the interest earned on the investment, the option payoff, and the net result (in £) for your £150 million.

(2 marks)

(TOTAL 7 MARKS)

Question 8

OBAMA is a U.S. arbitrageur. The one-year interest rate offered in the U.S. is 5.0% - 5.5%, while the one-year interest rate offered in Brazil is 35.0 – 36.0%. The spot rate is 4.90 – 5.00 BRL/1 USD (Brazilian Real/US Dollar). Beck Bank offers OBAMA a one-year BRL/ 1 USD forward contract at 5.81-5.98 BRL/1 USD.

i. Determine the theoretical BRL/USD one-year forward contract exchange rate based on interest rate parity (USE AVERAGE RATES IN THIS CALCUATION)

(1 marks)

ii. Can OBAMA make a risk-free profit dealing with Beck bank? If yes, describe an arbitrage strategy and determine OBAMA profits, if the dealing limit is US$50 million or the equivalent Brazilian Real at spot.

(3 marks)

(TOTAL 4 MARKS)

Question 9

The monthly cash budget for BTALK plc shows that the company will likely need to borrow £50 million in March (it is now the 1st of December) for three months. 3 Month LIBOR is currently 5.00%, and the company can borrow at 3 month LIBOR + 3.50%. Financial markets have been volatile recently, and the finance director of BTALK plc fears that short-term interest rates could rise by as much as 1.75% to 6.75%. However, if inflation falls, short-term interest rates could fall by 0.50% to 4.50%. Nonetheless, worried about the possible increased interest cost the finance director decides to hedge **their interest rate risk using interest rate futures**.

You are also provided with the following information:

LIFFE £500,000 contract three-month futures prices:

December	**95.40 - 95.45**
March	**95.10 - 95.20**
June	**94.75 – 94.85**

Futures price is 100 – interest rate.

Tick size is £12.50.

a) **Set up the interest rate futures hedge position** for BTALK Plc to hedge their interest rate risk on their proposed borrowing.

(2 marks)

b) **Illustrate the cash flows** and estimate the results of undertaking an interest futures hedge on the LIFFE exchange in March if 3 Month LIBOR (assume no basis risk between the underlying interest rate and the future price):

i. Increases by 1.75% from the present rate and

(1 marks)

ii. Decreases by 0.50% from the present rate.

(1 marks)

(TOTAL 4 MARKS)

Question 10

Date: 25 September 2025

METMONEY Bank is an investor (planning a 3-month investment starting in 3 months' time). **Investment Amount:** £100,000,000

Market view: Interest rates are expected to fall during the investment period.

You approach two FRA dealers (Barclays and HSBC) for quotes on 3-month FRAs with the following bid–offer rates.

FRA Period	Barclays	HSBC
3 v 6 months	4.78% – 4.80%	4.80% – 4.82%
6 v 9 months	4.68% – 4.70%	4.70% – 4.72%
3 v 9 months	4.83% – 4.85%	4.85% – 4.87%

Required:

i. Using the most favourable FRA quote, **set up an interest rate hedge** to protect the 3-month investment starting in 3 months.

(2 marks)

ii. Suppose the actual 3-month deposit rate (months 3 to 6) is 4.30%. **Illustrate the cash flows**, showing the FRA settlement amount and the effective interest earned on the investment after the hedge.

(2 marks)

iii. Briefly discuss how FRA markets have evolved post-LIBOR and into the new SONIA regime and the implications for interest rate hedging today.

(3 marks)

(TOTAL 7 MARKS)

TOTAL 40 MARKS

SECTION C

Question 11 (For this question you are expected to carry out some online/library based research. You need to access the financial information/financial statements of your chosen firm. Note full references for sources must be given. Please answer the question and do not make your discussion too descriptive).

Choose a listed multinational company.

Conduct a case study on the company's financial risk disclosure in its annual report (e.g., FX, IR, commodity). Critically assess how it manages risk and suggest improvements. As a risk analyst, you would be expected to identify financial risks, how they are measure, and then manage by the firm. What is your assessment of the hedging activity?

1,000–2,000 word report and a 6-10 slide presentation

- Shows practical skills, real-world reading and understanding of financial reports.
- You will be able to talk in interviews about *exactly* how a major firm manages FX/IR/commodity risk

(TOTAL 20 MARKS)

TOTAL 100 MARKS