

**NOVEMBER 2023 PROFESSIONAL EXAMINATIONS
FINANCIAL MANAGEMENT (PAPER 2.4)
CHIEF EXAMINER'S REPORT, QUESTIONS AND MARKING SCHEME**

STANDARD OF PAPER

The Financial management paper measured up to the required standard in line with expectation. The paper was generally good with questions well structured, precise and devoid of any ambiguities. The spread of questions across the syllabus was achieved providing opportunities for candidates who prepared well and across the syllabus to perform well. The spread of questions between theory and calculations were considered generally good with 34 marks being theory based and the remaining 66 marks being quantitative and generally consistent with historical trends.

The quality and standard of the individual questions were also considered good with any well-prepared candidates to be in a position to perform well .It was also further observed that each question contained a number of sub questions with marks well spread enabling candidates to answer all or some aspect of each question to gain valuable marks needed to pass the paper as reflected in the good performance by the candidates in the paper

Notwithstanding the remarkable improvement in performance, working capital management, hedging of currency risk and other risks management aspects of the syllabus still require more work and improvement. The candidates still struggle to solve working capital management, set up hedging strategies to manage the currency risk problems. The mergers and acquisition area also still require some improvement. The allocation of marks again was done based on level of difficulty and details expected from candidates consistent with the marks allocated to the question. Alternative answers were provided where necessary to accommodate various perspectives of answering the questions by candidates

PERFORMANCE OF CANDIDATES

There was a remarkable improvement in the overall performance of the candidates in the paper. The overall pass rate was 46% compared to the pass rate of 16.82% in the previous sitting. Almost half the number of the candidates who sat for the paper obtained a pass mark or better in the paper.

Drivers of the good performance:

- The set of questions presented which were precise devoid of ambiguities made candidate to clearly understand what was expected and elicited good answers.
- Very good preparations by the candidates also contributed to the good performance.
- The pool of experienced candidates resitting after the low pass rates in the last two sittings also contributed.

Summary of overall performance

Details	Current (NOV. 23)	Percentage (%)	Last sitting (July 2023)
Pass	329	45.69	107 (16.82%)
Fail	391	54.31	529 (83.18%)
Total	720	100	636 (100%)

NOTABLE STRENGTHS AND PERFORMANCE OF CANDIDATES

The following strengths were observed:

- Experienced candidates in the paper with improved learning curve in writing the paper.
- The candidates exhibited remarkable improvement in how to answer questions and avoid non-essential areas that waste time and do not contribute to good marks
- Improvement in time management in the exams.
- Ability of the candidates to understand the requirements of the questions.

Observed reasons of the strengths:

- Improvement in the learning curve of the candidates.
- Good preparations and practice before sitting for the paper.

The strengths can be enhanced by:

- Ensuring thorough preparations before writing the paper.
- Ensuring that the entire syllabus is covered and practicing more in the learning process.
- Ensuring further improvement in how to answer the questions and score good marks.

Observed weaknesses demonstrated by candidates:

- Problem of mislabelling question numbers still persist.
- Inconsistent and scattering of answers in an uncoordinated manner across the answer booklet still a weak area for some candidates.
- Some weak calibre of candidates registering for the paper still persist
- Poor appreciation of the risk management and mergers and acquisitions area still a challenge.

Remedies for observed weaknesses:

- Pay special attention to proper numbering and labelling of the answers
- Ensure proper presentation of answers and avoid uncoordinated arrangement of answers
- Tuition providers to focus more time on the problem identified and not rush candidates through that area for lack of time

Summary of Performance by Question

Details	Question One	Question Two	Question Three	Question Four	Question Five
Pass	475 (66%)	333 (46%)	79 (11%)	471 (65%)	132 (18%)
Fail	245 (34%)	387 (54%)	641 (89%)	249 (35%)	588 (82%)
Total	720 (100%)	720 (100%)	720(100%)	720 (100%)	720 (100%)

QUESTION ONE

- a) Monetary policies are seen either as expansionary or contractionary depending on the level of growth within the economy. The Bank of Ghana which is responsible for pursuing sound monetary policies has recently raised the monetary policy rate by 150 basis points.

Required:

- i) In reference to the statement above, distinguish between *expansionary monetary policy* and *contractionary monetary policy*. (4 marks)
- ii) Would you describe the raise in the monetary policy rate as an expansionary or contractionary monetary policy action? Explain. (2 marks)
- iii) Explain **TWO (2)** implications of raising the monetary policy rate for the financial performance of businesses. (4 marks)
- b) Moli Ltd is financed by a mixture of equity and debt capital in the ratio of 2:1. The pre-tax cost of debt is 25% whilst the risk-free interest rate is 15%. The available market information puts the average stock market return on equity at 22%. The equity beta value of Moli Ltd has been estimated as 0.9. The corporate tax rate is 30%.

Required:

- i) Calculate the *cost of equity*. (4 marks)
- ii) Calculate the *weighted average cost of capital*. (6 marks)

(Total: 20 marks)

QUESTION TWO

Lekker Inc (Lekker) is a film company located in South Africa. The company is planning to expand into other African countries. The research department of Lekker recommends Ghana as a good location for establishing a subsidiary due to its abundant talent and political stability. However, the company is unsure whether to establish a completely new subsidiary or acquire an existing film company in Ghana. You have been engaged as a consultant to guide Lekker in taking this decision.

Your preliminary assessment revealed the following:

- i) You have identified a Ghanaian filmmaker who owns a fast-growing film company called Akwaaba Films (Akwaaba). You observed that the Ghanaian filmmaker is likely to sell Akwaaba if Lekker could pay GH¢450,000 as purchase consideration. Akwaaba is entirely self-financed, with the owner receiving all profits as dividends. You forecast that Akwaaba's profit after tax will grow at a rate of 6% per year for the first two years, 4% per year for the next two years, and thereafter, grow at a constant rate of 2% per year in perpetuity. The financial information extracted from Akwaaba shows the following:

	GH¢
Revenue	250,000
Operating Cost	(140,000)
Administrative cost	<u>(30,000)</u>
Profit before tax	80,000
Tax @ 25%	<u>(20,000)</u>
Profit after tax	<u>60,000</u>

- ii) If Lekker decides to set up the subsidiary in Ghana by itself with the same GH¢450,000 purchase consideration for Akwaaba, its after tax cash flows will be as follows:

Year 1	Year 2	Year 3	Year 4
GH¢15,000	GH¢26,000	GH¢35,000	GH¢33,000

The overall Price/Earnings (P/E) ratio for the film industry in Ghana is 15 times. The average cash flow risk for unquoted companies in Ghana is 20%. Lekker does not intend to list on the Ghana Stock Exchange.

- iii) Lekker's cost of capital is 16%.

Required:

- a) Enumerate **THREE (3)** advantages of expansion through acquisition over organic expansion to the owners of Lekker. **(6 marks)**
- b) Compute the value of Akwaaba using the dividend valuation method and advise Lekker whether it should acquire Akwaaba at the purchase consideration of GH¢ 450,000. **(8 marks)**
- c) Using the P/E ratio method, estimate the expected value of Lekker's subsidiary in Ghana without the acquisition. **(4 marks)**
- d) State **TWO (2)** reasons mergers and acquisitions may fail to achieve the expected outcomes. **(2 marks)**

(Total: 20 marks)

QUESTION THREE

- a) Eleven years ago, Mr. and Mrs. Akolgo signed onto a joint life insurance policy, which pays out benefits to the surviving spouse when one of them dies. Mrs. Akolgo died a couple of months ago, and Mr. Akolgo has applied for the payment of benefits due him.

He has been presented with three pay-out options to choose from:

Option A: A lump sum payment of GH¢400,000 now.

Option B: A payment of GH¢100,000 now plus quarterly payments of GH¢22,000 at the end of each quarter over the next ten years.

Option C: A monthly payment of GH¢10,000 for life.

The average interest rate in the economy is 25 % per annum.

Required:

Using relevant computations, recommend to Mr. Akolgo the best pay-out option.

(6 marks)

- b) Gaazie Mining Company (Gaazie) borrows GH¢5 million at a compound interest rate of 28% per annum for five years. Per the terms of the loan agreement, Gaazie will pay interest on the loan monthly over the life of the loan and then make a bullet payment for the principal of the loan at the end of five years.

The managers of the company have decided to deposit equal annual amounts in an interest-bearing savings account to raise money to pay off the loan principal in five years' time. Interest on the deposits will be paid at a compound rate of 15% per annum.

Required:

Compute the annual deposit Gaazie needs to pay into the savings account.

(4 marks)

- c) Tofiakwa Ltd is expecting the following in six months' time:

Receipt	US\$700,000
Payment	US\$1,200,000

The spot exchange rate between the Ghanaian cedi and the U.S. dollar is currently GH¢11.1255(buy) – GH¢11.5581(sell) to US\$1. The cedi-dollar exchange rate has been volatile in recent times, hence the managers of the company have decided to manage the company's U.S. dollar exposure using a money market hedge.

The following data has been gathered from the Ghanaian and the U.S. money markets:

6-month interest rates

Currency	Borrowing	Investing
U.S. dollar	10.00%	8.00%
Ghanaian cedi	25.00%	18.00%

Required:

- i) Set up or construct the money market hedge for the currency exposure. **(3 marks)**
ii) Calculate the net outcome of the hedge. **(7 marks)**

(Total: 20 marks)

QUESTION FOUR

- a) Understanding risk is key for a robust risk and control environment in modern business organisations.

Required:

In the light of the above, explain the following:

- i) Systematic risk (2 marks)
ii) Business risk (2 marks)
iii) Financial risk (2 marks)

- b) Quantum Investment Ltd in the past has been concentrating all its investments in one project that performed badly consistently over the past few years. They have therefore decided to adopt a diversification strategy by investing in projects A, B and C. The table below presents the Net Present Value (NPV) of the projects under different states of the economy.

State of Economy	Probability	NPV (GH¢ million)		
		Projects		
		A	B	C
Bad	0.2	10	12	15
Average/Normal	0.5	20	22	30
Good	0.3	35	40	45

The company has GH¢200 million for investments in these three projects:

Project A = GH¢40 million

Project B = GH¢60 million

Project C = GH¢100 million

Required:

Compute the expected NPV for each of the three projects. (9 marks)

- c) In capital structure decisions, there are two views of gearing and weighted average cost of Capital (WACC): the traditional view and the Modigliani-Miller view.

Required:

Explain the two views with respect to gearing and WACC. (5 marks)

(Total: 20 marks)

QUESTION FIVE

- a) Wahala Ltd wants to employ more liberal credit standards to increase sales. The current annual sales figure is GH¢30 million. Currently, the firm has an average collection period of 30 days. Three alternative credit policies are on the table for evaluation and selection. The management team believes that the alternative credit policies will result in the following:

Factor	Alternative Credit Policy		
	A	B	C
Increase in sales from the current level (GH¢' million)	2.2	3.1	5.4
Average collection period for incremental sales (days)	45	60	150
Bad-debt losses on incremental sales	1.50%	3.50%	8.50%

The prices of its products average GH¢30.50 per unit and variable costs average GH¢21.35 per unit. The company's pre-tax opportunity cost of funds is 35%.

Required:

- i) Evaluate each of the three alternative liberal credit policies and advise the company on which credit policy it should pursue. (Assume a 360-day year). **(12 marks)**
- ii) Suppose the company introduces a discount policy of 2/10 net 45. Compute the cost to a customer who forgoes the discount. **(3 marks)**
- b) The treasury unit of a company performs various functions which includes financial risks management.

Required:

Explain **TWO (2)** types of financial risks the treasury function manages. **(5 marks)**

(Total: 20 marks)

SOLUTION TO QUESTIONS

QUESTION ONE

a)

(i)

Distinction between expansionary monetary policy and contractionary monetary policy.

A contractionary monetary policy increases interest rates and limits the outstanding money supply to slow growth and spending, which would decrease inflation to a desired level in the long term. An expansionary monetary policy, on the other hand, lowers interest rates and expands money supply to grow economic activities and encourage spending, which would consequently spike up inflation to a desired level in the long-term term.

While an expansionary policy action would be taken during a period of slow growth to stimulate economic activities, a contractionary policy action would be taken during a period of undesired inflationary pressures due to excess liquidity to slow down economic activities and reduce inflationary pressures.

(2 marks each = 4 marks)

(ii) The Bank of Ghana's raise in the monetary policy rate by 150 basis points. The Bank of Ghana raising the monetary policy rate by 150 basis points is a **contractionary monetary policy**. This is because the action is aimed at increasing interest rates to encourage investments but discourage spending to ultimately reduce inflationary pressures. **(2 marks)**

(iii) Implications of the Bank of Ghana raising the monetary policy rate by 150 basis points for the financial performance of businesses include the following:

- The resulting increase in interest rates implies that businesses would experience an increase in their borrowing cost and a reduction in their borrowing capacity short term. In the long term, however, the higher interest rates would have increased savings, which would increase the supply of loanable funds at a much lower interest rate.
- The increase in interest rates would in the short term discourage consumer borrowing and spending. This would reduce demand for goods and services, and thus reduce income to businesses.

In the long term, businesses would benefit from the reduction in inflationary pressures in the form of reduced input prices.

(Any 2 points @ 2 marks each = 4 marks)

b)

i) Cost of equity

$$\begin{aligned} r_e &= r_f + B(r_m - r_f) \\ &= 15\% + 0.9(22\% - 15\%) \\ &= 21.3\% \end{aligned}$$

(4 marks)

ii) Weighted Average cost of Capital (WACC)

$$\begin{aligned} &= (K_e \times E/E+D) + (K_d(1-t) \times D/E+D) \\ &= (21.3 \times 2/2+1) + (25(1-0.3) \times 1/2+1) \\ &= 14.2 + 5.833 \end{aligned}$$

$$= 20.03\%$$

(6 marks)

(Total: 20 marks)

EXAMINER'S COMMENTS

Question one was the best answered question in the paper for this November sitting recording 66% pass rate compared to the 37% pass rate in the previous sitting.

Candidates were examined on (a) part on monetary policy scenario of raising the policy rate and the expectation on candidates was to determine whether that was an expansionary or contractionary strategy and to further distinguish between expansionary and contractionary strategy highlighting two implications of raising the policy rate on the financial performance of business. This generally received good answers except a few candidates who could identify the scenario but could not distinguish between the two. This carried a total of 10 marks

The (b) part of the question tested candidates' ability to compute or calculate the cost of equity and the weighted average cost of capital on (i) and (ii) respectively. This was well answered with majority scoring the maximum marks. It also carried 10 marks This question contributed to the improvement in the performance of the candidates in the paper.

Question One	Current Number	Percentage (%)	Last sitting July 2023
Pass	475	66	236 (37%)
Fail	245	34	400 (63%)
Total	720	100	636 (100%)

QUESTION TWO

- a. Advantages of acquisition as an expansionary strategy over organic growth:
- **Speed:** The acquisition of another company is a quicker way of implementing a business plan, as the company acquires another organization that is already in operation. Organic growth is usually slow in achieving expansion.
 - **Lower cost:** An acquisition may be a cheaper way of acquiring productive capacity than through organic growth.
 - **Acquisition of intangible assets:** Acquisition give access to intangible assets, such as brand recognition, reputation, customer loyalty and intellectual property which are more difficult to achieve with organic growth.
 - **Access to overseas markets:** When a company wants to expand its operations in an overseas market, acquiring a local firm may be the only option of breaking into the overseas market.

(Any 3 points @ 2 marks each = 6 marks)

- b. If the growth rate in dividend varies across the years, the value of the firm can be calculated using the formula below:

$$\text{Firm Value } (P_0) = \frac{D_1}{(1 + k_e)^1} + \frac{D_2}{(1 + k_e)^2} + \frac{D_3}{(1 + k_e)^3} + \dots + \frac{D_n}{(1 + k_e)^n} + \frac{P_n}{(1 + k_e)^n}$$

$$\text{where: } P_n = \frac{D_n(1 + g)}{k_e - g}$$

Dividend			DF@ 16%	GH¢
Year 1 (60,000 X 1.06) =	D1	63,600	0.862	54,827.59
Year 2 (63,600 X 1.06) =	D2	67,416	0.743	50,101.07
Year 3 (67,416 X 1.04) =	D3	70,113	0.641	44,918.20
Year 4 (70,113 X 1.04) =	D4	72,917	0.552	40,271.49
Year 4 perpetuity	P4 (w1)	531,253	0.552	293,406.57
Value of the Firm				<u>483,524.92</u>

$$(w1) \text{ Perpetuity in Year 4 } (P_4) = \frac{72,917(1.02)}{0.16 - 0.02} = 531,253$$

Note that the perpetuity is calculated from Year 4 onwards, therefore the discount factor is the same as that of Year 4 and not Year 5

Conclusion: the purchase consideration of GH¢450,000 quoted by the Ghanaian filmmaker is lower than the value of the firm, leading to a net gain of 33,524.92. Based on this Lekker Inc. should purchase Akwaaba Inc.

Marks Allocation:
Computation = 7 marks
Conclusion = 1 mark
8 marks

c. Using the P/E ratio method;

P/E ratio	GH¢
Year 1	15,000
Year 2	26,000
Year 3	35,000
Year 4	33,000
Average Earnings	27,250
P/E ratio (80% X 15)	12
Value of firm	327,000

(marks are evenly spread using ticks = 4 marks)

d. Reasons for the high failure rate of mergers and acquisitions in enhancing shareholder value;

- **Agency theory:** It suggests that takeovers are primarily motivated by the self-interest of the acquirer's management.
- **Errors in valuing a target firm:** Managers of the bidding firm may advise their company to bid too much as they do not know how to value an essentially recursive problem
- **Window dressing:** Another reason for the high failure rate is that companies are not acquired because of the synergies that they may create, but in order to present a better financial picture in the short term.
- **Poor integration management:** In order to integrate two or more organisations effectively, there must be effective integration management and recognition that successful integration takes time. Where management is poor or there's no coordination among both organisations.
- **Market irrationality:** If a rational manager observes that his firm's stocks are overvalued in the short run, he has an incentive to exchange the overvalued stocks to real assets before the market corrects the overvaluation.

(Any 2 points @ 1 mark each = 2 marks)

(Total: 20 marks)

EXAMINER'S COMMENTS

This question was a centred-on valuations for acquisition decision making, it comprised both computations and theory or essay questions to test candidates' knowledge and understanding of both areas. Both (a) and (d) aspects were essay based testing candidates understanding of advantages of expanding through acquisitions and why mergers and acquisitions may fail to achieve the desired or expected outcome. This carried a total of 8 marks and received very good answers enabling candidates to improve their performance in this section

The (b) and (c) parts tested candidate's ability to value the target entity (Akwaaba) using dividend valuation approach and also valuing the foreign entity's subsidiary (Lekker) in Ghana using the Price Earning (P/E) ration method.

This received mix answers with those who were well prepared for that performing better.

The overall pass rate was 46% and a remarkable improvement from the pass rate of 0.3% in the previous sitting.

Question Two	Current Number	Percentage (%)	Last sitting (July 2023)
Pass	333	46	2 (0.3%)
Fail	387	54	634 (99.7%)
Total	720	100	636 (100%)

QUESTION THREE

a) Evaluating Life insurance policy pay-out options

As the choice is to be made now, the payoffs under the various options can be compared in their present values.

PV of Payoff under Option A:

Since it is a lump sum to be paid now, it is already in its PV (i.e., GH¢400,000).

PV of Payoff under Option B:

The PV is the sum of the immediate payment and the PV of the quarterly payments.

$$\text{Aggregate PV} = \text{GH¢}100,000 + \text{GH¢}320,855.23 = \text{GH¢}420,855.23$$

$$\text{PV of quarterly payments} = \text{PMT} \left[\frac{1 - \frac{1}{\left(1 + \frac{i}{m}\right)^{n \cdot m}}}{\frac{i}{m}} \right]$$

$$\begin{aligned} \text{PV of quarterly payments} &= \text{GH¢}22,000 \left[\frac{1 - \frac{1}{\left(1 + \frac{0.25}{4}\right)^{10 \times 4}}}{\frac{0.25}{4}} \right] \\ &= \text{GH¢}22,000 \times 14.58432868 = \text{GH¢}320,855.23 \end{aligned}$$

PV of Payoff under Option C:

$$\text{PV} = \frac{\text{GH¢}10,000}{0.25/12} = \text{GH¢}480,000$$

Option C is recommended

Marks allocation:

Computation of payoff under option B = 3 marks

Computation of payoff under option C = 2 marks

Recommendation = 1 mark

6 marks

b) Determination of deposits into a savings account

The future value of the fund (F) should be equal to the principal to be repaid in five years' time:

$$F_5 = \text{Principal Repayment}_5 = \text{GH¢}5,000,000$$

The future value formula of ordinary annuity can be used to derive the annual deposit:

$$\begin{aligned} F_n &= \text{PMT} \left[\frac{(1 + i)^n - 1}{i} \right] \\ \text{GH¢}5,000,000 &= \text{PMT} \left[\frac{(1 + 0.15)^5 - 1}{0.15} \right] \end{aligned}$$

$$\text{PMT} = \frac{\text{GH}\text{c}5,000,000}{6.74238125} = \text{GH}\text{c}741,577.76$$

(4 marks)

c) Set-up and evaluation of a money market hedge.

i) **Setup:**

The underlying exposure is a US\$500,000 net payable (payment minus receipt), which is a liability. Thus, the money market hedge will be set up as under:

Position in the international money market: Create an asset in the US\$ by investing US\$ at the US\$ investing rate (i.e., 8%).

Position in the domestic money market: Create a liability in GHc by borrowing GHc at the cedi borrowing rate (i.e., 25%).

(3 marks)

ii) **Evaluation of the outcome:**

Today:

1. Borrow cedi equivalent of the PV of the US\$ net payable (i.e., US\$500,000)

$$\text{PV of US\$ net payable} = \frac{\text{US\$}500,000}{\left(1 + \frac{0.08}{2}\right)} = \text{US\$}480,769.23$$

$$\text{cedis to borrow} = \text{US\$}480,769.23 \times \frac{\text{GH}\text{c}11.5581}{\text{US\$}} = \text{GH}\text{c}5,556,778.85$$

***The offer rate is used as dollars will be bought with the cedis borrowed.*

2. Sell the cedis borrowed to buy the PV of the US\$ net payable at the spot offer rate.

$$= \text{US\$}480,769.23$$

3. Invest the US\$480,769.23 bought at the US\$ investing rate.

On Maturity:

4. Collect the maturity value of the US\$ investment.

$$\text{MV of US\$ Investment} = \text{US\$}480,769.23 \times \left(1 + \frac{0.08}{2}\right) = \text{US\$}500,000$$

5. Settle the US\$ net payable with the proceeds from the US\$ investment.
= US\$500,000

6. Settle the cedi loan as the guaranteed outcome of the hedge.

$$\text{MV of cedi loan} = \text{GH}\text{c}5,556,778.85 \times \left(1 + \frac{0.25}{2}\right) = \text{GH}\text{c}6,251,376.21$$

The outcome of the money market hedge is a net cost of GH¢6,251,376.21 (US\$500,000 - US\$500,000 - GH¢6,251,376.21).

NB: Some candidates may use the relevant money market interest rates to estimate the future exchange rate for buying dollars in six months' time and then multiply that by the US\$ net payable to determine the net cost for the hedge.

$$E(S_t^{d/f}) = S_0 \left[\frac{1 + i^d}{1 + i^f} \right]^T$$

$$E(S_t^{d/f}) = \text{GH¢}11.5581 \left[\frac{1 + \frac{0.25}{2}}{1 + \frac{0.08}{2}} \right] = \text{GH¢}12.5028$$

$$\text{Outcome} = \text{US\$}500,000 \times \frac{\text{GH¢}12.5028}{\text{US\$}} = \text{GH¢}6,251,376.21$$

(marks are evenly spread = 7 marks)

(Total: 20 marks)

EXAMINER'S COMMENTS

This question tested candidates ability on (a) to apply their knowledge in financial mathematics on pay out options of funds for an insurance policy consisting of a lump sum payment as an option, quarterly receipts over a ten year period as another option and a monthly payment for life as the third option and expecting the candidates to advise on the best option to the beneficiary. This received average to good answers as candidates displayed varied approaches to solving the problem.

The (b) part of the question was similar and tested candidate's ability to compute monthly savings invested into a deposit account to raise the total amount to retire on bullet basis a loan at the end of a 5-year period. It also received moderate to good answers

The last and (c) aspect of the question examined candidate's ability to provide a hedging set out solution for a client with a net foreign currency exposure of \$500,000. The candidates generally struggled in answering this question. The responses were generally poor to average and still poses a challenging area to candidates. The overall pass rate in this question was poor with only 11% obtaining a pass mark or better and a further deterioration from the previous sitting pass rate of 13%. It was the worst answered question and more work needs to be done in this area.

Question Three	Current Number	Percentage (%)	Last sitting (July 2023)
Pass	79	11	81 (13%)
Fail	641	89	555 (87%)
Total	720	100	636 (100%)

QUESTION FOUR

- a)
- i) Systematic risk is the risk which is inherent in the economy and every business in the economy is exposed to it and cannot be diversified. **(2 marks)**
- ii) Business risk is the type of risk peculiar to the industry or nature of business the company is engaged in. It is mainly the type of risk peculiar to the type of business. Some businesses are riskier than others. **(2 marks)**
- iii) Financial risk is the risk associated with the financing of the business entity. A company might be highly risky than others. The higher the gearing the higher the financial risk. **(2 marks)**

b) Expected NPV of Project A

State of Economy	Probability	NPV (GH¢'m)	Expected NPV (GH¢'m)
Bad	0.2	10	2
Average/Normal	0.5	20	10
Good	0.3	35	10.5
TOTAL			22.5

(3 marks)

Expected NPV of Project B

State of Economy	Probability	NPV (GH¢'m)	Expected NPV (GH¢'m)
Bad	0.2	12	2.4
Average/Normal	0.5	22	11
Good	0.3	40	12
TOTAL			25.4

(3 marks)

Expected NPV of Project C

State of Economy	Probability	NPV (GH¢'m)	Expected NPV (GH¢'m)
Bad	0.2	15	3
Average/Normal	0.5	30	15
Good	0.3	45	13.5
TOTAL			31.5

(3 marks)

c) views on Gearing and WACC

The traditional view of gearing is that there is an optimum level of gearing for a company. This is the level of gearing at which the WACC is minimised.

- As gearing increases, the cost of equity rises. However, as gearing increases, there is a greater proportion of debt capital in the capital structure, and the cost

of debt is cheaper than the cost of equity. Up to a certain level of gearing, the effect of having more debt capital has a bigger effect on the WACC than the rising cost of equity, so that the WACC falls as gearing increases.

- However, when gearing rises still further, the increase in the cost of equity has a greater effect than the larger proportion of cheap debt capital, and the WACC starts to rise.

The traditional view of gearing is therefore that an optimum level of gearing exists, where WACC is minimised and the value of the company is maximised.

Modigliani and Miller sought to explain the real world influences on gearing. Their objective was to build models that would aid financial managers in making decisions about gearing levels.

Their starting point was to construct a model based on series of simplifying assumptions to see what would be expected in this simple world. The assumptions include the following:

- 1) Capital markets are perfect:
 - All investors value securities in the same way
 - There are no dealing costs
 - Perfect information (all participants know and understand any new information the instance it comes into existence)
- 2) No taxation
- 3) No bankruptcy risk
- 4) Investors are indifferent between borrowing themselves or investing in companies that borrow for them.

Remember that they did not say the world was like this. The nature of mathematical modelling is such that the model is constructed to describe a simplified version of what is being studied. Predictions based on the model can then be compared with the real world in an attempt to understand the impact of real world influences. Often, people write that their model was incorrect or was open to criticism but the more accurate statement is that the model does not accurately describe the real world. However, they did not expect it to.

(5 marks)

(Total: 20 marks)

EXAMINER'S COMMENTS

Question four which was a combination of theory and calculations from (a) to (c) was well answered across with 65% of the candidates obtaining a pass mark or better in the question compared to the 44% in the previous exams and was the overall second-best answered question

The (a) which contained 6 marks examined candidates understanding of Systematic, Business and Financial risks which received good answers.

The (b) was on computation of expected Net Present Values (NPV) for 3 projects which received very good answers across by majority of candidates and contributed to the overall good performance in the exams.

The (c) part expected candidates to explain their own understanding of Traditional and Modigliani and Miller views regarding gearing and weighted average cost of capital which received average to good responses.

Question Four	Current Number	Percentage (%)	Last sitting (July 2023)
Pass	471	65	277 (44%)
Fail	249	35	359 (56%)
Total	720	100	636 (100%)

QUESTION FIVE

- a)
i) Policy evaluation and advice.

Evaluation:

Factor	Alternative Credit Policy		
	A	B	C
Incremental sales revenue	2.2000	3.1000	5.4000
Incremental variable costs (VC ratio x Sales)	(1.5400)	(2.1700)	(3.7800)
Incremental contribution	0.6600	0.9300	1.6200
Incremental credit-related costs:			
Bad-debt losses (Bad debt rate x Sales)	(0.0330)	(0.1085)	0.4590
Opportunity cost of investment in receivables	(0.0674)	(0.1266)	(0.5513)
	(0.1004)	(0.2351)	(1.0103)
Incremental net operating income	0.5596	0.6949	0.6098

ALTERNATIVE

- ii) Policy evaluation and advice.

Evaluation:

Factor	Alternative Credit Policy		
	A	B	C
Incremental sales revenue	2.2000	3.1000	5.4000
Incremental variable costs (VC ratio x Sales)	(1.5400)	(2.1700)	(3.7800)
Incremental contribution	0.6600	0.9300	1.6200
Incremental credit-related costs:			
Bad-debt losses (Bad debt rate x Sales)	(0.0330)	(0.1085)	0.4590
Opportunity cost of investment in receivables	(0.0963)	(0.1808)	(0.7875)
	(0.1623)	(0.2893)	(1.2465)
Incremental net operating income	0.4977	0.6407	0.3735

Days in a year = 360

Pre-tax opportunity cost of funds = 35%

VC ratio = Unit variable cost / Unit selling price = 21.35/30.50 = 70%

Opportunity of investment in receivables (OCIR) was computed as the product of the pre-tax cost of funds and the cost component of average receivables:

$$\text{OCIR} = \text{Opportunity cost of funds} \times \left[(\text{VC ratio}) \left((\text{Annual credit sales}) \times \frac{\text{RTD}}{360} \right) \right]$$

$$\text{OCIR}_A = 0.35 \times \left[0.7 \times \left(2.2000 \times \frac{45}{360} \right) \right] = 0.0674$$

$$\text{OCIR}_B = 0.35 \times \left[0.7 \times \left(3.1000 \times \frac{60}{360} \right) \right] = 0.1266$$

$$\text{OCIR}_C = 0.35 \times \left[0.7 \times \left(5.4000 \times \frac{150}{360} \right) \right] = 0.5513$$

NB: Some candidates may compute the opportunity cost of investment in receivables based on the sales revenue locked up in average receivables:

$$\text{OCIR}_A = 0.35 \times \left(2.2000 \times \frac{45}{360} \right) = 0.0963$$

$$\text{OCIR}_B = 0.35 \times \left(3.1000 \times \frac{60}{360} \right) = 0.1808$$

$$\text{OCIR}_C = 0.35 \times \left(5.4000 \times \frac{150}{360} \right) = 0.7875$$

Advice:

Alternative Policy B will result in the highest addition to net income. Thus, the company should pursue alternative liberal policy B.

Marks allocation:

Incremental variable cost/contribution margin = 3 marks

Incremental bad debt = 3 marks

Opportunity cost of incremental receivables = 3 marks

Incremental pre-tax net income = 1.5 marks

Advice = 1.5 marks

12 arks

ii) Computation of cost of forgoing a discount.

$$\text{Annualised cost of discount} = \frac{2}{100 - 2} \times \frac{365}{35} = 21.28\%$$

(3 marks)

b) Explanation of types of financial risks the treasury function is expected to manage.

- **Currency risk:** The risk from unexpected movements in foreign exchange rate. This risk arises for companies with foreign currency exposures like importing or exporting goods invoiced in a foreign currency, borrowing or lending in a foreign currency, and investments in foreign branches or subsidiaries. Depending on the nature of the company's foreign currency exposure and the direction of movements in the exchange, the currency risk exposure may be upside (favourable) or downside (unfavourable). For instance, a Ghanaian company with a U.S. dollar debt would face a foreign currency downside risk when the exchange rate for the U.S. dollar increases. The company would suffer currency exchange loss if it would have to buy dollars at a much higher exchange rate to settle the debt. The treasury department is typically concerned about downside currency risks as such exposures would result in a reduction in the value of the company's cashflows.
- **Interest rate risk:** This is the risk from unexpected changes in interest rates. Interest rate risk arises for companies with outstanding interest-bearing loans or

investments or companies with an impending need to borrow or invest. Unfavourable movements in interest rates can reduce payoffs from interest-bearing investments or increase the cost of loans. For companies that borrow at a fixed interest rate, their interest rate risk exposure will be in the downside when the interest rates are falling but they are locked in their original fixed interest obligations. And for companies that borrow at a floating interest rate, downside risk arises when interest rates are rising.

- **Commodity price risk:** This is the risk that arises from unexpected changes in the price of commodities like gold, oil, and raw materials used in production. Buyers face the risk that the commodity price would be higher than expected whereas sellers face the risk that the price would drop. For instance, a cereals producer that needs to buy wheat faces the risk of reduced profit margins when the price of wheat rises higher than expected and only receives a lower quantity for the same amount of money.
- **Market risk:** This refers to the risk arising from unexpected rise or fall in the price of financial securities and other financial assets. This risk arises for companies that hold large amount of financial market assets as investments. For instance, a pension fund with large holdings of exchange-traded bonds or equity stocks faces the risk that the value of the fund would reduce when the market prices of those bonds or equity stocks fall.

(Any 2 points @ 2.5 marks each = 5 marks)

(Total: 20 marks)

EXAMINER'S COMMENTS

This question which was on debtor management and assessment of three liberal alternative credit policies was poorly answered with candidates struggling to do a proper assessment of the various alternatives.

The second part was on Treasury risk management which also received average answers as most candidates centred more on only currency risk but few candidates understood and perform very well.

On Overall basis only 18% passed in this question even though the performance was better than the previous sitting with a pass rate of 3%. More work still needed on working capital and risk management

Question Five	Current Number	Percentage (%)	Last sitting (March 2023)
Pass	132	18	16 (3%)
Fail	588	82	620 (97%)
Total	720	100	636 (100%)