



Institute
and Faculty
of Actuaries

EXAMINERS' REPORT

CB1 - Business Finance

Core Principles

September 2023

Introduction

The Examiners' Report is written by the Chief Examiner with the aim of helping candidates, both those who are sitting the examination for the first time and using past papers as a revision aid and also those who have previously failed the subject.

The Examiners are charged by Council with examining the published syllabus. The Examiners have access to the Core Reading, which is designed to interpret the syllabus, and will generally base questions around it but are not required to examine the content of Core Reading specifically or exclusively.

For numerical questions the Examiners' preferred approach to the solution is reproduced in this report; other valid approaches are given appropriate credit. For essay-style questions, particularly the open-ended questions in the later subjects, the report may contain more points than the Examiners will expect from a solution that scores full marks.

For some candidates, this may be their first attempt at answering an examination using open books and online. The Examiners expect all candidates to have a good level of knowledge and understanding of the topics and therefore candidates should not be overly dependent on open book materials. In our experience, candidates that spend too long researching answers in their materials will not be successful either because of time management issues or because they do not properly answer the questions.

Many candidates rely on past exam papers and examiner reports. Great caution must be exercised in doing so because each exam question is unique. As with all professional examinations, it is insufficient to repeat points of principle, formula or other text book works. The examinations are designed to test "higher order" thinking including candidates' ability to apply their knowledge to the facts presented in detail, synthesise and analyse their findings, and present conclusions or advice. Successful candidates concentrate on answering the questions asked rather than repeating their knowledge without application.

The report is written based on the legislative and regulatory context pertaining to the date that the examination was set. Candidates should take into account the possibility that circumstances may have changed if using these reports for revision.

Sarah Hutchinson
Chair of the Board of Examiners
November 2023

A. General comments on the *aims of this subject and how it is marked*

The aim of the Finance and Financial Reporting subject is to provide a basic understanding of corporate finance, including a knowledge of the instruments used by companies to raise finance and manage financial risk and to provide the ability to interpret the accounts and financial statements of companies and financial institutions.

This paper examines basic finance including raising funds by a variety of methods, taxation, basic management accounting, net present value and project appraisal and other topics. It has both calculations and essay type questions on these topics. The paper also examines financial reporting, including preparation of the main financial statements and interpretation of financial statements. It also considers the basis of the preparation of statements and the information needs of a variety of end users of financial statements.

Different numerical answers may be obtained to those shown in these solutions depending on whether figures obtained from tables or from calculators are used in the calculations, but candidates are not penalised for this.

B. Comments on *candidate performance in this diet of the examination.*

Many candidates performed well in this exam. The MCQs were answered reasonably well and many candidates scored high marks.

The short response questions were also generally well answered. Usually where application was required, candidates did not perform well. Performance in some of the short response questions in this diet was excellent. Performance in Questions 19 and 20 was rather mixed, where well prepared candidates provided very good answers.

Candidates' performance was slightly lower in the area of finance. Candidates should ensure a sound knowledge of finance and be able to apply their knowledge to scenarios. Either Question 19 or 20 will be on this area of the syllabus in every exam.

C. Pass Mark

The Pass Mark for this exam was 60.
1112 presented themselves and 676 passed.

Solutions for Subject CB1 - September 2023

Q1	C	[2]
Q2	D	[2]
Q3	C	[2]
Q4	D	[2]
Q5	D	[2]
Q6	B	[2]
Q7	D	[2]
Q8	C	[2]
Q9	D	[2]
Q10	A	[2]

Q3 workings

C - correct - the lower of the charges that would be applied by both countries.

$15\% \times \$10\text{m} = \1.5m .

A - nil

B - the higher of the two rates. $20\% \times \$10\text{m} = \2.0m .

D - the difference between the two rates. $\$2.0\text{m} - 1.5\text{m} = \0.5m .

Q6 workings

B - correct - The premium will be paid at the time of issue.

The shareholders will be liable up to the unpaid amount remaining on the issued shares.

$300\text{m} \times \$0.55 = \165m .

A - nil

C - includes share premium. $300\text{m} \times \$0.65 = \195m .

D - uses authorised share capital. $500\text{m} \times \$0.55 = \275m .

Q8 workings

C - correct - $1.2 \times (1 + \frac{4}{8} \times .75) = 1.65$

A - wrong adjustment for tax - $1.2 \times (1 + \frac{4}{8} \times .25)$

B - wrong gearing - $1.2 \times (1 + \frac{4}{12} \times .75) = 1.5$

D - no adjustment for tax - $1.2 \times (1 + \frac{4}{8})$

Q9 workings

D - correct. $\$100 + 250 + 300 = \650

A - Parent only

B - Parent + 100% sub

C - Parent + 100% sub + $(90\% \times 300) = \$620$

Many candidates scored well in Questions 1 to 10.

There was an error in Question 8 as the wrong tax rate was used in the calculation. All candidates were awarded 2 marks for the question even if candidates selected the incorrect answer or did not attempt the question.

Q11

Insurance companies enter into contracts that create potential liabilities that are difficult to predict, in terms of size and timing [1]

That creates a need for provisions in the financial statements that must be based on estimates of likely future outcomes [1]

Those estimates may have a significant impact on the reported earnings and on the net assets reported in the statement of financial position [1]

Particular care must be taken in reporting insurance company profits because shareholders may expect dividends to reflect reported earnings [1]

It may be necessary to take a conservative approach to reporting liabilities and Profits in order to discourage the overpayment of dividends that could subsequently

Leave insurers unable to meet the commitments to policyholders. [1]

This question was answered well by many candidates. Only better prepared candidates mentioned dividends.

Q12

Holiday companies may suffer reputational damage because of concerns that the holiday industry is damaging to the environment. Voluntary disclosures may enable some companies to reassure potential customers [1]

Companies that use more efficient aircraft or accommodation may be able to argue that they are less damaging than competitors and so may win business [1]

It is also possible that voluntary disclosures will enable holiday companies to respond to critics who claim that their actions are unsustainable. The information that is released will, hopefully, demonstrate that critics are presenting an exaggerated message [1]

Voluntary disclosures may also benefit stakeholders and interested parties such as governments [1]

Some economies rely heavily on tourism and so politicians will be concerned that protests will disrupt the operation of the local holiday industry. Voluntary disclosures may equip politicians to support holiday companies. [1]

This question was generally well answered by candidates. Only well prepared candidates discussed voluntary disclosures in detail.

Q13

The behaviour of the share price suggests that the capital markets may not have a great deal of confidence in the Board's ability to identify suitable projects for Z Shareholder value would encourage the directors to consider proposals from the shareholders point of view as well as from a strictly technical analysis of the [1]

- projected cash flows from investments [1]
- The directors might then be better equipped to announce major projects in a manner that will seem favourable to the shareholders, taking account of the information that is available to the capital markets [1]
- It may be that the share price has fallen after recent announcements because the directors have been unable to share details of the expected outcomes of investments with the markets [1]
- In some cases, directors will hold analyst briefings that are intended to reduce the risk of a negative reaction due to a misunderstanding on the market's part, Particularly if key information has been withheld from the market because of the need for commercial secrecy [1]
- In time, the directors will develop a better understanding of the market's reaction to new projects and the manner in which shareholders evaluate projects on the basis of the limited information that is provided [1]
- That might avoid the stresses and distractions associated with declining share prices implying that the directors have invested in negative NPV projects [1]
- [Marks available 7, maximum 5]

This question was not very well answered by many candidates. Only well-prepared candidates knew what the shareholder value approach is. Many candidates just discussed NPV and said it was a more advanced approach. More detail and depth were required to gain a high mark.

Q14

- The starting point would be to develop a detailed model of the performance of the proposed theme park, taking full account of the economic impact of the strength and weakness of Country R's currency [1]
- Movements in currency can have an impact on local living costs and so they might affect customers' ability to spend money on holidays [1]
- The model should then be loaded with a realistic set of data concerning the variables that might affect performance, including expected exchange rates and the likely visitor numbers under different economic conditions [1]
- The data should be credible and, ideally, obtained from independent experts [1]
- The model should allow for the possible loss of revenue in the home country [1]
- Finally, the model should be run many times, randomising the inputs from the data sets of independent variables and the likely responses of dependent variables based On those inputs [1]
- The result should provide the Board with a realistic distribution of the expected returns from this investment. [1]
- [Marks available 7, maximum 5]

This question was answered well by most candidates. Candidates generally gave good clear descriptions of what was entailed in carrying out Monte Carlo simulations.

Q15

- The Board should consider whether there would be exploitable synergies between the two companies. Synergies could include adding new skills and expertise to the bidding company, which would create the possibility of additional clients [1]
- If the target would add little to the group then the bidding company might be better to aim for organic growth through the recruitment of additional staff [1]
- The cultures of the two companies will have to be compared. The acquisition could fail if the companies are not found to be compatible [1]
- Ideally, the actuaries working for the target company will have very similar attitudes and will be willing to work alongside their new colleagues as part of a larger group [1]
- If staff will feel unhappy or insecure then they might resign and leave the bidder for relatively little to show for its investment [1]

This question was not answered particularly well. Only well prepared candidates discussed the different cultures of the companies or the attitudes of management and staff of both companies. Synergy was discussed well.

Q16

- Giving shareholders the right to participate in any issue protects them against the loss that might be incurred if their company issues new shares at a discount [1]
- The company could benefit from an injection of equity, but the existing shareholders might still be left worse off because of the need to offer new shares at a discount to the existing market price. There would be no point in paying more than the current market price for new shares [1]
- Allowing shareholders to participate if they wish protects them from dysfunctional behaviour by the directors, who might expend at the expense of the existing shareholders [1]
- Some shareholders may be wary of losing influence over companies that they have invested in [1]
- A shareholder with, say a 20% stake may be unwilling to see that percentage decrease because of a new issue, unless it is possible to participate in the issue and retain the same overall level of ownership [1]

This question was answered well by most of the candidates. The majority of candidates understood what a rights issue is and could discuss the problems reasonably well.

Q17

- The shareholders should regard this as a choice between dividend income and making an additional investment in the company. Clearly, if they need the income for personal consumption then the scrip would not be suitable for them [1]
- There could be cash flow issues because the shareholder will be required to pay income tax on the value of the shares received, but will have no cash income from which to fund the tax payment [1]
- The scrip would also be unsuitable if their investment portfolio would be thrown out of balance, with too large a proportion of funds in a single investment [1]
- The pricing implied by the terms of the scrip dividend is worth considering.
- The share price implied by the offer may be lower than the open market price and so the scrip may offer a good value investment [1]
- The scrip dividend may also offer an opportunity to acquire additional shares without paying significant transaction costs, which would benefit shareholders who planned to increase their investments [1]

This question was generally well answered by many candidates. Only well-prepared candidates were clear about whether shareholders would be keen to accept a scrip dividend.

Q18

- Some might argue that company Y has a duty to maximise its shareholders' wealth. The company will be in breach of that duty if the directors do not take the opportunity to make this investment [1]
- It could be argued that the responsibility to protect wildlife habitats and migration routes is a matter for government and that the absence of legislation to the contrary means that Company Y is free to build its windfarm [1]
- If the proposal is rejected on the basis of conscience, then the shareholders may argue that the directors are acting in accordance with their personal beliefs, at a significant cost to the shareholders [1]
- The nature of the project creates further ethical considerations. The windfarm will, presumably, reduce the need for traditional power generation and so will create a net reduction in emissions [1]
- There is an ethical dilemma associated with balancing the needs to protect wildlife against society's needs for safe and clean electricity. The evaluation of that dilemma may depend, in part, on the extent of the harm that will be inflicted on migrating Birds and the risk of extinction of rare species [1]

This question was not answered as well as some others. Only well-prepared candidates thought there was an ethical issue and discussed this issue from all sides and gave a balanced answer.

Q19

(i)

	2023	Working	Average for 2018 to 2023	Working
	%		%	
Return on Equity	(5.5)	$(900)/16,300$	3.3	$550/16,857$
ROCE	2.8	$((900)+1,680)/(16,300+12,000)$	7.1	$(550+1,307)/(16,857+9,333)$
Gearing	42.4	$12,000/(12,000+16,300)$	35.6	$9,333/(9,333+16,857)$

(1 Mark for each ratio)

[6]

(ii)

The biggest concern is that Q's profit has declined significantly, year by year, since 2018, with losses being reported in the past three years. That pattern is unsustainable in the medium term because shareholder wealth is being eroded [1]

The only positive indication is that the company is still reporting a positive ROCE, which suggests that it is generating operating profits [1]

Q's borrowings have doubled over the past six years, with additional loans being Taken out in 2019, 2021 and 2023 [1]

That raises concerns about the reasons for taking out those loans. It would be a concern if the company was borrowing in order to maintain a positive cash flow because it cannot sustain itself on the basis of its operations [1]

There is the related concern that operating profits cannot cover the cost of Q's debt and so the additional borrowing is a major contributor to the loss [1]

This pattern of results could be due to the nature of Q's products and the markets that it operates in. Q made good profits for the first three years of this period, admittedly with a decline in return on equity and ROCE [1]

That was followed by a sudden slide from profit into loss. It may be that Q manufactures products that have a limited lifecycle [1]

Profits could be declining because of declining demand for Q's existing product range. The significant decrease in 2021 could be due to need to spend heavily on the development of new products [1]

That would be consistent with the decision to borrow \$3m in 2021 and a further \$1m in 2023. The additional debt could be required to finance development activities [1]

The fact that lenders are prepared to make these loans despite the poor performance and increasing gearing suggests that Q has a clear and credible plan that enables it to offer lenders a realistic assurance that they will be repaid [1]

(iii)

It is clear from the figures that highly geared companies have greater volatility in the returns that they can offer to their shareholders because of the impact of the fixed cost of borrowing on the profit attributable to the shareholders [1]

Q's operating profit has declined across the six years, but the rate of decline is not nearly as marked as the decline in profit for the year [1]

Q's gearing will also give the company an insight into its ability to maintain existing loans. The declining equity and increasing borrowing could leave the company faced with foreclosure if it is in breach of loan covenants [1]

Q will also have to consider whether its high gearing could make it difficult to raise further loan capital in the event that the company runs into cash flow problems and needs to borrow [1]

[Total 20]

Part (i) was answered very well by most candidates.

Part (ii) was also answered well with many candidates achieving full marks in this part.

Part (iii) was also answered well but not as well as part (ii). Some candidates had already discussed gearing on part (ii) and been awarded marks for those comments.

Q20 (i)

The relationship between non-executives and the shareholders is less open to agency problems than the relationship with executive directors. Non-executives are usually paid a fixed salary, which reduces the potential incentive to manipulate reported profit or share prices [1]

The creates less of an incentive to manipulate reported profits and share prices because the rewards available to non-executives will not be affected by any misbehaviour [1]

The non-executives have established significant reputations from their earlier careers. It appears that they have more to lose from reputational damage than their executive counterparts [1]

The non-executives are less likely to tolerate any concerns about the governance issues arising at K because they could risk being discredited, with no upside risk to compensate [1]

Having equal numbers will give the non-executives the ability to support one another in the event of any dispute with the executives [1]

It will be more difficult to coerce all four non-executives into tolerating misbehaviour that leads to agency problems [1]

The parity of numbers will also increase the likelihood that non-executives will resign in the event that they agree that there is an unacceptable situation that the executive directors refuse to resolve [1]

(ii)

The key to a successful remuneration system is that it will align the interests of the executive directors with those of the shareholders. Ideally, the system will reward the directors for any decisions that will increase shareholder wealth [1]

It can, however, be difficult to isolate the contribution of individual directors towards the company's overall success. There could be a free-rider problem if rewards are granted to the Board as a whole [1]

There may also be a time lag between a decision and the associated benefit to the shareholders to manifest itself. For example, it may take years for a new strategy to

increase the share price and directors may be concerned that they could leave before their contributions are recognised [1]

Remuneration schemes could encourage dysfunctional behaviour and misreporting of performance in order to enhance payments from profit-related rewards [1]

For example, bonus payments that are linked to profits could be increased by overstating profits through creative accounting [1]

Directors may be discouraged by remuneration schemes that have the effect of penalising them for costs and losses that could not have been foreseen [1]

For example, a profit-related bonus might decrease because of an unexpected change in legislation that requires a product to be withdrawn and compensation paid to consumers [1]

(iii)

The most likely point of contact between the auditor and the executive directors will be through the Finance Director, who is in overall charge of preparing the financial statements [1]

The Finance Director may be under pressure to manipulate the impression created by the financial statements in order to avoid disappointing fellow Board members and in order to keep the shareholders happy [1]

The Finance Director may be able to put the external auditor under pressure by threatening to have the Board seek a replacement firm and by threatening to discredit the auditor's reputation in the event of any public debate about the financial statements [1]

Meeting with non-executives will give the audit partner an alternative means of communicating with the Board. Non-executives have a greater incentive to reject any misleading or creative accounting schemes [1]

If the auditor persuades the non-executives that the financial statements are misleading, then the non-executives may report those concerns to the whole Board [1]

In an extreme case, the non-executives might threaten to resign rather than be implicated in an accounting scandal, thereby providing the auditor with the ability to ensure that the financial statements present fairly [1]

[Total 20]

Part (i) was answered well, as most candidates could discuss why equal numbers of executive and non-executive directors is important. They were aware it was a corporate governance issue and important for decision making.

Part (ii) was answered quite well by many candidates, again candidates were aware of the importance of setting directors' remuneration and how it affected the shareholders.

Part (iii) was not answered as well as the previous two parts. Only well-prepared candidates knew the auditors and the non-executive directors could liaise. Many said this was unfair and unreasonable which is incorrect.

[Paper Total 100]

END OF EXAMINERS' REPORT



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