

INSTITUTE AND FACULTY OF ACTUARIES

EXAMINERS' REPORT

April 2020

Subject CB1 - Business Finance - Core Principles

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.

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.

Mike Hammer

Chair of the Board of Examiners
July 2020

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

1. 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.
2. 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.
3. 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. However, candidates may lose marks where excessive rounding has been used or where insufficient working

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

Many candidates performed very well in this exam. The MCQs were done quite well. Some of the short response questions were done very well but some of the questions were poorly answered. Performance in Question 20 was poor. The question was divided into three parts and they were all done quite badly. The question was on company performance and the ROCE ratio in particular. The area which candidates' performance was weakest was finance, this is often the case with this exam. Candidates were good at questions which mainly tested knowledge but were a little weak on application of knowledge to scenarios. Having said that the results were in line with previous diets and many candidates were very good.

C. Pass Mark

The pass mark for this exam was 57

774 candidates presented themselves and 462 passed

Solutions

Q1	D	[2]
Q2	A	[2]
Q3	B	[2]
Q4	D	[2]
Q5	C	[2]
Q6	A	[2]
Q7	D	[2]
Q8	B	[2]
Q9	C	[2]
Q10	A	[2]
		[Total 20]

Q1-10 were done well by many candidates. A few candidates achieved full marks which was excellent.

Q11

- Share prices reflect the market's expectations of future cash flows, which is a reflection of both the business and the manner in which it is being managed [1]
 - If the directors' management is dishonest or incompetent then the share price will decrease, which may prompt questions about the quality of management [1]
 - Share prices are generally driven by informed and competent investors, but all shareholders can interpret the decline of the share price as "bad news" and can consider whether a change of direction might be required [1]
 - The ultimate sanction for poor share price performance is that the company will be regarded as a prime candidate for takeover [1]
 - Poorly performing directors could find that a predator believes that it would be potentially profitable to offer a premium over the share price in order to take control and to manage the company more efficiently [1]
 - Directors may receive shares as part of their remuneration packages. If so, they will have a direct incentive to act in the shareholders' interests in order to maximise the value of their personal shareholdings [1]
- [6, Max 5]

Many candidates demonstrated a good understanding of the factors that drive share prices. Candidates were less aware of the link between share price and directors' performance. There were, however, some very good answers.

Q12

- The payback criterion does not make a full allowance for the time value of money [1]
- or for risks and rewards associated with cash flows after the payback period has elapsed [1]
- The criterion is not, therefore, necessarily consistent with the basic criterion of maximising shareholder wealth [1]

- Despite that, it is realistic to suggest that a project that has a short payback period is likely to have a positive NPV and so it may be a satisfactory basis for identifying satisfactory projects [1]
 - ABC may also operate in a relatively low-risk industry and so have a low required rate of return on projects, in which case there is less risk of payback being misleading [1]
 - The fact that the criterion has been used for many years does not, in itself, mean that it has been successful. For example, the company could have invested in a number of negative NPV projects without that ever being noticed [1]
 - The company will also be unaware of the opportunity cost of investing in projects that had lower NPVs than alternatives that could have been selected instead [1]
- [6, Max 5]

There were many excellent answers to this question. A few candidates gave very generic answers on why payback was poor or why NPV was a better method these answers did not gain high marks but usually passed.

Q13

- Realistically, the only effective mitigation would be to reduce the risk. The risk can only be avoided by switching to a completely different range of products that do not have any health risks [1]
 - There are no practical ways to transfer the risk and accepting the risk appears to be unacceptable [1]
 - The main problem is likely to be the reputation risk arising from the sale of a product that may be harmful if consumed to excess. The manufacturer might attempt to mitigate that risk by educating consumers and encouraging them to behave responsibly [1]
 - The company can reduce the risk by encouraging buyers to be responsible when buying and eating sweets [1]
 - Promoting the products as treats that are not to be eaten in place of nutritious food or eaten in excessive quantities will, at least, demonstrate that the company is aware of the risk and is keen to address it [1]
 - It may also be possible to reduce the risk by making portions smaller or adjusting the recipe so that the sugar content is reduced [1]
- [6, Max 5]

This question was done badly. Some candidates spent a lot of time discussing health and safety issues rather than the problems of sugar content. Candidates did not mention mitigation in any detail. Few candidates discussed social responsibility.

Q14

- Relevance can only be judged in the context of the decisions that are to be based on the figures [1]

- Cost less depreciation will not necessarily offer even a rough estimate of the market value of an asset and so it will be little help in, say, informing a lender's decision about asset values as collateral [1]
 - Similarly, knowing the book value will be of little help in deciding whether to retain an asset or sell it on the open market or scrap an asset rather than repairing it [1]
 - The issues affecting property may differ from those involving plant and equipment because property tends to have a longer life. Valuing a building at cost less depreciation could result in a figure that is so badly out of date that it has very little relevance [1]
 - The book value may not reflect the market value or economic value of the assets, but it does enable some allowance to be made for the availability of assets when calculating ratios [1]
 - Comparing, say, ROCE for two companies in the same industry will be aided by the inclusion of book values because the figures will, at least, reflect the scale of the respective companies' investments [1]
- [6, Max 5]

This question was also done badly by many candidates.

Candidates did not understand relevance and reliability and where they did they failed to make any link to assets.

This question required some knowledge of financial reporting and few candidates demonstrated this in their answers.

Q15

- The factors that need to be taken into account in measuring the impact on the environment are not always fully understood or agreed [1]
- Areas such as the implications of emissions or the need to manage climate change are often the subject of controversy. That can make it difficult to measure and report on sustainability [1]
- The question of whether an entity can be viewed as managing resources responsibly when it is consuming natural resources that may be irreplaceable is complicated [1]
- This is also an area in which companies may feel exposed because they may be encouraging criticism of their behaviour through admitting to their environmental impact [1]
- For example, attempts to offset carbon emissions are often viewed as inadequate because it may take some time for the offset to actually occur in the face of emissions that are occurring in the short term [1]
- Social and political differences can mean that companies will always face criticisms that their reports are deliberately misleading [1]

[6, Max 5]

Many candidates passed this question as they managed to think of three points that were relevant. Few candidates achieved a high score.

Q16

- External auditors have a responsibility to report on whether financial statements present fairly [1]
- In doing so, they must form an opinion on whether the financial statements have been prepared in a manner that justifies an unmodified opinion. That can require delicate professional judgement because of the potential for disagreement over accounting treatments [1]
- The IFRS provide a benchmark against which fair presentation can be measured. It would certainly be difficult to argue that a fair presentation was being offered if the accounts did not comply with IFRS [1]
- That can strengthen the auditor's position in the event of any disagreement with the directors because any controversial accounting treatments that do not comply with IFRS can be rejected [1]
- The IFRS also provide the auditor with some justification for an audit opinion. If the opinion is ever challenged by a user of the financial statements then the auditor can argue that the financial statements present fairly in terms of the recognised accounting standards [1]
- The ability to justify an audit opinion in those terms may be sufficient to reduce the risk of reputational damage to the auditor [1]

[6, Max 5]

This question was not answered very well. A number of candidates did not read the question properly and wrote about how IFRS help people prepare financial statements and did not discuss the auditor. The answer should have been about why IFRS are useful to auditors not generic points about the benefits of IFRS.

Q17

- The neatest response would be to take the forecast to the bank immediately and to admit that there is a danger that the overdraft will exceed the \$50,000 limit. The consultancy could then seek an increase in the overdraft limit, even on a temporary basis [1]
- If the bank can see that the company anticipates returning to a positive balance then it might be prepared to grant this request, avoiding the problem altogether [1]
- If the bank is unwilling to increase the overdraft then the consultancy might find it easier to take out a short-term loan that would cover the period of the deficit [1]
- Alternatively, the management team should review the forecast carefully to determine whether there are any payments that might be delayed [1]
- The scheduled purchase of equipment or replacement of company cars might be put off until after the anticipated return to a positive balance [1]
- That would, at the very least, reduce the overdraft to below the \$87,000 maximum and, hopefully, even keep it below the \$50,000 limit [1]

[6, Max 5]

*This question was done quite well by candidates.
Many candidates demonstrated a good understanding of cash flows.
Many candidates achieved a passing score and a good number of candidates scored full marks.*

Q18

- The most immediate threat is that the company could run out of cash, making this policy inherently unsustainable [1]
- The fact that profit has been earned does not mean that there is sufficient cash available to pay the entire amount as a dividend [1]
- The company could, for example, have recognised revenues that are still to be collected and so the dividend payment could reduce the bank balance. It could also be necessary to use cash for purposes other than operating costs. Assets could require replacement [1]
- The lack of retained earnings could mean that the company has insufficient funding to invest in attractive opportunities that arise. The company will either have to borrow or seek an injection of equity from the directors, out of their personal wealth [1]
- The fact that the company is wholly owned by its directors reduces the risks of major problems [1]
- There is no need to maintain the dividend in order to signal confidence because the directors already have a full understanding of the business and will be able to put any decrease in dividend into context [1]

[6, Max 5]

This question was in the area of finance which is often the weakest subject area. Few candidates could write much for this question and many did not achieve a passing score. Many candidates did not realise the company was quite small and all the shares were owned by the directors. This made a huge difference to the answer and these candidates did not pass this question.

Q19 (i)

- The most immediate advantage is that the managers are no longer restricted to their salaries. They will share the profits made by Sub, which could be significantly greater [1]
- The deal gives them the security of \$16m of revenue every year, which is a good start for a new business venture because they don't need to go out and look for business [1]
- They will be working for a known business and will understand what is being expected of them [1]
- The directors will have rent-free accommodation for the first 18 months of their operations on an independent basis, which will reduce the disruption of relocating staff and will save costs [1]
- The significant personal borrowings will be a serious concern. The failure of the business could leave them in serious financial difficulties [1]
- They will have to reduce running costs from \$20.0m - 2.5m = \$17.5m to \$16.0m immediately, which could prove difficult [1]
- They will undoubtedly have to make former colleagues redundant in order to achieve this, which may be uncomfortable and even distasteful [1]
- It may be more difficult to achieve those savings than they expect because it is reasonable to imagine that Parent has already considered all practical ways to reduce costs while maintaining quality [1]

- It will also be necessary to start looking for new premises almost immediately in order to be ready to relocate [1]

[9, Max 8]

(ii)

- The biggest advantage is that the business will receive an inflow of \$4m. That will improve cash flows, even if it is not a huge sum in comparison to the size of the Group as a whole [1]
- Parent will also benefit from the cost savings associated with the fixed annual fee to Sub being lower than the operating costs that would otherwise be incurred [1]
- When the contract is set for renewal in four years, the company will have a massive advantage in terms of bargaining power and may be able to reduce costs even further [1]
- This arrangement will enable the company to retain the services of its existing actuarial team, rather than risking the disruption of outsourcing to a third party who may prove to be incompetent [1]
- There could be disadvantages, though. The MBO team will be under pressure to reduce costs, which could have an adverse impact on the quality of the service [1]
- The need to keep the contract will also give the actuaries a good reason to avoid owning up to any errors or omissions, which could prove costly in the long run [1]
- The new entity might also start looking for additional work from third parties, which could be a further distraction [1]

[7, Max 6]

(iii)

- Restricting shares to the 18 senior managers could have the effect of demotivating other managers and staff, who would wish to own a stake in the company [1]
- There would be no significant loss of control if the senior staff took, say, 3% each which would give them 54% in total and so they would retain control [1]
- The additional equity would reduce the need for the founders to find the whole \$4m from their own resources [1]
- It would also reduce the possible need to raise debt finance and so reduce the problems associated with gearing at this early stage [1]
- Opening up shareholdings could make it more difficult to manage staff in the medium term. For example, it could prove more difficult to make an employee redundant if that person is also a shareholder [1]
- The staff might also be unwilling to move on if they are unhappy because they could feel tied to the company because of their investment [1]
- They may also feel entitled to greater latitude in their performance and in their behaviour because they own some shares [1]

[7, Max 6]

[Total 20]

This question was answered very well. There were many good passes and many candidates gave very good answers. The candidates in general showed a good understanding of management buyouts and gave in depth answers which demonstrated an understanding of the topic.

Q20

(i)

- Accounting performance ratios are generally calculated using book values and that is an important enough reason to make the book value of equity relevant [1]
 - The figure will only change from year to year in the event that Vonder seeks a fresh injection of share capital or has a significant inflow from retained earnings [1]
 - That makes the resulting ROCE ratio consistent from one year to the next, with changes in capital employed only reflecting increases or decreases because of investments or withdrawals [1]
 - The book value of share capital also reflects the actual cash invested in the company by the shareholders and so it is a realistic measure of the management team's performance [1]
 - Basing ROCE on the market value of equity reflects the wealth created for the shareholders in relation to the opportunity cost of leaving their investment with the company [1]
 - That makes it a more realistic measure of the benefits of investing in the company from the shareholders' perspective [1]
 - It also holds the directors responsible for the value of the resources that have been entrusted to them and the associated return that they earn from those resources [1]
 - That could make life difficult for the directors because any increase in the share price, which could be due their sound management of the business, will decrease their ROCE [1]
 - Having said that, it could also motivate the board to ensure that the shareholders are adequately compensated for the investment that they are making [1]
- [9, Max 8]

(ii)

- The investment in the factory will understate ROCE for the year ended 30 June 2020 [1]
 - The capital employed will be inflated by \$150 billion, despite the fact that the funds were not invested in any meaningful way until a month before the year end [1]
 - The operating profit does not appear to have increased by much in response to this investment, if at all [1]
 - There could have been additional costs that actually reduced operating profit for the year because they could not be carried forward. For example, the costs of recruiting staff to work in the factory will have been incurred and written off as a cost [1]
 - The company could also have charged a month's depreciation on the building [1]
 - It would be far more realistic to base ROCE on an amount that excludes the fresh investment. In other words $362 + 350 - 150 = \$562$ billion [1]
 - Doing that would enable the shareholders to compare the ROCE of $48/562 = 9\%$ with the previous figure of $44/(351+240) = 7\%$ [1]
 - The alternative would be $48/(362+350) = 7\%$ [1]
- [8, Max 7]

(iii)

- In theory, if the shareholders are disappointed with the profitability and performance of the company then the share price could decline [1]. ROCE reflects the company's ability to generate wealth from the resources that it has available to it and so it is a key ratio for investors [1]

- That would, however, be a potentially naïve assumption which would depend on all shareholders and potential shareholders being misled [1]
- In the short term, the announcement of misleading information could lead to offsetting market forces, with the shareholders who are disappointed seeking to sell pushing the share price down and those who believe that the news is not actually a problem buying shares and pushing the share price up [1]
- There could be a brief period of turbulence, but that would not necessarily cause any serious problems in the longer term because the market will be driven by informed decisions by intelligent participants [1]
- The only real concern would be that the threat of such misunderstandings could lead to the directors indulging in dysfunctional behaviour, such as not making investments in case the market misunderstands them [1]

[5]

[Total 20]

[Paper Total 100]

Q20 was done badly. There were many weak answers to all parts of this question. Candidates did not understand ROCE and could write very little for any parts of the question. This question was the poorest in terms of numbers of passing candidates.

END OF EXAMINERS' REPORT

INSTITUTE AND FACULTY OF ACTUARIES



EXAMINATION

06 May 2020 (am)

Subject CB1 – Business Finance Core Principles

Time allowed: Three hours and fifteen minutes

In addition to this paper you should have available the 2002 edition of the Formulae and Tables and your own electronic calculator from the approved list.

- 1 Why would the directors of a quoted company spend more than necessary on their external audit?
- A Auditors are greedy and will overcharge if they can.
 - B Company directors do not understand the pricing of audit services.
 - C Finance directors are frequently recruited from the external audit firm.
 - D To signal that the financial statements are credible in the face of agency concerns.
- [2]

- 2 How can the directors of quoted companies deal with the different risk preferences of the many shareholders who have invested in their companies?
- A By aiming to maximise market capitalisation
 - B By maximising expected returns, regardless of risk
 - C Through minimising risk as much as possible
 - D By seeking feedback from shareholders.
- [2]

- 3 Which of the following would be a suitable duty for a non-executive director?
- A Development of a business plan to support application for bank funding
 - B Participation in the selection of executive directors
 - C Selection between major mutually exclusive projects
 - D Selection of the principal supplier for key raw materials.
- [2]

- 4 An actuary has prepared a computer model to simulate a complex project's outcome. The model's logic has been reviewed carefully. The following table shows the simulation results.

<i>Number of runs</i>	<i>Average net present value</i>
5,000	+\$50 million
10,000	-\$70 million
20,000	+\$2 million

What should be concluded from these results?

- A Projects should not be evaluated on the basis of simulations.
- B The decision to proceed should be based on the return of +\$2 million.
- C The required rate of return has been set too high.
- D The simulation needs to be run many more times.

[2]

- 5 A company has \$10 million available for investment. It is considering investing in three individual investment projects:

	<i>Initial investment</i>	<i>Net present value</i>
Project One	\$4 million	\$9 million
Project Two	\$2 million	\$3 million
Project Three	\$7 million	\$11 million

What would be the opportunity cost of investing in Project One?

- A \$2 million
- B \$5 million
- C \$11 million
- D \$14 million.

[2]

- 6 The directors of a company are considering investing in a machine that will cost \$38 million. The machine will have a useful life of 5 years. The cost of capital is 10% p.a.

The directors have determined that the annual capital charge of this machine is \$10 million. The machine will generate revenues of \$14 million and will require annual running costs of \$1.5 million.

Which of the following statements is correct?

- A The annual capital charge method indicates that the company should invest in the machine because it will increase shareholders' wealth.
- B The annual capital charge method indicates that the company should invest in the machine, but it does not indicate that the investment will increase shareholders' wealth.
- C The annual capital charge method indicates that the company should not invest in the machine because doing so will reduce shareholders' wealth.
- D The annual capital charge method indicates that the company should not invest in the machine, even though the investment will increase shareholders' wealth.

[2]

- 7** Why would the directors of a quoted company pay close attention to the company's draft financial statements?
- A The directors are unlikely to understand the financial statements.
 - B The external auditor cannot be trusted to check the draft financial statements properly.
 - C The information obtained from the company's internal management accounts is unreliable.
 - D The shareholders will use the financial statements to evaluate the directors' stewardship.
- [2]
- 8** A quoted company made a significant bond issue. Which of the following statements is correct?
- A The company's beta coefficient will remain unchanged after the bond issue, until the passage of time indicates whether beta has increased or decreased.
 - B The company's beta coefficient will increase after the bond issue.
 - C The company's beta coefficient will decrease after the bond issue.
 - D The company's beta coefficient will only change if the company continues to earn taxable profits after the bond issue.
- [2]
- 9** How should an investor evaluate a security that has a beta value of zero?
- A The security has zero risk.
 - B The security has an extremely high risk.
 - C The security offers a return that is not affected by movements of the market as a whole.
 - D The security offers a zero return.
- [2]
- 10** Which of the following best explains the fact that a consolidated statement of financial position does not show a figure in respect of non-controlling interest?
- A All of the subsidiaries are wholly owned by the parent company.
 - B None of the subsidiaries were acquired as going concerns.
 - C The group has no associated undertakings.
 - D The parent company has a widespread shareholding.
- [2]
- 11** Explain the role of share prices in managing the behaviour of the directors of quoted companies.
- [5]

- 12** The directors of ABC, a manufacturing company, evaluate projects using the payback method. The directors are reluctant to switch to the net present value criterion and are justifying their reluctance on the basis that the company has grown steadily since it was founded 20 years ago.

Describe the relevance of the payback criterion to ABC. [5]

- 13** Explain the most appropriate ways of mitigating the reputational risks associated with manufacturing and selling unhealthy food products, such as sweets. [5]

- 14** International Accounting Standards identify relevance as a desirable characteristic for accounting information.

Describe whether accounting for property, plant and equipment at historical cost less depreciation results in a valuation that lacks relevance. [5]

- 15** The United Nations defines sustainable development as ‘development that meets the needs of the present without compromising the ability of future generations to meet their own needs’.

Describe the difficulties associated with preparing a useful sustainability report for a quoted company. [5]

- 16** Describe the relevance of International Financial Reporting Standards (IFRS) to external auditors. [5]

- 17** An actuarial consultancy has prepared a cash flow forecast that shows that its bank overdraft will increase steadily for 6 months, reaching a final figure of \$87,000. Fees from scheduled work will then start to flow in and the overdraft will decrease steadily for 6 months until it is cleared. Unfortunately, the consultancy’s overdraft limit is \$50,000.

Explain how the consultancy should deal with its expected cash flows. [5]

- 18** A private company’s directors collectively own 100% of the company’s share capital. For the past 3 years the company has paid an annual dividend equal to the annual profit after tax.

Describe the implications of this dividend policy. [5]

19 Parent is a major quoted financial services company. It has a wholly-owned subsidiary (Sub) that provides actuarial services to the other companies in the group. Sub employs 94 qualified actuaries, plus 110 support staff. These numbers include 18 senior managers who are responsible for Sub's management. Sub operates from an office space within Parent's head office.

Sub's annual running costs are approximately \$20 million, including an annual internal charge of \$2.5 million made for the use of the office space.

Sub's senior management team has held an initial meeting with Parent's Board to discuss the possibility of a management buyout of the subsidiary by its senior managers. Parent's Board has agreed, subject to the following terms:

- The senior management team would pay \$4 million for Sub.
- Sub would continue to provide all of Parent's actuarial services under contract for 4 years, at an annual fee of \$16 million. That contract would be renegotiated at the end of year 4.
- Sub would be permitted to remain in the office space for 18 months without charge but would be required to vacate the space at the end of that time.
- Sub would retain all the IT equipment and office furniture.

The senior management team could raise \$1.8 million by investing \$100,000 each from their personal savings and by remortgaging their homes. They will each take equal shares in the company and will retain 100% ownership between them.

- | | | |
|-------|---|------------|
| (i) | Discuss the advantages and disadvantages of this management buyout arrangement to Sub's senior management team. | [8] |
| (ii) | Describe the advantages and disadvantages of this management buyout arrangement to Parent. | [6] |
| (iii) | Discuss whether it would be preferable to permit Sub's other employees to buy shares in the company. | [6] |
| | | [Total 20] |

- 20** Vonder is a major quoted company that manufactures tyres. The company's annual report for the year ended 30 June 2020 was released yesterday. The following summary was included in the business pages of this morning's newspapers:

	<i>Current year \$ billion</i>	<i>Last year \$ billion</i>
Operating profit	48	44
Book value of equity	362	351
Market capitalisation of equity	447	427
Non-current liabilities	350	240

The newspaper article referred to the fact that the figures take account of a new factory that cost Vonder \$150 billion when it took possession in May 2020. The purchase was paid for using debt that was raised on the date of acquisition.

Vonder's CEO is concerned that the company's shareholders will misunderstand the company's Return On Capital Employed (ROCE) for the year ended 30 June 2020.

- (i) Explain the relevance of the book value and the market capitalisation of equity for the calculation of Vonder's ROCE. [8]
- (ii) Discuss the implications of the investment in the new factory for Vonder's ROCE. [7]
- (iii) Discuss the implications of a misunderstanding of ROCE for Vonder's share price. [5]

[Total 20]

END OF PAPER

