

INSTITUTE AND FACULTY OF ACTUARIES

EXAMINATION

14 April 2022 (am)

Subject CB1 – Business Finance Core Principles

Time allowed: Three hours and twenty minutes

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

If you encounter any issues during the examination please contact the Assessment Team on T. 0044 (0) 1865 268 873.

- 1** Which of the following is most likely to seek a microloan?
- A A charity that is attempting to raise the cost of a minibus to transport volunteers
 - B A qualified actuary who requires funding in order to rent an office and start a consultancy
 - C A subsidiary in a group of companies that requires finance to replace equipment
 - D An unemployed carpenter who wishes to buy basic tools in order to start a small business.

[2]

- 2** Which of the following statements is true of an interest rate swap?
- A The need to use swaps implies poor financial management by the parties.
 - B The parties to the swap become responsible for one another's liabilities.
 - C The parties to the swap effectively make offsetting payments to one another for the swap's duration.
 - D There are no credit risks associated with swap arrangements.

[2]

- 3** A quoted company is making a rights issue.

Which of the following statements is correct?

- A Shareholders are required to exercise their rights.
- B The new shares could be issued at a premium to the present market price.
- C The new shares could be issued at a price that is less than their nominal value.
- D The share price could increase after the issue.

[2]

- 4** A company is obtaining a stock exchange quotation through an offer for sale by tender.

Which of the following statements is correct?

- A All applicants will receive shares.
- B All shares will be issued at the same price.
- C Applicants making low tenders will depress the share price.
- D The size of the issue will be decided after the tender process.

[2]

5 A company offers an automatic dividend reinvestment plan.

Which of the following statements is true with regard to the shareholders who are enrolled in this plan?

- A No tax will be paid.
- B Shareholders will receive free shares.
- C The new shares will be acquired at a discount.
- D There is no benefit to the company.

[2]

6 The purpose of an ‘emphasis of matter’ paragraph in an external auditor’s report is to:

- A draw attention to a note to the financial statements.
- B explain a problem that arose during the audit.
- C highlight a major change to corporate strategy.
- D summarise the limitations of an external audit.

[2]

7 Which of the following reflects the accruals concept in the preparation of an insurer’s financial statements?

- A accounting for claim costs and premiums in the same period
- B determining costs based on pessimistic assumptions
- C excluding potential claims that cannot be measured objectively
- D recognising estimated costs of settling recent claims as expenses

[2]

8 A parent company owns a single subsidiary that was purchased for cash 10 years ago. Which of the following best explains the need to include the goodwill on acquisition of this subsidiary in the consolidated statement of financial position?

- A Goodwill always appears in the consolidated financial statements.
- B Shareholders need to be reminded of the value of loyal customers and similar intangibles.
- C The goodwill was paid for and must be included or the statement would not balance.
- D The shareholders would otherwise be misled because the group's assets would otherwise be understated.

[2]

9 Which of the following best describes ‘other comprehensive income’?

- A dividends receivable
- B gains that are taken directly to reserves
- C income from financial assets
- D income from operations

[2]

10 Which of the following best describes the attitude that a company should have towards meeting its competitors' information needs when preparing its financial statements?

- A Competitors are legitimate users of financial statements.
- B Competitors have no means of obtaining the financial statements, so their interest is irrelevant.
- C Information that is of value to the shareholders is likely to be useful to competitors.
- D Information that would assist the competitors should be withheld.

[2]

11 Describe the challenges of identifying and evaluating the opportunity costs of an investment project.

[5]

12 Outline the advantages of setting a standard hurdle rate of, for example, 15% p.a. for all investment projects undertaken by a large company.

[5]

13 A film studio is about to start production of an action film. The film stars a major actor who wishes to perform their own stunts. The studio is concerned that the actor will be injured during filming.

Outline, with reasons, a suitable approach to mitigating the risks associated with the actor performing stunts.

[5]

14 Describe the implications of agency theory for the regulation of corporate governance.

[5]

15 Outline why requiring large oil companies to publish sustainability reports will encourage them to behave in a manner that is socially responsible.

[5]

16 A quoted company's board wishes to treat a large payment as an investment in an intangible asset, but the company's external auditor insists that the payment should be treated as an expense. The board's proposed treatment will result in a significantly higher reported profit and a stronger statement of financial position.

Explain the governance mechanisms that are in place to ensure that the board cannot pressurise the external auditor into agreeing to a potentially misleading accounting treatment.

[5]

- 17** An engineer has invented a new electric motor that can be fitted to bicycles. She believes that her invention has significant commercial potential because it will retail for \$600 per unit, which is substantially cheaper than existing products, all of which are technically inferior.

The engineer has a working prototype, but she cannot afford to launch it unless she can raise the \$400,000 that it will cost to have an initial batch of motors manufactured and to cover initial marketing.

Explain whether crowdfunding will be a suitable means for the engineer to raise the \$400,000 that she requires. [5]

- 18** The directors of an actuarial consultancy are working on next year's annual budget. The manager in charge of staff development has requested an increase in the staff training budget for next year.

Describe the challenges associated with determining an appropriate level of expenditure on the consultancy's staff training. [5]

- 19** A quoted manufacturing company has recently appointed a new Chief Executive Officer (CEO). It is close to the year end and the newly appointed CEO is working with the Finance Director on plans for the preparation of the company's annual financial statements.

The CEO has noted that the company's land and buildings have always been shown at cost less depreciation. The company owns a large plot of land that holds a factory that was built 15 years ago and an office block that was built 12 years ago. The land is shown in the financial statements at cost and the buildings are shown at cost less depreciation, with depreciation charged at 2% of cost each year.

The CEO believes that the land and buildings are worth far more than their depreciated cost and that the financial statements should use a revalued figure. They have asked the Finance Director to make the necessary arrangements with a professional valuer and also with the company's external auditor.

- (i) Describe the effects of the revaluation on the relevance and reliability of the company's financial statements. [7]
 - (ii) Outline the effect of the revaluation on the company's return on capital employed ratio and its likely impact on the share price. [6]
 - (iii) Explain why the external auditor should be consulted on the revaluation. [7]
- [Total 20]

20 S is a major quoted transportation company that operates 2,500 Heavy Goods Vehicles (HGVs), delivering goods on behalf of several hundred customers, including manufacturers and supermarkets. In addition to 5,000 drivers, S employs 300 administrative staff, most of whom are based in the company's operations centre. The operations centre uses sophisticated computer software to track the navigation systems in S's HGVs, and to schedule collections and deliveries, to maximise operating efficiencies.

S's board is considering the acquisition of G, a competing quoted transportation company that operates 1,200 HGVs and employs 2,600 drivers and 170 administrative staff. G also has a computerised operations centre that tracks HGVs and schedules collections and deliveries. G's market capitalisation is currently roughly half that of S.

Confidential meetings have taken place with G's directors, who have agreed to support the bid. S will issue new shares worth 15% more than G's present market capitalisation and will exchange those for 100% of G's equity. S's board is confident that synergies will bring about a significant increase in the overall value of the merged group.

G's directors will step down after the merger, in return for a generous financial settlement. The merged group will be managed by S's existing board, whose remuneration will increase in line with the increase in the size of the merged entity.

- (i) Discuss the expectation by S's board that this merger will bring about significant synergies. [10]
 - (ii) Evaluate the proposal that G's directors should receive a generous financial settlement when they step down. [5]
 - (iii) Evaluate the proposal that S's directors should be paid more in recognition of the increase in the size of the merged entity. [5]
- [Total 20]

END OF PAPER

INSTITUTE AND FACULTY OF ACTUARIES

EXAMINERS' REPORT

April 2022

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 Specialist Advanced (SA) and Specialist Principles (SP) 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.

Sarah Hutchinson
Chair of the Board of Examiners
July 2022

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, 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. There is now some management accounting in the syllabus so there are questions on topics such as budgeting and performance management.

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 not be awarded full marks where excessive rounding has been used and where insufficient working is shown.

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

Performance was reasonable for many candidates. Many of the questions were answered very well but a number of candidates appeared to be inadequately prepared, in terms of not having covered sufficiently the entire breadth of the subject. The MCQ questions were answered very well with high marks being achieved by many candidates. Some of the short questions were answered well but some candidates did not answer what was asked, most notably in Question 19 parts (i) and (iii) and Question 16.

C. Pass Mark

The Pass Mark for this exam was 57
1077 presented themselves and 628 passed.

Solutions for Subject CB1 - April 2022

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

Questions 1-10 were generally well answered by most candidates.

Q11

It will not always be clear what projects will have to be sacrificed in the event that a particular project proceeds [1]

It may be that the directors only have a fixed amount budgeted for new investments, but that does not necessarily mean that using those funds for one project will stop others going ahead [1]

Positive net present value projects can generally be financed on the basis that their cash flows will cover the finance costs and so there is only a genuine opportunity cost if the choice is being made between projects that are genuinely mutually exclusive [1]

Realistically, managers who identify and promote projects may not be aware of the alternative approaches that could be used instead [1]

Identifying the missed opportunities could require considerable research in order to identify alternatives that could be considered instead [1]

It can be difficult to predict cash flows with any certainty and so determining the opportunity costs could require a significant amount of time and effort and may not lead to an optimal decision [1]

[Marks available 6, maximum 5]

This question was answered well by many candidates. Most candidates understood opportunity cost very well and were able to discuss it in the context of project appraisal.

Q12

The net present value criterion is the only method of investment appraisal that is entirely consistent with the concept of maximising shareholder wealth [1]

One of the problems associated with applying that concept is that each project should be evaluated at an appropriate discount rate that takes account of the risks associated with future cash flows [1]

Determining a suitable discount rate can be complicated, so setting a blanket rate across the whole company will have the effect of simplifying the application of NPV analysis [1]

- Setting a blanket rate will avoid the pressures associated with managers arguing for reduced discount rates to justify projects that they are keen to promote [1]
- The rate may not be perfectly suited to all projects, but it has been decided by the board and so they can be satisfied that projects are achieving an acceptable benchmark rate [1]
- The company can also track the success rate of projects to determine whether the 15% threshold is leading to the acceptance of too many projects or too few [1]

[Marks available 6, maximum 5]

This question was answered very well by candidates. Most candidates are very good at discussing NPV. Most candidates managed to score well and discussed discount rates and hurdle rates in some depth.

Q13

- The most logical response would be to reduce the risks by assessing each stunt in terms of the likelihood of injury and insisting that the actor is replaced with a stunt double if the risks are too high [1]
- If agreement cannot be reached over that then the risk might be reduced by filming all major stunts at the conclusion of shooting [1]
- That would not reduce the risk of injury, but it would mean that the actor would have completed all other filming before the risk of being injured, at which point a stunt double could take over [1]
- There will also be the risk that the studio will be held responsible for any injury to the actor and it might be possible to transfer that risk [1]
- One possibility would be to take out insurance for the cost of settling any legal claims in the event that the actor is injured while working for the company. That could be difficult to arrange because insurers might regard the likelihood of a claim as being too high [1]
- An alternative would be to transfer the risk to the actor by insisting that she signs a waiver, accepting any and all risks of injury arising from stunt work [1]

[Marks available 6, maximum 5]

This question was answered well by most candidates. Candidates gave lots of ideas about the risks. The question was a little different from usual but candidates made very good attempts at thinking of all possible risks and mitigations.

Q14

- The organisations that are responsible for the management of corporate governance, such as the UK's FRC need to understand the pressures faced by company directors [1]
- Board members are free to manage their companies in any way that they see fit because the shareholders have little or no direct oversight beyond the annual report [1]
- It follows that directors may not always seek the shareholders' best interests when they are making decisions if there is a conflict between their interests as agents and those of the shareholders as principals [1]
- It could be argued that the need to regulate corporate governance has emerged because of scandals in which directors have misbehaved and have drawn attention to agency problems [1]

Regulators are faced with the difficult task of regulating boards whose duties require them to be free to make strategic decisions without necessarily seeking explicit approval [1]
Regulators face criticism if they do not prevent scandals that occur because of the abuse of that lack of oversight and that would have been difficult to have regulated [1]

[Marks available 6, maximum 5]

This question was answered reasonably well however, some candidates were unsure about agency theory.

Q15

It could be argued that their very nature means that oil companies are viewed as behaving in a manner that is unsustainable and that does not discourage them from their ongoing operations [1]

For example, oil corporations are an extractive industry that it clearly consuming finite resources and customers who buy oil-based products must be aware of that fact [1]

It is possible that the publication of sustainability reports will encourage some reflection on the part of directors and stakeholders as to the extent to which socially irresponsible behaviour might be addressed [1]

It is unlikely that oil companies would wish to be associated with social responsibility reports that admitted to misbehaviour [1]

They might, for example, seek ways to offset the damage that they do, such as encouraging carbon offset arrangements [1]

They are likely to be unwilling to be associated with misleading or distorted reports that made them appear defensive and unwilling to acknowledge their responsibility [1]

[Marks available 6, maximum 5]

This question was done reasonably well by many candidates. Candidates were able to offer good ideas on sustainability reports and apply them to the oil industry. Many discussed that the reports could be used to improve an oil company's reputation and may not always be accurate.

Q16

The governance mechanisms relating to financial reporting are generally delegated to the accountancy profession of the company in question. In the UK that role is managed by the FRC [1]

The starting point for dealing with accounting issues is the requirement that quoted companies prepare their financial statements in accordance with formal accounting standards [1]

In this case, it would be possible to seek some resolution by applying the requirements of relevant International Financial Reporting Standards (IFRS). Amongst other things, the IFRS would set out benchmarks that can be used to establish whether this payment satisfies the criteria for recognition as an asset [1]

The governance rules also lay considerable emphasis on the role of the external auditor and in safeguarding the auditor's independence [1]

- The auditor will be protected by the need to comply with IFRS, which will go some way towards offering an objective basis for resolving the disagreement between the auditor and the directors [1]
- The auditor's independence is also a major element of governance regulations and so any attempt to coerce the auditor into accepting a misleading accounting treatment should fail because the auditor would simply refuse [1]

[Marks available 6, maximum 5]

This question was not answered very well. Many candidates discussed the role of the auditor and not the governance mechanisms that stop the company pressurising the auditor.

Q17

- This might be a suitable project for pre-payment crowdfunding, which would involve the engineer demonstrating her prototype online and seeking to interest possible buyers [1]
- She could then ask interested viewers to commit themselves to buying one of the first batch of motors, perhaps offering a discount against her anticipated retail price [1]
- Cyclists might be prepared to pay, say, \$500 now in the expectation of receiving an exciting new product as soon as it becomes available [1]
- This is an exciting product that should appeal to potential buyers and that could be advertised online at relatively little cost, simply by filming a demonstration and adding a voice track [1]
- From the engineer's point of view, this could prove an expensive source of finance because the discount will have to be large enough to motivate potential buyers [1]
- It will also be inconvenient if the amount raised is insufficient because it will then be necessary to reimburse customers, which will lead to delays in any progress with the product [1]

[Marks available 6, maximum 5]

This is a reasonably new section of the syllabus and most candidates did very well in this question.

Q18

- The training budget is complicated by the fact that it is difficult to determine the benefits associated with a given level of expenditure [1]
- Clients will be more likely to commission work from an organisation that has well-trained and capable staff, but that will be difficult to quantify [1]
- Excessive training will not just be a waste of fees, there will also be the question of loss of chargeable hours for staff who are engaged in training [1]
- There is also a tendency for managers to seek to justify additional expenditure in their areas of interest [1]
- The manager in charge of staff development will enjoy greater status if more time and money is invested in training [1]
- It will also make this area easier to manage because any shortcomings in staff capability can be addressed by arranging a training course [1]

[Marks available 6, maximum 5]

This question was answered fairly well by many candidates, however, some candidates discussed budgets and did not always discuss training budgets. There were some marks available for general discussion but those who specifically discussed training budgets scored high marks.

Q19

(i)

It could be argued that showing property at its book value of cost less depreciation is lacking in relevance [1]

The property is 12 years old and is being written off at one fiftieth of that amount every year. The book value is 38/50 of the original cost 12 years ago [1]

That figure will be of very little relevance to most decision-makers. Arguably, it is just a balancing figure that has to be inserted for bookkeeping purposes [1]

Showing the property at its valuation will give the shareholders a much clearer understanding of the value of the resources that have been entrusted to the directors [1]

That will enable them to form a better idea of performance and also of whether they should allow the company to continue as a going concern [1]

The value will also be relevant to any funding decisions because potential lenders will prefer to have a clearer understanding of the value of any assets that are pledged as security [1]

Reliability implies that the figure cannot be challenged as incorrect. It could be argued that a book value of cost less depreciation is utterly reliable because the original cost is an objective figure and the annual depreciation rate is known [1]

It could be argued that the book value has little real relevance, but there is no doubt that it is a factual statement of the asset's worth [1]

The problem with valuations is that they are inherently subjective. Buildings vary in many ways, including in terms of location [1]

The property markets can give a rough guide as to the price at which land and buildings are bought and sold, but there are significant differences between individual properties [1]

There is no guarantee that a potential buyer would be prepared to pay the estimated market value of a building [1]

[Marks available 11, maximum 7]

(ii)

Return on capital employed will decrease for two reasons. Firstly, the annual depreciation charge on the buildings will increase because the revalued amount will have to be depreciated over the remaining 38 years of the building lives [1]

That will increase the annual depreciation charge and so reduce operating profit [1]

The gain on revaluation will also be taken to the revaluation reserve, which will increase equity [1]

The denominator will therefore be increased, meaning that a smaller figure will be divided by a larger one [1]

The share price is unlikely to be affected because the capital markets would have been aware of the basis on which the assets were valued [1]

It will be unlikely that publishing the estimated market value will take the markets by surprise because any necessary adjustments will have been made in any case when studying, say, the gearing ratio [1]

The share price is also a reflection of the future cash flows from the business and so the markets may not be greatly interested in the market value of the property [1]

If we assume that the company is unlikely to sell its property then it could be argued that the market price is irrelevant and so will not constitute significant information [1]

[Marks available 8, maximum 6]

(iii)

The external auditor is required to form an opinion on the truth and fairness of the financial statements and to publish that opinion in the audit report attached to the annual report [1]

Any change in accounting choice will have to be discussed with the external auditor in order to ensure that the treatment follows accepted accounting principles and so does not threaten the truth and fairness of the financial statements [1]

The auditor has to gather evidence as part of the process of forming an opinion [1]

In this case, the auditor will have to be satisfied that the adjustments being made are credible and that the basis being used by the valuer is acceptable [1]

Ideally, the person providing the valuation will be an expert who can provide a credible figure without any concerns about manipulating the value to meet the directors' needs [1]

The auditor would also wish to review any evidence collected by the valuer such as comparable properties that have been sold and any calculations [1]

If the auditor is dissatisfied with the information provided by the company then it will not be possible to attach a clean audit opinion to the financial statements [1]

The auditor would have to describe the uncertainties associated with the property and state that the financial statements gave a true and fair view, except for those uncertainties [1]

[Marks available 8, maximum 7]

[Total 20]

Part (i) was not answered very well by a number of candidates. The difference between relevance and reliability was not really covered well in many answers. In part (ii) only well prepared candidates discussed the possible effect of the revaluation on the share price. Part (iii) many candidates were unclear about why the auditor should be involved in the revaluation.

Q20

(i)

There are two obvious sources of synergy in this case. The first is the merger of the two fleets of HGVs and the second is the savings in combining the administrative functions of the two companies [1]

Synergy will be obtained if the merged entity can operate at a reduced cost compared with the total running costs for the two separate entities [1]

Combining the two HGV fleets will create synergy if there are savings in running costs, which might be created in several ways. The combined fleet is larger, so the merged entity will have greater bargaining power when it needs to replace vehicles and so its unit costs will be reduced [1]

- That would only be possible if the merged entity can use a single supplier for vehicles, otherwise the potential increase in bargaining power will not exist [1]
- The larger fleet and the increased number of customers might also enable savings in operating costs if journeys could be optimised to reduce the distances being travelled and the number of empty vehicles [1]
- With a larger entity, it may be easier to combine loads so that there is less wasted capacity. It may also be more likely that a vehicle that has just made a delivery will be able to take on a fresh load from nearby [1]
- That synergy is probably quite realistic [1]
- The closure of the smaller of the two operations centres would be viable, but only if the systems were compatible. If the vehicles are fitted with different satnav systems, then it may be impossible to merge the operations centres [1]
- If the centres cannot be merged then any hoped for synergies in operations may also be lost because it will be difficult for the collection and delivery schedules to be optimised across the merged entity [1]
- The two administrative functions could also be merged so that efficiencies can be created in those areas [1]
- That will depend on the compatibility of the two systems. If they are not compatible, then it may cost more to convert files than the savings that were hoped for [1]
- The optimisation of resources could also create some significant problems with morale and the willingness of staff to cooperate [1]
- If the target company loses too many staff then those who remain may start to become nervous and to assert themselves. Industrial action could discourage the company from implementing plans to reduce costs [1]

[Marks available 12, maximum 10]

- (ii)
- The financial settlement will reduce the threat of the directors blocking the merger in order to keep their jobs [1]
- Clearly, the company will require only one board and it is unlikely that the directors of the larger entity will be willing to step down even if their counterparts in the other company are better qualified [1]
- Making this arrangement clear from the outset will reduce the uncertainty for the outgoing board members because they would otherwise have to negotiate redundancy terms after the merger [1]
- There is a risk that the financial settlement will create a conflict of interest when negotiating the terms of the merger [1]
- The directors should be focussed on taking care of their shareholders' interests, but they could be side-tracked by a desire to protect their severance package [1]
- The shareholders might also resent the decision to pay a substantial redundancy payment to outgoing directors [1]

[Marks available 6, maximum 5]

- (iii)
- One of the foundations of corporate governance is that company directors should be paid a realistic reward for the work that they do [1]
- They should receive sufficient to attract and retain suitably qualified directors, but they should not be overpaid [1]
- Their rewards should be aligned to the shareholders' interests [1]

- The directors are essentially responsible for the company's strategic management [1]
It is debateable whether it will be more difficult or harder work to manage the merged entity just because it is 50% bigger [1]
If the shareholders agree to that then they may be creating pressure for the directors to expand further by acquisition so that their salaries increase by even more [1]
- [Marks available 6, maximum 5]
[Total 20]

Candidates generally scored well at part (i) with most coming up with good ideas of synergies, Part (ii) was less well answered with many candidates discussing director's remuneration rather than severance. Part (iii) was generally well answered with most candidates discussing the points on remuneration well.

[Paper Total 100]

END OF EXAMINERS' REPORT

