

Examiner's report

F9 Financial Management

June 2014



General Comments

The examination consisted of four compulsory questions and each question was worth 25 marks. Candidates in general performed well on questions 1a, 2b, 3a, 3b and 4c, which were essentially calculation questions. Candidates in general did not perform as well on discussion questions, for example questions 1c, 2d, 3c, 3d and 4d. There was little evidence of time pressure, since almost all candidates made a good attempt at all four questions.

In any examination, it is important to read the question requirement carefully. Some candidates did not do this and as a result included irrelevant material in their answers which did not score marks. It is also important to manage your time carefully in the examination, so candidates should avoid writing too much for the marks offered.

Specific Comments

Question One (a)

Candidates were required to calculate the net present value (NPV) of an investment project in nominal terms and to comment on its financial acceptability. Most candidates did well on this question. Correct answers produced a slightly negative NPV.

Most candidates dealt with operating cash flows (sales income, variable cost and fixed cost) at the start of their calculation and dealt at a later stage with other cash flows (tax and capital items). This approach helps to avoid errors in the tax treatment of cash flows. Both sales income and variable cost were occasionally inflated wrongly, for example by inflating each year's cash flows by only one year's inflation. In fact, year two cash flows need inflating for two years, year three cash flows need inflating for three years, and so on, because inflation has a compounding effect. More rarely, some candidates dealt with annual fixed cost as though it were fixed cost per unit.

Some candidates wrongly classified scrap value as income subject to corporation tax, leading to an error in their tax calculations. Credit was given for including scrap value whether it was taken as a year four or year five cash flow.

Most candidates calculated corporation tax liabilities separately from the tax benefits given by tax-allowable depreciation. Many calculations were entirely correct. Errors that were found included:

- using 30% corporation tax, when the question specified 28% corporation tax;
- failing to put tax liabilities and tax benefits one year in arrears;
- failing to allow for scrap value when calculating tax-allowable depreciation for the final year.

Most candidates correctly used the nominal after-tax cost of capital provided as the discount rate in their NPV calculation and did not try to amend it.

A comment on the financial acceptability of Project E was required and where the NPV was negative most candidates correctly cited this as financial grounds for rejection. Better answers noted that the board of directors required this project to be undertaken regardless of its financial acceptability.

Question One(b)

Here, candidates had to calculate the maximum NPV that could be obtained from investing the \$10 million allocated by the Board of the company.



Since the Board required Project E to be undertaken, only \$5 million was available to be invested in the four remaining projects once \$5 million was allocated to Project E. The limit placed on investment funds by the Board had therefore placed the company in a capital rationing situation, as there were insufficient funds to undertake all four remaining projects. As these projects were all divisible, ranking by profitability index and investing the \$5 million accordingly would lead to the optimal investment decision.

There seemed at times to be some uncertainty about the profitability index, which was occasionally referred to as return on capital employed, the probability index and the profit index. The correct approach was to divide the sum of the present values of future cash flows by the initial investment, or to divide the NPV by the initial investment. Both methods were acceptable.

Projects B and D were mutually exclusive, so either one or the other could be selected for investment, but not both. Some candidates showed by their answers that they were not sure what mutually exclusive meant, as they incorrectly included both projects B and D.

A number of answers discussed at length how to calculate the maximum NPV, when the question requirement was not to discuss it, but to calculate it. Additional marks were not available for such discussions.

Question One(c)

This question asked for a discussion of why the Board might have decided to limit the funds available for investment. Some answers appeared to rely more on imagination than on an understanding of soft capital rationing.

No credit was given for discussion of hard capital rationing, as the question asked for a discussion of why the directors, not providers of finance, had decided to limit the funds for investment.

It is helpful to remember that capital rationing means that shareholder wealth is not being maximised, at least theoretically. Better answers therefore considered why the Board of the company:

- had decided against seeking additional finance, whether by equity or debt;
- had decided not to follow a strategy of rapid expansion by accepting all investments with a positive NPV;
- had chosen to create an internal market for capital funds.

Some answers discussed factors that would have been considered during the capital investment appraisal process, such as expectations about future economic variables (interest rates, taxation, inflation, costs of capital) and future economic conditions.

Question Two(a)

This question asked candidates to calculate the working capital cycle and to discuss whether the working capital cycle should be positive or negative.

Many answers calculated the working capital cycle (cash collection cycle) correctly and gained full marks for this part of the question.

Many answers incorrectly insisted that the working capital cycle should be positive. Better answers discussed that the working capital cycle depends in fact on the nature of the business operations carried out by a company. A food retailer, for example, could combine short inventory days (perishable goods) with short trade receivables days (primarily cash transactions) and long trade payables days (buyer power) to give a negative working capital cycle.

Question Two (b)

This question required candidates to calculate a target quick ratio and a target sales to net working capital ratio. Many candidates gained good marks on this question.

Better answers used the target information provided to calculate revised values for cost of sales, inventory, trade payables, current assets and current liabilities, before calculating the required quick ratio and sales to net working capital ratio. Central to these calculations was the target current ratio of 1.4 times, which allowed current liabilities to be found once current assets had been calculated.

Question Two(c)

The requirement here was to analyse and compare the current asset and current liability positions of March 2014 and March 2015, and discuss how the working capital financing policy of the company would have changed.

Adding figures for trade payables and the overdraft to the figures already calculated in part (b) gave the current asset and current liability position for March 2015. Comparing the two positions showed an increased reliance on short-term finance and hence a more aggressive approach to working capital financing.

A number of candidates discussed at length possible reasons for the changes in inventory, trade payables, trade receivables and so on, often writing as though the changes had occurred rather being forecast. Many remedies were also proposed for the company's problems. However, the question had asked for neither reasons nor remedies, only that the two working capital positions be analysed and compared. The only discussion that was specifically required was in the area of working capital financing. This emphasises the need to read the question requirement carefully and to respond directly to what is required, and to check regularly as an answer is written that what is being written is relevant to what is required.

Clearly, detailed discussions of working capital financing policies, looking at fluctuating current assets, permanent current assets, and conservative and moderate financing policies were not required.

Question Two (d)

Candidates were asked here to briefly discuss three internal methods of managing foreign currency transaction risk.

Internal methods of managing foreign currency transaction risk such as leading and lagging, invoicing in one's own currency, netting, matching receipts and payments, and matching assets and liabilities should be considered before an organisation turns to external methods of managing foreign currency transaction risk such as forward contracts, money market hedging, currency futures, currency options and currency swaps.

Question Three (a)

This question asked candidates to calculate the weighted average cost of capital of a company. Many answers gained very good marks here.

Some candidates wrongly used the average return on the market (11%) as the equity or market risk premium in calculating the cost of equity using the capital asset pricing model (CAPM). More common were errors in calculating the after-tax cost of debt of the 7% bond, including:

- taking incorrect values from the discount and annuity tables;
- using nominal value as market value;
- using market value as nominal value
- calculating the after-tax interest payment with an incorrect corporation tax rate;
- employing the before-tax interest payment in calculating the after-tax cost of debt;
- making calculation errors when using the internal rate of return formula.



It should be mentioned that candidates, when calculating the after-tax cost of debt, should be seeking to make their answers reasonably accurate. Consequently, if the first estimate of the cost of debt produces a negative NPV when interpolating the internal rate of return, the second estimate of the cost of debt should be lower, as the first estimate was too high. Choosing a higher rate rather than a lower rate indicates an intention to extrapolate rather than interpolate, and to seek inaccuracy rather than accuracy. Having a wide spread between the estimated costs of debt also increases inaccuracy, so choosing 1% and 20% indicates an unwillingness to think about what the value of the after-tax cost of debt might roughly be. A bond approximation model (correctly used) can provide an initial estimate of the cost of debt as a guide to selecting discount rates for linear interpolation.

Question Three (b)

This question required candidates to calculate a project-specific cost of equity. First, the beta of a proxy company had to be ungeared to give an asset beta. Second, the asset beta had to be regared to give a project-specific equity beta. Finally, the project-specific cost of equity could be calculated using the CAPM.

Many candidates gained very good marks here. One error that some candidates made was to omit the tax effect from the calculation, which was surprising, as the equation required was given in the formulae sheet.

Question Three(c)

The requirement was to explain the difference between systematic and unsystematic risk in relation to portfolio theory and the capital asset pricing model (CAPM). Many answers struggled to gain good marks, essentially due to a lack of knowledge.

Systematic risk cannot be reduced by portfolio diversification, while unsystematic risk can be reduced by portfolio diversification. Some candidates got this the wrong way round and said that systematic risk could be reduced by portfolio diversification.

Systematic risk includes both business risk and financial risk (as illustrated by the equity beta in the CAPM), however some candidates wrongly identified systematic risk with business risk and unsystematic risk with financial risk.

Investors can reduce risk by portfolio diversification and the CAPM assumes that investors have diversified portfolios, yet many answers suggested that companies should reduce unsystematic risk by diversifying business operations.

Some candidates discussed unnecessary material in their answers, for example the process whereby a proxy equity beta can be ungeared and regared in calculating a project-specific cost of equity or a project-specific weighted average cost of capital.

Question Three(d)

This question asked candidates to discuss the differences between different kinds of capital market efficiency and the significance of the efficient market hypothesis (EMH) for the financial manager. Many answers did not display a good understanding of the EMH.

A capital market is efficient from a pricing point of view if security prices (e.g. share prices) fully and fairly reflect all relevant and available information.

A market is said to be weak form efficient if share prices fully and fairly reflect all past information. This is not saying that only past information is available to investors, as some answers discussed. It is saying that because the capital market is weak form efficient, abnormal gains cannot be made from studying past information.



A market is said to be semi-strong form efficient if share prices fully and fairly reflect all public information, which includes all past information. This is not saying that only past and public information is available to investors, so that no investor has access to insider information. It is saying that because the capital market is semi-strong form efficient, abnormal gains cannot be made from studying past and public information. Note that a capital market can be both weak form and semi-strong form efficient.

Some answers took the view that the EMH was referring to operational efficiency and discussed how rapidly share prices responded to new information, saying for example that weak form efficient capital markets were slow or sluggish. This view is incorrect.

Question Four(a)

This question asked candidates to analyse and discuss the extent to which a company had achieved each of three objectives during a two-year period. Overall performance was somewhat variable in quality.

The first objective related to profit before interest and tax (PBIT) and most candidates were able to calculate PBIT growth in each of two years, and discuss the extent to which the objective had been achieved. Some answers gave only a geometric mean growth rate, when annual growth rates were needed to discuss the extent to which the annual objectives had been achieved.

The second objective related to earnings per share (EPS) and some candidates were not able to calculate EPS, so the success rate (in terms of marks gained) for this objective was lower than for the first objective. Answers that calculated EPS correctly were usually able to discuss the extent to which the objective had been achieved.

The third objective related to total shareholder return (TSR) and a significant number of candidates had difficulty in calculating this. The success rate for this objective was therefore lower than for the first two objectives. TSR is the actual return to an investor for buying a share at the start of the year, so it is the sum of the capital gain and dividend for the year, expressed as a percentage of the opening share price. While dividend yield was therefore a useful figure to calculate, the dividend growth rate was not. Calculations could be made on a whole company or on a per share basis, as the number of shares in issue was constant over the two-year period. Answers that calculated TSR correctly were usually able to discuss the extent to which the objective had been achieved.

Question Four(b)

The requirement here was to calculate the total equity market value of a company using the dividend growth model (DGM) and then to discuss why this value might differ from the current equity market value.

While most candidates were able to calculate the historic dividend growth rate, some candidates experienced difficulty in using the DGM. As discussed in previous examiner reports, some candidates wrote out the DGM in a format for calculating the cost of equity, and then either calculated a cost of equity (although the value of this was given in the question) or tried to rearrange the formula having inserted values for all variables other than the equity market value. Both approaches are surprising because the growth model is given in the formulae sheet.

Some candidates got into difficulties with magnitudes, e.g. calculating the total equity market value in millions of dollars using the DGM and then multiplying this value by the total number of shares as though it were in dollars per share.

Question Four(c)

This question asked candidates to calculate the theoretical ex rights price per share (TERP) for a proposed rights issue. Many candidates had difficulty dealing with the issue costs.



The question stated that issue costs of \$200,000 would need to be met from the cash raised and it also stated that the company wanted to invest \$9.2 million. The company therefore needed to raise \$9.4 million in order to invest \$9.2 million.

Having calculated the number of shares to be issued at \$3.76 per share, the TERP could be found by adding the current total equity market value (given in the question) to the new finance to be invested, then dividing by the new number of shares. Many candidates failed to subtract the issue costs from the cash raised before calculating the TERP.

Although it was not necessary to know the form of the rights issue in order to calculate the TERP (it would have been 5 for 24), a number of answers approximated a form of the rights issue, thereby introducing unnecessary inaccuracy.

Question Four(d)

The requirement here was to discuss the sources and characteristics of long-term debt finance available to the company in the question. Many candidates struggled to gain good marks.

One reason that some candidates struggled to gain marks was because they did not read the requirement carefully. Since a discussion of long-term debt finance was needed, no credit was given to discussions of short-term debt finance (e.g. overdrafts) or equity finance (such as ordinary shares and preference shares).

The suggested answer looks at long-term bank loans, bonds or loan notes, convertible bonds and loan notes, and deep discount bonds and zero coupon bonds. Credit was given to answers that discussed finance leasing and sale and leaseback. Credit was also given to answers that discussed the characteristics of long-term debt finance from a general perspective, rather than using the sources of debt finance perspective of the suggested answer.