

Examiner's report

F9 Financial Management

June 2013



General Comments

The examination consisted of four compulsory questions, each worth 25 marks. Most candidates attempted all four questions and there was little evidence of time pressure. Where questions or parts of questions were not answered by candidates, this appeared to be due to lack of knowledge, rather than to time pressure.

Many candidates performed particularly well on questions 1a, 2a, 3a, 3b and 3d. The questions candidates found most challenging were questions 1b, 2b, 4a, 4b and 4c. These questions were challenging perhaps because some candidates lacked an understanding of some core syllabus areas, or perhaps because some candidates did not understand well enough some key financial management concepts.

A number of common issues arose in some candidate's answers:

- Failing to read the question requirement clearly and therefore providing irrelevant answers which scored few (if any) marks.
- Poor time management between questions, so that some candidates wrote too much for the marks on offer.
- Not learning lessons from previous F9 examiner reports and hence making mistakes identified there, for example errors in investment appraisal calculations.
- Poor handwriting and poor formatting of answers.

Specific Comments

Question One (a)

This question required candidates to calculate the net present value (NPV) of a planned purchase of machinery using a nominal (money terms) approach. Most candidates did well on this part of question 1.

Most candidates adopted a pro-forma approach to their calculation, with operating cash flows at the start and other cash flows (tax and capital elements) later. The advantage of adopting this approach is that errors in the tax treatment of cash flows can be avoided. For example, scrap value is not subject to corporation tax (profit tax) because it is a capital cash flow, and so it should not be included with the operating cash flows. Working capital investment, both initial and incremental, is also a capital cash flow and so does not give rise to corporation tax benefits, i.e. it is not a tax-deductible item. Both of these cash flows were the subject of errors made by some candidates.

Most candidates correctly applied specific inflation to operating cash flows (sales income, variable cost and fixed cost). The question stated that buying the new machine would increase production capacity by 9,000 units per year; however some candidates took this to mean 9,000 units in year 1, 18,000 units in year 2 and so on. They were not penalised for this error, however.

Tax liability was stated in the question to be paid one year in arrears, but some candidates ignored this information and made the liability payable in the year in which it arose, losing a mark as a consequence. Capital allowances (tax-allowable depreciation) was available to the investing company on a 25% reducing balance basis and many candidates calculated the capital allowances and associated benefits correctly. Most candidates calculated the tax benefits in workings and then made a one-line entry for these tax benefits in their NPV calculation. Some candidates subtracted the capital allowances from net cash flow (sales income minus variable cost and fixed cost) to give taxable profit, and then added back the capital allowances after calculating the tax liability on the taxable profit. The net effect is the same whichever method is used. However, some candidates lost a mark by forgetting to add back capital allowances in the second method.



The item that gave most difficulty with the capital allowance calculations was the balancing allowance. The point to remember is that the sum of the capital allowances and the balancing allowance must equal the cost of machinery minus the scrap value. Alternatively, the cost of machinery minus the scrap value, multiplied by the corporation tax rate, must equal the total tax benefit.

Some candidates had difficulty calculating the incremental working capital investment, which was needed because the working capital was subject to the general rate of inflation. The new machine was planned to be replaced at the end of four years and so production to meet the increased demand would continue. Working capital should not therefore have been recovered at the end of the four-year life of the new machine, although students who did recover the working capital were not penalised.

A small number of candidates, without explanation, used less than four years to evaluate the planned purchase of the new machine and lost marks as a consequence.

The majority of candidates used the nominal discount rate provided to discount the nominal cash flows they calculated. The question called for a comment on the financial acceptability of the planned purchase and most answers correctly referred to its positive NPV as the basis for this acceptability. A small number of candidates lost marks by carelessly not referring to NPV. For example, writing “so accept” after the calculated NPV does not explain the reason for recommending acceptance.

Question One (b)

Candidates were asked here to discuss the difference between a nominal (money terms) approach and a real terms approach to calculating NPV. Answers were often poor and showed a lack of understanding, even though candidates had just carried out a nominal NPV evaluation correctly in part (a).

It must be understood that both approaches to calculating NPV give results that are essentially the same. If the information in part (a) had been used in a real terms approach, the calculated nominal cash flows would have needed deflating by the general rate of inflation to give real cash flows, the nominal after-tax cost of capital would have needed deflating by the general rate of inflation to give the real after-tax cost of capital, and the NPV would have been calculated by discounting the real cash flows by the real after-tax cost of capital. To find real cash flows, which are cash flows expressed in current price terms, we need to inflate by the specific rates of inflation and then deflate by the general rate of inflation. Of course, if there is only the general rate of inflation on offer, there is no need to inflate and then deflate to find real cash flows, which is what may have confused some candidates.

Candidates who said that a nominal approach to calculating NPV took account of inflation, while a real terms approach ignored inflation, were therefore showing an imperfect understanding of the difference between the two approaches. Some candidates said that the real terms approach would lead to a higher NPV because the real cost of capital was lower, demonstrating this by discounting the nominal cash flows from part (a) with a calculated real cost of capital. However, the golden rule is to discount real cash flows with the real cost of capital, and to discount nominal cash flows with the nominal cost of capital.

Question One (c)

This part of question 1 asked candidates to identify two financial objectives of a listed company and to discuss how each objective was supported by the planned investment in new machinery. This was a straightforward question that should have gained higher average marks than in fact it did.

Since the question asked for two financial objectives to be identified, candidates who identified more than two objectives were wasting their time. Too many candidates struggled to identify two financial objectives, or gave objectives that were non-financial rather than financial, or that were quite vague in nature.



The most common financial objective given by candidates was maximisation of shareholder wealth. This gave scope for a discussion of the relationship between this objective and the positive net present value of the planned investment, the need to pay dividends, and so on.

A good choice for the second financial objective could have been something profit-related, such as an objective in terms of revenue, profit before tax, profit after tax (earnings), return on capital employed, return on equity and so on.

Increasing market share is not a financial objective, although it could support a financial objective relating to, for example, revenue or profit. An example of a vague objective could be “growing the company”. A number of candidates gave profitability and liquidity as financial objectives, but struggled to explain how liquidity was supported by the planned investment in machinery.

Question Two (a)

Candidates were asked here to calculate the market value weighted average cost of capital (WACC) of a company. Most candidates did well on this question.

As the question asked for market values to be used, no marks were given to using book values as weights. Most candidates calculated market values correctly for ordinary shares, preference shares and bonds, although some candidates forgot that the bond market price related to a nominal value per bond of \$100.

Some candidates incorrectly omitted the long-term bank loan from the WACC calculation. Although the bank loan had no market value, its book value could be used instead and due to its significance as a long-term source of finance in this case, it had to be included in the WACC calculation.

The historical dividend growth rate needed to be calculated for use in the dividend growth model (DGM) and some candidates had difficulty here, using either the wrong dividend or the wrong base period. Most candidates were able to calculate the cost of equity using the DGM and where this was not the case, a lack of understanding was usually in evidence.

Most candidates calculated the cost of preference shares correctly, although some candidates lost marks by making it an after-tax value. Since preference shares pay a dividend, which is a distribution of after-tax profit, there is no tax effect to consider.

Most candidates calculated the cost of debt of the bonds either correctly or reasonably well. Errors that were made in the internal rate of return calculation included:

- Redemption at nominal value rather than at a 5% premium to nominal value.
- Using nominal value as the purchase price of the bond rather than market value.
- Treating the purchase price as income and interest and redemption value as expenditure.
- Using the before-tax interest payment in the calculation instead of the after-tax interest payment.
- Interpolating when the calculated net present values called for extrapolation.

Some candidates used the before-tax interest rate on the bank loan as its cost of debt, when the after-tax interest rate should have been used. Alternatively (with explanation), the after-tax cost of debt of the bonds could have been used as the cost of debt of the bank loan.

Question Two (b)

The requirement here was for candidates to discuss how the capital asset pricing model (CAPM) could be used to calculate a project-specific cost of capital. The requirement gave a strong hint as to how this might be done by requiring the discussion to refer to systematic risk, business risk and financial risk.

Answers to this question were of variable quality. The key concept here is risk and better answers addressed the following points.

- Related project risk to the business risk of the proxy company.
- Discussed the need to ungear the equity beta of the proxy company to an asset beta, in order to remove the effect of its financial risk element.
- Discussed the need to regear the asset beta to an equity beta, in order to reflect the financial risk of the investing company.
- Noted the need to use the CAPM to calculate a project-specific cost of equity.
- Discussed how the final step would be in calculating a project-specific WACC.

Weaker answers limited themselves to saying something about each of the three kinds of risk mentioned in the question requirement, and saying little about how to calculate a project-specific cost of capital.

Definitions of business risk and financial risk were often quite vague. In the context of the question, both business risk and financial risk relate the variability of returns to the shareholder, since the CAPM calculates the cost of equity. Business risk relates to the variability of shareholder returns due to operational factors, which are factors that influence profit before interest and tax (PBIT). Financial risk relates to the variability of shareholder returns due to how a company finances its operations, which affects the relationship between profit before tax and PBIT. Business risk can be measured by operational gearing, while financial risk can be measured by balance sheet gearing or by interest cover. When risk is seen from this perspective, the CAPM makes much more sense as a way of calculating the cost of equity.

Question Two (c)

Candidates were asked here to discuss why the cost of equity is greater than the cost of debt. Most well-prepared candidates should have done well with this question.

As with question 2(b), the key to answering this question was risk. As a source of finance, equity is riskier to the investor than debt, for several reasons, and so the cost of equity is higher than the cost of debt. Better answers discussed the creditor hierarchy on liquidation, the legal requirement to pay interest on debt, and the tax efficiency of debt. Some weaker answers discussed pecking order theory, occasionally at length, but this was of no relevance to the question asked. Other weaker answers discussed capital structure theory, again occasionally at length, but this was also of no relevance to the question asked.

Question Three (a)

The requirement here was for candidates to calculate the change in the operating cycle, the effect on the current ratio and the finance cost saving of a change in working capital policy, commenting on their findings. Most candidates did quite well on this question, indicating a good understanding of working capital ratios.

Where candidates did not do well, this was often because of errors in calculating working capital ratios, such as trade receivables days or trade payable days. Because the question said that the change in policy would not affect net working capital, which is the difference between current assets and current liabilities, the value of the overdraft after the change in policy was the value that kept net working capital constant at \$300,800. A number of students struggled with this point and kept the overdraft at the level it had before the change in policy, so that net working capital changed. This naturally affected their calculated current ratio value.

The finance cost saving could be calculated from the change in the level of the overdraft, using the short-term borrowing rate.

Many students commented at length on the changes in trade receivables days, inventory days and trade payables days, but the question asked for the change in the operating cycle to be calculated and commented on, it did not ask for comment on the changes in the elements of the operating cycle.

Question Three (b)

Candidates were asked here to discuss the key elements of a trade receivables management policy and answers were often of a good standard. Most answers correctly discussed credit analysis, credit control, and receivables collection, in a variety of different ways.

Question Three (c)

This part of question 3 required an explanation of the foreign currency risk faced by a multinational company. Answers were expected to explain transaction risk, translation risk and economic risk. Although many answers identified these three risks, explanation was sometimes of variable quality. No credit was given, for obvious reasons, to answers that discussed interest rate risk or credit risk.

Better answers identified the short-term, cash-based nature of transaction risk, contrasting this with the long-term, accounting-based nature of translation risk. Economic risk was explained in several acceptable ways, such as the longer-term counterpart of transaction risk, as the effect on the present value of corporate cash flows of longer-term exchange rate movements, and as the effect on business competition of changes in exchange rates. Candidate answers indicated that explaining economic risk was found to be more difficult than explaining transaction or translation risk.

Question Three (d)

Candidates were asked here to calculate the dollar income from a forward market hedge and a money market hedge, indicating which would be financially preferred. This part of question 3 was often answered well and many candidates gained full marks.

Mistakes that were occasionally made included:

- Multiplying by the exchange rate, instead of dividing.
- Using annual interest rates instead of calculating quarterly ones.
- Using the forward rate when the spot rate was called for, and vice versa.
- Leaving the money market hedge incomplete, thereby seeking to incorrectly compare cash flows at two different points in time.

Question Four (a)

The requirement here was for candidates to use the dividend valuation model to calculate the value of a proposed change in dividend policy, advising on its acceptability to shareholders. Candidates tended to struggle with this question, although some scored full marks.

The dividend valuation model allows us to calculate the value of an ordinary share or a company as the present value of its future dividends. If the future dividends are connected by a constant growth rate, we have the dividend growth model (DGM). In this question, the proposal was to suspend dividends for two years, before paying higher dividends at a higher growth rate than the current one from the third year onwards. The DGM could be used to calculate a share price (the present value of future dividends from the third year onwards) at the end of the second year. This share price could then be discounted for two years to give a current share price. Some candidates adopted a different, but equally valid, approach of discounting the year 3 dividend to the end of

year 1 or to year 0, and then applying the DGM. How then would we know if the proposal was acceptable? By comparing the share price for the proposal to the current share price, calculated using the current dividend, the current dividend growth rate and the DGM.

General comments about whether shareholders would accept a two-year dividend suspensions, for example from the perspective of dividend relevance or irrelevance theory, were given some credit in the marking process. However, the expectation was that the comment on acceptability would refer to the comparison of the values discussed above.

Question Four (b)

Candidates were asked to calculate the effect on earnings per share of a proposal to raise finance by a stock market listing, and to comment on its acceptability to shareholders. Many answers made early calculation errors, but marks based on method (own-error principle) were awarded where necessary. An answer that miscalculated the number of new shares issued, for example, could still pick up most of the marks on offer.

The question stated that the company wanted to invest \$3.2 million after issue costs of \$100,000, so the amount to be raised was \$3.3 million. One error was subtracting the issue costs from the \$3.2 million, another was to subtract the issue costs in the income statement. The issue price was given in the question and did not need to be calculated.

The question said that a before-tax return of 18% was expected on the funds invested, but many candidates either ignored this, or incorrectly applied the rate of return to the company's current operating profit (profit before interest and tax).

Most answers were able to calculate a current and a revised earnings per share, and to comment on the difference between the two values, while better answers discussed, for example, the shareholder control implications of a stock market listing.

Question Four (c)

The requirement here was to calculate the effect on earnings per share and interest cover of a proposal to raise finance by a bond issue, commenting on the findings. The key points here were:

- Investing the funds at 18% before tax would increase operating profit;
- Financing the investment with debt would result in an increase in interest payments;
- Financing the investment with debt meant that the number of issued shares would not change.

Some answers calculated correctly the interest on the new debt, but ignored interest payable on the current debt when calculating interest cover. Another error was ignoring the return on the new funds invested, so that both current and revised interest cover were calculated using the same operating profit. Some answers calculated interest cover using profit before tax, or profit after tax, indicating a lack of understanding of accounting ratios.

Credit was given for sensible comments on findings, even where the findings contained errors.

Question Four (d)

The final part of question 4 required candidates to discuss the factors to be considered in choosing between traded bonds, new equity issued via a placing, and venture capital as sources of finance. Answers to this question were of variable quality, indicating that some candidates were lacking on knowledge in this area of the syllabus. A number of answers, for example, showed limited understanding of placing venture capital.

Some answers limited themselves to discussing each source of finance separately, without addressing the requirement to discuss the factors to be considered in choosing between them, and so could not be awarded full



marks. At the other extreme, some answers discussed a number of factors, but related these very loosely, if at all, to the three sources of finance to which the question referred. For example, saying that a company should consider maturity, without indicating how maturity is a feature of the three sources of finance, does not help in choosing between them. A balanced discussion was therefore needed for full marks.