

# Examiner's report

## F9 Financial Management

### December 2011



#### General Comments

Candidates who were well-prepared and who had studied all parts of the syllabus did well on this paper. Candidates who were not successful may have focused on a small number of topic areas, hoping to gain most of their marks there. This may explain why many candidates had better marks on questions 1 and 2, than on questions 3 and 4. It has been said in previous F9 Examiner Reports that each examination paper covers many areas of the syllabus, so concentrating on one or two parts of the syllabus and giving less attention to other parts will decrease the likelihood of success.

#### Specific Comments

##### Question One

This part of question 1 asked for a calculation of net present value (NPV). Many answers scored full marks here. Some answers lost marks because they left something out (error of omission). These answers, for example, did not include incremental fixed costs, or working capital investment, or working capital recovery, or scrap value, or even in some cases one whole year of income and costs (the evaluation was over five years). Other answers lost marks because there was a mistake in the way that NPV was calculated (error of principle). Such mistakes included treating working capital recovery or scrap value as tax-allowable deductions, and calculated tax liability on sales or on contribution, rather than on net taxable cash flow.

##### Question 1(b)

The requirement here was to calculate the internal rate of return (IRR) of an investment and many answers gained full marks. Some answers lost marks due to calculation errors, while as in previous examinations, there were a small number of answers that calculated ARR (accounting rate of return or return on capital employed) instead of IRR. Some candidates did not understand the IRR decision rule, claiming wrongly that the investment was not acceptable because the IRR was greater than the cost of capital of the investing company.

##### Question 1(c)(i)

This part of question 1 asked for an explanation of sensitivity analysis in the context of investment appraisal. Weaker answers did not refer to investment appraisal, or suggested that project variables were sensitive to NPV, rather than NPV being sensitive to project variables.

##### Question 1(c)(ii)

Candidates were asked here to calculate the sensitivity to a change in selling price and discount rate, and comment on the findings. Many candidates had difficulty with the brief calculations required here.

Looking first at selling price, many answers noted correctly that sensitivity could be found by dividing NPV by the present value (PV) of the relevant project variable. Many answers calculated correctly the PV of sales income, but did not adjust this for tax liability. Weaker answers used the PV of selling price, or the PV of total sales income, or did not use a present value at all.

Some answers used an algebraic version of the NPV calculation, with selling price as the unknown variable. While this is an acceptable alternative to the simpler method of dividing NPV by PV of relevant project variable, answers often contained calculation errors, or incorrect adjustments for tax liability, or omitted some of the one-off project cash flows.

Turning to the discount rate sensitivity, what was needed was a simple comparison of the IRR with the company's discount rate. Many candidates seemed unaware of this and wasted valuable time with calculations that had no merit at all.

Sensitivity analysis can also be undertaken by changing a project variable by a set amount and calculating the change in the NPV. Some answers used this method correctly and gained credit. Since only one variable at a time is changed in sensitivity analysis, answers that changed simultaneously both selling price and discount showed a lack of understanding and gained little credit.

#### **Question 1(d)**

This part of question 1 asked for a discussion of the nature and causes of capital rationing, as well as how it can be overcome. Good answers explained that capital rationing meant that there was insufficient capital to invest in all projects with a positive NPV (note the link here with the NPV decision rule): that capital rationing could be hard or soft, explaining these terms and giving examples of each; and then discussed how the profitability index and the NPV of combination of projects could be used to find the optimal investment decision within a given investment capital constraint.

Weaker answers deviated from this approach in some or all of its component parts, for example by offering a weak or incorrect definition of capital rationing; by failing to identify and discuss soft (internal) and hard (external) capital rationing; or by giving incomplete or incorrect explanations of the profitability index and its use.

#### **Question 2(a)**

The requirement here was to explain the cash operating cycle and its relationship with the level of investment in working capital. Many answers correctly discussed the flow of cash between the elements of current assets and current liabilities, identifying the financing gap that many organisations experience between cash payments and cash receipts.

Where answers were of variable quality, it was often because of a failure to focus on the question asked. For example, the requirement referred to the level of investment in working capital and not to the different sources of finance that might be used. Some answers discussed aggressive, moderate and conservative approaches to the financing of fluctuating and permanent current assets, but this was not what the question required. Better answers discussed how some companies adopted a more conservative or more aggressive policy to the level of investment in working capital than other companies, and also explained how the cash operating cycle depended on the nature of business operations. The wording of the question encouraged candidates to frame their answers in these terms.

#### **Question 2(b)**

This part of question 2 asked for a calculation of the cash operating cycle and most answers gained full marks, showing that candidates had learned about working capital ratios.

#### **Question 2(c)**

The requirement here was to evaluate two offers made by a factor. Better answers looked at costs and benefits in a methodical way, either on an incremental basis by looking at the two offers, or by costing the current position and the net costs and benefits of each offer. The meaning of with recourse (bad debts revert to the company) and without recourse (bad debts are taken by the factor) had to be understood in order to calculate correctly the relative benefits in terms of bad debts, and some answers were not able to do this. Another key area that some candidates found challenging was calculating the financial benefit of a lower level of receivables, and the increased interest cost on the advance made by the factor.

#### **Question 2(d)**

This part of question 2 asked for comment on the financial acceptability of the factor's offer and discussion of the possible benefits of factoring. Credit was given for an appropriate comment on the results of the financial analysis in part (c). Discussion of the possible benefits of factoring was of variable quality, with weaker answers often doing little more than repeating back the features of the factor's offer given in the question. Better answers gave a



more informed discussion of the benefits of factoring, looking for example at the expertise of the factor, insurance against bad debts and so on.

### **Question 3(a)**

Candidates were asked here to calculate the value of a company using net asset value, the dividend growth model and the earnings yield method.

It was surprising how many answers struggled to calculate net asset value from the statement of financial position figures provided in the question. This calculation is a relatively straightforward one.

Most candidates were able to calculate correctly the value of the company using the dividend growth model. Some answers wasted time calculating the value per share, but the question did not ask for this, rather it asked for the value of the company.

Fewer candidates were able to calculate correctly the value of the company using the earnings yield method, whether without earnings growth (earnings divided by earnings yield) or with earnings growth (using the growth model). Some answers converted the earnings yield figure given in the question into a price/earnings ratio (the one is the reciprocal of the other), but the price/earnings ratio valuation method was not asked for here. Some answers substituted the cost of equity for the earnings yield, or incorrectly used dividends rather than earnings.

### **Question 3(b)**

This part of question 3 asked for a discussion of the dividend growth model as a way of valuing a company and its shares. Candidates were not asked to discuss the dividend growth model as a way of calculating the cost of equity, so comparisons with the capital asset pricing model did not gain any credit.

Most answers were able to discuss the weakness of the assumptions underlying the dividend growth model as regards the future dividend growth rate and the future cost of equity. Weaker answers talked about subjectivity, or about how estimates of values could be wrong, or offered only a list of points, with little or no discussion.

### **Question 3(c)**

The requirement here was to calculate the weighted average cost of capital (WACC) of a company. The cost of equity and the before-tax cost of debt were given in the question.

Some answers seemed to follow a learned routine for calculating WACC, without noting the information given by the question. This is the only reason I can offer to explain why some answers calculated the cost of equity, even though this was stated to be 10%.

In order to calculate the WACC, the market values of equity and the 8% bonds were needed. Most answers calculated correctly the market value of equity. Many answers then assumed that the market value of the bonds was \$120 million, but this was in fact the nominal (par) value of the bonds in the statement of financial position. The information needed to calculate the market value per bond was given in the question: interest rate, redemption value, maturity and cost of debt. Some answers calculated the market value using the after-tax interest payments, when the interest payments should have been before tax.

The after-tax cost of debt could be calculated by multiplying the before-tax cost of debt by one minus the tax rate, or by linear interpolation. Many answers used linear interpolation, but if the market value of the bonds had not been calculated, the interpolation calculation had no purpose. Candidates should be aware that if a bond is trading at nominal value (\$100) and is to be redeemed at nominal value (\$100), then the interest rate is the same as the cost of debt. A linear interpolation calculation using these values to find the cost of debt simply goes round in a circle back to the interest rate.

While some answers ignored the bank loan, other answers correctly included it using the after-tax interest cost as its cost of debt, or explaining why it could be costed using the after-tax cost of debt of the 8% bonds.

A small number of answers added reserves to the market value of equity, but reserves are only of significance when using book values as weights.

#### **Question 3(d)**

This part of question 3 asked for a discussion of the circumstances under which WACC could be used as the discount rate in investment appraisal, together with a brief indication of alternative approaches that could be used where WACC was not appropriate.

Good answers identified and discussed the link between business risk, financial risk and WACC, along the lines covered by the suggested answer. Essentially, WACC can be used as the discount rate in investment appraisal if business risk and financial risk do not change. Some answers ignored the requirement to indicate briefly alternative approaches that could be adopted and discussed at length the use of the capital asset pricing model in investment appraisal.

#### **Question 4(a)**

The requirement here was to calculate the theoretical ex rights price per share and most answers did this correctly.

#### **Question 4(b)**

This part of question 4 required candidates to calculate and discuss whether using the rights issue cash to buy back bonds was acceptable to shareholders, commenting on the belief that the price/earnings ratio would remain constant.

Good answers calculated the current price/earnings ratio: the nominal value of the bonds redeemed (\$80 million); the nominal value of the bonds remaining in the statement of financial position (\$45 million); the reduction in the interest payable each year (down from \$10 million to \$3.6 million); the revised earnings and earnings per share values; and the revised share price (by multiplying the revised earnings per share by the current price/earnings ratio). The revised share price could then be compared with the theoretical ex rights price per share to assess the effect on shareholder wealth (a capital loss).

Answers lost marks to the extent that they did not achieve the elements described above. Answers that did not calculate the effect of redeeming \$80 million of bonds could discuss in general terms only whether buying back bonds would be acceptable to shareholders. Many answers used the assumption of a constant price/earnings ratio, together with the theoretical ex rights price per share, to calculate implied earnings per share figure, but this serves no purpose and does not take account of buying back bonds. Although the question said that the company planned to use the rights issue funds to pay off some of its debt, some answers assumed incorrectly that all of the bonds were to be bought (using reserves to finance the difference, even though these are not cash).

Some answers calculated a revised price/earnings ratio using the theoretical ex rights price per share, but the statement that the price/earnings ratio was expected to remain constant meant that a revised share price could be calculated from the revised earnings per share. The theoretical ex rights price per share is the share price before the rights issue funds are used: once these funds are used, the share price will change, so the theoretical ex rights price per share cannot be used to calculate a revised price/earnings ratio.

#### **Question 4(c)**

This part of question 4 asked candidates to calculate and discuss the effect of buying back bonds on the financial risk of the company, looking at interest cover and gearing. While most answers were able to calculate both ratios correctly before buying back bonds, calculations of the ratios after the buy-back were of variable quality. At this

level, ratio definitions should not be a reason for losing marks, and it was surprising to see answers where interest cover or gearing were calculated incorrectly. The question also required the use of the book value debt to equity ratio, so calculations using market values or debt divided by debt plus equity gained little credit. Most answers correctly indicated that financial risk would decrease.

**Question 4(d)**

The requirement here was to compare and contrast the financial objectives of a stock exchange listed company and a not-for-profit (NFP) organisation. In general, the answers to this part of question 4 were often quite weak. One reason for this is that many answers spent a lot of time discussing non-financial objectives, even though the question asked clearly for a discussion of financial objectives. A second reason for this is that many answered showed a general lack of awareness of financial objectives as such: some answers were not able to offer much more than shareholder wealth maximisation and increasing profit as financial objectives. A third reason is that some answers picked up on “compare and contrast” while ignoring financial objectives, and therefore offered a general comparison of the key features or decision areas of the two organisations. For example, the functional areas of the organisations might be compared and contrasted, or their stakeholders, or their personnel. This is not what the question was looking for.