Examiner's report

F9 Financial Management

December 2015

General Comments

The overall performance at the December 2015 diet was satisfactory and a number of candidates gained very good marks.

General Paper Comments

The examination consisted of two sections. Section A contained twenty objective test questions for a total of 40 marks and Section B contained three questions of 10 marks each, and two questions of 15 marks each (total 60 marks).

Candidates must study the entire syllabus and will not be successful in the examination if they seek to rely on 'question spotting' in a few selected syllabus areas.

Candidates must take great care when presenting answers to numerical questions in Section B. It is good examination technique to show all workings, as marks can be gained for applying a correct method even when numerical errors have been made. It is also good examination technique to make sure the question requirement is being addressed. For example, if the question requirement is for a discussion, very few marks are likely to be awarded for a brief list.

Section A

It was good to see that almost all candidates attempted all of the questions. Candidates preparing for the F9 examination are advised to work through the specimen exam, past exam papers and any questions available from recommended study texts, and to carefully review how correct answers are derived and presented.

Section A questions aim to provide a broad coverage of the syllabus, and future candidates must therefore study and revise all areas of the F9 syllabus.

The following questions are reviewed with the aim of giving future candidates an indication of the types of questions asked and guidance on dealing with such exam questions.

Example 1 is numerical and illustrates the importance of understanding important models in the F9 syllabus.

Example 2 is a question requiring knowledge of principles and illustrates how all parts of the F9 syllabus can be examined.

Example 1

Leah Co is an all-equity financed company which wishes to appraise a project in a new area of business. Its existing equity beta is 1.2. The average equity beta for the new business area is 2.0, with an average debt/debt plus equity ratio of 25%. The risk-free rate of return is 5% and the market risk premium is 4%.

Ignoring taxation and using the capital asset pricing model, what is the risk-adjusted cost of equity for the new project?

A 8.6%
B 9.8%
C 11.0%
D 13.0%

This question addresses part E3e(iv) of the F9 Syllabus and Study Guide and it has been selected here because the capital asset pricing model is an important model in the Syllabus. The correct response is as follows:

C
As the given D/ (D + E) ratio is 25%, the E/ (E + D) ratio must be 75%.
Ungearing the equity beta of the new business area gives βa = 2 x 0.75 = 1.5
As Leah Co is an all-equity financed company, the asset beta of 1.5 does not need regearing.
The project-specific cost of equity is therefore K_e = 5 + (1.5 x 4) = 11%

This answer was achieved by a minority of candidates.

D *Using the ungeared average equity beta*
Although incorrect, this was the most popular answer, using the ungeared average equity beta of the new business area of 2.0 instead of the asset beta of 1.5, i.e. K_e = 5 + (2 x 4) = 13.0%. This means that the average equity beta for the new business area was not ungeared.

The other incorrect responses, A (8.6%) and B (9.8%), were calculated as follows:

A *Ungearing the equity beta of Leah Co*
βa = 1.2 0.75 = 0.9
Ke = 5 + (0.9 x 4) = 8.6%

B *Using the equity beta of Leah Co*
Ke = 5 + (1.2 x 4) = 9.8%

Example 2

Which of the following statements is true?

A The sensitivity of NPV to a change in sales volume can be calculated as NPV divided by the present value of future sales income
B The certainty equivalent approach converts risky cash flows into riskless equivalent amounts which are discounted by a CAPM-derived project-specific cost of capital
C Using random numbers to generate possible values of project variables, a simulation model can generate a standard deviation of expected project outcomes
D The problem with risk and uncertainty in investment appraisal is that neither can be quantified or measured

This question addresses part D3 of the Syllabus and Study Guide and it has been selected here because the correct response was given by a minority of candidates and because it illustrates how all parts of the F9 syllabus can be examined. The correct response is as follows:

C *Simulation models*
The statement concerning simulation models is true, they use probabilities to carry out a statistical analysis of possible project outcomes.

A *Incorrect sensitivity definition*
Selecting this answer indicates a lack of understanding of sensitivity analysis. The sensitivity of NPV to a change in sales volume can be calculated as NPV divided by the present value of *contribution*. Comparing NPV to the present value of future sales income would be estimating the sensitivity of NPV to a change to a change in *selling price*.

The other incorrect responses were B and D, as follows:

B *The certainty equivalent approach*
This approach to investment appraisal requires that the riskless equivalent amounts are discounted by a riskless discount rate, that is, the risk-free rate of return. A CAPM-derived project-specific cost of capital is not the risk-free rate of return, but rather a rate of return that reflects the systematic risk of a particular investment project.

D *Risk and uncertainty*
A common way to distinguish between risk and uncertainty is to say that risk can be quantified whereas uncertainty cannot be quantified, so stating that neither can be measured or quantified is not true.

Section B

Candidates in general performed reasonably well on the calculation-based questions. Candidates in general did not perform as well on discussion questions. There were many scripts with good attempts at most of the five questions, but some candidates showed their lack of preparation by not attempting some of the questions.

It is good exam technique to read the question requirement carefully, in order to understand clearly what you are being asked to do. Candidates who did not do this with discussion questions included irrelevant material in their answers. For example, some candidates discussed theory relating to optimal capital structure when the question requirement related to dividend theory.

It is also good exam technique to manage time carefully in the exam, for example by not writing too much for the marks offered.

Question One

Many candidates did well on part (a), while a number of answers to part (b) were speculative in nature, failing to use most of the information provided in the question.

Question 1a required candidates to calculate a market value-based debt/equity ratio and to comment on their findings. Answers that offered a book value-based debt/equity ratio and answers that calculated debt/debt plus equity were clearly not meeting the question requirement.

It is essential that candidates have a good knowledge of accounting ratios and so at this level, candidates should not be making errors such as calculating the debt/equity ratio by dividing the value of equity by the value of debt, or thinking that book values are market values.

Question 1b asked candidates to analyse and discuss the effect of new information being given by an announcement in a semi-strong form efficient stock market. A key phrase here is "analyse and discuss", since without supporting analysis any discussion is likely to be largely guesswork. Analysis would show an increase in the debt/equity ratio and a decrease in interest cover, both indicating an increase in financial risk and downward pressure on the company's share price.

Question Two

Both parts of question 2 looked at foreign currency risk. Many candidates did well on part (a), while many answers to part (b) were very general in nature and consequently gained few marks.

Question 2a required candidates to compare a money market hedge, a forward exchange contract and a lead payment as ways to hedge a future foreign currency payment. Some answers only compared a money market hedge with a forward exchange contract, failing therefore to meet the question requirement. Common errors were selecting the wrong exchange rates, selecting the wrong interest rates and inverting the money market hedge.

An important principle here is that the three hedges must be compared from the same point in time for the comparison to be a valid one. Many answers compared a lead payment based on the current spot rate with six months in the future evaluations of a money market hedge and a forward exchange contract.

Question 2b asked for a discussion of the advantages and disadvantages of currency futures. Some answers were so vague and general in nature, they could have applied to forward exchange contracts rather than currency futures, and therefore did not demonstrate a clear understanding of these exchange-traded derivatives. Some answers also offered bullet-point lists of short phrases rather than discussion, an approach that does not lead to good marks.

Question Three

This question focussed on working capital management. Some candidates struggled to gain good marks in part (a), while performing moderately well on part (b).

Question 3a asked for an evaluation of an early settlement discount. Answers to this question demonstrated the importance of reading the question carefully, for example:

- candidates were told to assume that there were 360 days in each year, yet some answers used 365 days;
- credit sales were stated to be 80% of total income of $30 million, yet some answers used $30 million as credit sales;
- income from credit sales was stated to increase by 20% as a result of offering the early settlement discount, yet some answers did not increase credit sales income.

Answers to this question also demonstrated the importance of labelling all calculations or workings, as some answers offered a sea of calculations with no indication of what each calculation related to. It is up to candidates to communicate clearly what they are doing in their answers, as markers cannot be expected to guess what unlabelled calculations are trying to achieve.

Candidates who adopted a methodical approach to working through the information provided in the question gained high marks.

Question 3b asked candidates to discuss TWO ways in which a company could reduce the risk associated with foreign accounts receivable. The block capitals were in the original question and they emphasise that only two ways were required to be discussed. Answers that discussed more than two ways were therefore wasting valuable time, as marks would only be awarded to the first two ways discussed in an answer.

Some answers discussed foreign currency risk in addition to or as well as the export credit risk and default risk discussed in the suggested answer, and full credit was given to such answers.

Question Four

This longer form question primarily addressed the investment appraisal syllabus area and many candidates gained high marks in both parts of the question.

Question 4a required candidates to undertake a nominal terms NPV analysis of the purchase of a new machine and to evaluate whether the purchase would be financially acceptable.

Many answers adopted a pro forma approach to the NPV calculation, which is recommended as it helps avoid mistakes and omissions. Such an approach would have helped some candidates to avoid the mistake of mixing capital cash flows with revenue cash flows when calculating before-tax cash flows. Working capital investment and resale value are examples of such capital cash flows. Such an approach would also have helped some

candidates to avoid the omission of fixed annual maintenance costs, which needed to be deducted in calculating before-tax cash flows.

Candidates must always take care with respect to the timing of tax-allowable depreciation and tax cash flows. As the question stated that corporation tax was paid one year in arrears, tax liabilities and tax-allowable depreciation benefits had to be lagged by one year. Some answers did not include a fifth year in their NPV calculation, but this was needed to account for all tax effects.

The importance of reading the question carefully was demonstrated by the number of answers that made errors with respect to working capital investment.
A nominal terms NPV calculation requires nominal cash flows to be discounted by a nominal discount rate and a nominal cost of capital was provided in the question. There was therefore no need to calculate a nominal cost of capital from the information provided.

Question 4b asked for a discussion of the reasons why investment finance might be limited, even when a company had attractive investment opportunities available to it. Better answers based their discussion in the area of capital rationing, discussing hard and soft capital rationing, and their causes. Some answers discussed the difficulties faced by SME in gaining access to investment finance. Unsatisfactory answers adopted a very broad or general approach to discussing why investment finance might be limited, offering few if any clearly explained reasons.

Question Five

This longer form question focussed on the business finance area of the syllabus, and looked at estimating the cost of capital and the theoretical approaches to the dividend decision. Many candidates gained high marks on the first part of the question, while performing less well on the second part of the question.

Question 5a asked candidates to evaluate the effect of a planned issue of loan notes on the weighted average cost of capital (WACC) of a company. In order to undertake this evaluation, the current WACC needed to be calculated and compared with the WACC after the loan note issue. This point was not recognised by some candidates, who calculated only one WACC, usually the WACC after the planned issue of loan notes.

In preparing for the examination, candidates should practice using the dividend growth model (DGM) to calculate the cost of equity, since a number of answers did not achieve full marks by being unable to calculate the dividend growth rate based on one year of growth, or by being unable to apply the DGM correctly. The question provided next year's dividend, so this did not need to be calculated.

Some candidates were not able to calculate correctly the after-tax cost of debt of the existing 5% loan notes using linear interpolation. The two cost of debt estimates used in the linear interpolation calculation should be reasonably close together, for example 5% and 10%. The practice followed by some candidates of using 1% and 20% as discount rates should be discouraged. Some candidates had difficulty laying out the interpolation calculation. A helpful suggestion is to treat the loan note market price as a negative cash flow (representing purchase), and the future interest and redemption value as positive cash flows (representing income). This approach avoids sign complications in the interpolation calculation.

The after-tax cost of debt of the bank loan is often approximated by the after-tax interest cost. Some answers ignored the bank loan, which is surprising as the question clearly identifies the bank loan as a non-current liability.

Candidates are expected to use market value weightings when calculating WACC and while most candidates were able to calculate equity market value, it was surprising to see some candidates struggling to calculate the total market value of the loan notes. Total nominal value needed to be divided by nominal value per loan note (to give the number of loan notes) and then multiplied by the market value per loan note to give total market value.

The majority of candidates were able to make a reasonable attempt at a WACC calculation.

Question 5b asked candidates to critically discuss the view that the share price of a company does not depend upon its share price. This view is called dividend irrelevance and originated with Miller and Modigliani.

As the question asked for a critical discussion, answers that did not refer to the dividend irrelevance theory of Miller and Modigliani, or to the opposing dividend relevance theory, were struggling to gain good marks. In addition, as a critical discussion was required, answers that did not refer to financial management theory and instead discussed in general terms other factors that might influence share prices, such as profitability and the economy, were unlikely to gain good marks.