F9 Examiner's report
March 2017

Comments

Performance in the March 2017 examination diet was not as good as hoped for, although there were some very good individual performances. Congratulations to those candidates who were successful in this examination diet. If you were not successful, I hope that you will study this report carefully as part of your preparation for your next attempt.

Overall, candidates were well prepared in some areas of the syllabus, but less well-prepared in others. Candidates must study the whole of the syllabus to prepare themselves adequately for the examination and 'question spotting' serves no purpose.

Section A

The objective test questions in Section A aim for a broad coverage of the F9 syllabus, hence all areas of the syllabus must be studied. Candidates preparing for the F9 examination are therefore advised to work through as many practice objective test questions as possible, reviewing carefully how correct answers were derived in any areas where they have uncertainty.

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 how important it is to be able to select relevant information from a question and to be able to calculate working capital ratios correctly.

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

Example 1

A company's typical inventory holding period at any time is as follows:

	Days
Raw materials	15
Work in progress	35
Finished goods	40

Annual cost of goods sold as per the financial statements is $100m of which the raw material purchases account for 50% of the total.

The company has implemented plans to reduce the level of inventory held, the effects of which are expected to be as follows:

(1) Raw material holding time to be reduced by 5 days
(2) Production time to be reduced by 4 days
(3) Finished goods holding time to be reduced by 5 days.

Assuming a 365-day year, what will be the reduction in inventory held?

A $2.603m
B $3.836m
C $1.918m
D $3.151m

The *correct response* is **D**, as follows:

Raw material effect using raw material purchases = (100m x 50%) x (5/365) = $684,932
Work in progress effect using cost of goods sold = 100m x (4/365) = $1,095,890
Finished goods effect using cost of goods sold = 100m x (5/365) =$1,369,863
Reduction in inventory = 684,932 + 1,095,890 + 1,369,863 = $3,150,685 or $3.151m

The *incorrect responses* are based on an imperfect understanding of how to calculate the relevant working capital ratios, as follows:

A

Here, raw material purchases are used instead of cost of goods and vice versa, as follows:

Raw material effect using cost of goods sold = 100m x (5/365) = $1,369,863
Work in progress effect using raw material purchase= (100m x 50%) x (4/365) = $547,945
Finished goods effect using raw material purchase= (100m x 50%) x (5/365) =$684,932
Incorrect reduction in inventory = 1,369,863 + 547,945 + 684,932 = $2,602,740 or $2.603m

B

Here, cost of goods sold is used in all three ratio calculations, as follows:

Raw material effect using cost of goods sold = 100m x (5/365) = $1,369,863
Work in progress effect using cost of goods sold = 100m x (4/365) = $1,095,890
Finished goods effect using cost of goods sold = 100m x (5/365) =$1,369,863
Incorrect reduction in inventory = 1,369,863 + 1,095,890 + 1,369,863 = $3,835,616 or $3.836m

C

Here, raw material purchases is used in all three ratio calculations, as follows:

Raw material effect using raw material purchases = (100m x 50%) x (5/365) = $684,932
Work in progress effect using raw material purchase= (100m x 50%) x (4/365) = $547,945
Finished goods effect using raw material purchase= (100m x 50%) x (5/365) =$684,932
Incorrect reduction in inventory = 684,932 + 547,945 + 684,932 = $1,917,809 or $1.918m

Example 2
Handria is a country that has the peso for its currency and Wengry is a country that has the dollar ($) for its currency.

The current spot exchange rate is 1.5134 pesos = $1.

Using interest-rate differentials, the one-year forward exchange rate is 1.5346 pesos = $1.

The currency market between the peso and the dollar is assumed perfect and the International Fisher Effect holds.

Which of the following statements is true?

A Wengry has a higher forecast rate of inflation than Handria
B Handria has a higher nominal rate of interest than Wengry
C Handria has a higher real rate of interest than Wengry
D The forecast future spot rate of exchange will differ from the forward exchange rate

This question tests candidates' understanding of four-way equivalence from the risk management part of the syllabus.

The *correct response* is **B**, as follows:

Interest rate parity theory links the one-year forward exchange rate and the current spot exchange rate. The interest rate parity formula is provided in the formulae sheet. This shows that if the forward exchange rate is greater than the current spot exchange rate, the foreign nominal interest rate is greater than the domestic nominal interest rate.

The *incorrect responses* are as follows:

A is incorrect because the statement relates to interest parity theory, which links the current spot rate of exchange to the future spot rate of exchange, not the forward exchange rate.

C is incorrect as the question states that the International Fisher Effect holds, hence real rates of interest are expected to be the same in different countries in a perfect currency market.

D is incorrect as, under expectation theory in the equilibrium of a perfect currency market, the forecast future spot rate of exchange and the forward exchange rate will be the same.

Section B

General comments

Candidates should read the question carefully and follow the instructions on how to answer the question, for example if a question asks the candidate to select two correct statements, then marks can only be awarded if two statements have been selected. There is no partial marking, so an answer which only selects one statement will be awarded no marks. In addition, when answering a number entry question, candidates must ensure they are entering their answer in the correct format as stated in the requirement.

Financial management function

Some candidates were not clear about what constitutes shareholder wealth.

Investment appraisal

There were common errors were made by some candidates on numerical investment appraisal questions. For example, some candidates did not identify correctly relevant cash flows for an investment project, or made mistakes with respect to the timing of future cash flows, or did not use the appropriate discount rate. Candidates must read the question carefully to identify the correct timing of all project cash flows.

Some candidates were not able to demonstrate the difference between risk and uncertainty.

Business valuation

Valuation questions were answered less satisfactorily than questions on other areas of the F9 syllabus. One common error was not identifying correctly the required rate of return when valuing shares. Another error was not including the value of a dividend about to be paid if the share was cum dividend.

Price earnings ratio questions caused difficulties for some candidates, who did not know under what circumstances it is appropriate to adjust a price earnings ratio or who did not use sustainable future earnings in price earnings ratio valuations. Errors were also made in calculating the market value of preference shares, for example by treating preference dividends as tax deductible.

There was also evidence of some candidates not understanding the implications of the different forms of the efficient markets hypothesis.

Risk management

It was common for candidates to make errors through lacking understanding of the features of risk management derivatives. This was from both a foreign exchange and an interest rate perspective, but especially relating to both over-the-counter and market-traded options.

Some errors also arose in constructing money market hedges due to confusion over borrowing and depositing, and usage of incorrect interest rates.

Section C

Candidates were presented with questions drawn from the areas of:

- Management of inventories, accounts receivable, accounts payable and cash
- Investment appraisal techniques
- Allowing for inflation and taxation in DCF
- Adjusting for risk and uncertainty in investment appraisal
- The choice between equity finance and debt finance
- Estimating the overall cost of capital
- Application of the CAPM in calculating a project-specific cost of capital

The cash operating cycle

While candidates tend usually to perform well on calculation-based questions, a significant number of candidates struggled with a question requiring them to calculate a cash operating cycle at the start of a month. The cash operating cycle is the sum of inventory days and accounts receivable days, less accounts payable days, i.e. it is a number of days. A surprising number of candidates confused the cash operating cycle with net working capital, i.e. inventory plus accounts receivable less accounts payable, and hence were not aware that the cash operating cycle is produced from three working capital ratios. A small number of answers used profit margin as profit mark-up.

Errors seen here included basing working capital ratio calculations on monthly credit sales instead of annual credit sales: using end-of-month figures instead of opening figures; using a 365-day year when the question specified a 360-day year; and inverting the calculation of the working capital ratios. These errors can be prevented by better understanding of this part of the syllabus.

Understanding and application of relevant accounting ratios

Many candidates struggled with a question requiring them to calculate an end-of-month overdraft balance. Although the question stated that the company had no cash and relied on its overdraft to finance daily operations, many answers ignored working capital movements and considered only cash income and cash payments.

The same question asked candidates to calculate the company's opening and closing current ratio for the month. While the opening current ratio was usually calculated correctly, many candidates had difficulty calculating working capital movements relating to accounts receivable or accounts payable.

Relevant techniques in managing accounts receivable

Many candidates gained high marks answering a question requiring a discussion of five techniques that a company could use in managing accounts receivable. Some candidates offered more than five techniques, however any techniques beyond the five required did not gain additional marks. Some candidates discussed individual techniques at too great a length, failing as a result to discuss five techniques as required. This is where good time management should join with good subject knowledge to produce a balanced answer.

Many answers discussed assessing creditworthiness, offering early settlement discounts (not trade discounts), and using factoring and invoice discounting. Many answers discussed factoring and invoice discounting as separate techniques in managing accounts receivable, even though these are listed as one technique in the syllabus. Managing accounts receivable and collecting amounts owing were discussed less frequently and often in a piecemeal fashion. The technique discussed least frequently was managing foreign accounts receivable.

Investment appraisal techniques

In questions requiring NPV calculations, some answers incorrectly placed initial investment at year 1 rather than year 0. Some NPV calculations were incomplete, with unfinished present value calculations, missing years, or unjustified acceptability comments, such as 'Accept! Good project!'

In a question asking about advantages of NPV over IRR, some answers thought incorrectly that IRR was ARR (accounting rate of return), while some answers ascribed features to NPV that properly belonged to IRR. Many answers struggled to provide the financial management terms needed for a comparative discussion of NPV and IRR, indicating a lack of understanding of the relative merits of the two investment appraisal methods.

Allowing for inflation and taxation in DCF

In answering a question relating to allowing for inflation and taxation in DCF techniques such as NPV, it is essential to understand and apply the information provided. Many errors arose from not following this advice, for example, using straight-line tax-allowable depreciation (TAD) when the question specified 25% reducing balance TAD, or charging tax liabilities in the year they arose when the question specified one year in arrears. Some answers placed tax liabilities one year in arrears, yet placed TAD tax benefits in the year the TAD arose. Other answers based tax liabilities on sales income, or on contribution rather than on taxable cash flow. Candidates would do well to remember that TAD is not a cash flow, as some answers treated TAD as an increase to taxable cash flow, resulting in TAD being taxed. Some answers omitted to incorporate a balancing allowance in their TAD calculation.

Turning to inflation, it was surprising to find some answers replacing inflation with deflation. An error made too frequently was applying one year's inflation to all years: candidates should remember that inflation is cumulative in its effect, like discounting.

Some answers used incorrect discount rates, indicating the need to discount nominal cash flows with a nominal discount rate was not correctly understood.

Adjusting for risk and uncertainty in investment appraisal

Risk relates to the variability of returns and it can be measured by the probability of different returns being achieved by an investment project, that is, by attaching probabilities to different possible investment project outcomes. Risk can therefore be measured or quantified, whereas uncertainty cannot. Many answers showed little understanding of the link to variability of returns, tending to focus on quantifiable versus unquantifiable aspects.

In making an NPV calculation, candidates calculated the expected value of variable cost as a step in calculating total variable cost. After calculating the NPV, candidates were asked to comment on the risk relating to variable cost. Most candidates were not able to see that the expected value calculation told them the percentage chance of the investment project having a positive NPV.

A part question required candidates to calculate the sensitivity of an investment project to a change in annual fixed costs. An error made by some answers was failing to use after-tax annual fixed costs in the sensitivity calculation: this had to be done as the NPV was on an after-tax basis. The tax effect was one year in arrears and this was often not considered. Some sensitivity calculations mistakenly used undiscounted total annual fixed costs

Candidates were asked by one part-question about adjusting for risk and uncertainty in investment appraisal. Four techniques are covered in this syllabus area: sensitivity analysis, probability analysis, risk-adjusted discount rates and adjusted payback. Simulation could have been discussed as well, as part of probability analysis. Emphasising the need to read the question carefully, answers were often not focussed on the question

requirement but discussed instead different kinds of risk, such as systematic risk, unsystematic risk, business risk, financial risk and exchange rate risk.

It was disappointing to see that even excellent NPV calculations were associated with a lack of understanding of the role played by the discount rate in building risk into investment appraisal.

The choice between equity finance and debt finance

A question requiring candidates to discuss factors to be considered in choosing between equity and debt was often answered to a good standard. Some answers dwelt at length on capital structure theory, but this was not the primary focus of the question.

Estimating the overall cost of capital

Many candidates gained good marks in answering a question requiring calculation of the overall cost of capital of a company, with the cost of equity being provided by a CAPM calculation. Errors found here related to CAPM calculation errors and internal rate of return calculation errors.

Application of the CAPM in calculating a project-specific cost of capital

The requirement to calculate a project-specific cost of capital in one question produced a very wide variation in answers, ranging from full marks to no marks at all. Well-prepared candidates correctly ungeared two equity betas, averaged them, then calculated a project-specific equity beta and a project-specific cost of equity. Weaker answers missed out or muddled one or more of these steps.

Word Processing and Spreadsheet technique

Care must be taken in entering formulae in the spreadsheet. For example, there is a considerable difference between (1 + 0.04^4) and (1 + 0.04)^4: only the second formula calculates the effect of inflation correctly. Markers can see the formula in a cell and hence apply the own-figure rule if this is appropriate. However, the own-figure rule cannot be applied to calculated figures placed in cells with no supporting calculations anywhere in the spreadsheet. The advice 'include all your workings' is as true for computer-based exams as it is for paper-based exams. It also remains good exam technique to label all your entries in a spreadsheet: markers cannot be expected to work out the meaning of several calculated figures if candidates offer no guidance to their meaning.

Guidance and Learning Support resources to help be successful in the examination

Preparing for the F9 exam may appear daunting but there are many resources available to help you. You should refer to these throughout your studies.

You should make sure you have made use of all of the resources found under technical articles for F9 – these include technical articles, study support videos and exam technique resources – all developed with you in mind.

It is essential to practise as many exam standard questions as you can in the lead up to your exam. We strongly recommend that you use an up to date question and answer bank from one of our Approved Content Providers but if this is not possible then work through the most recent past exams on our website. However, please note if you are using the past exams that these are **not** updated for syllabus changes or changes to the exam format and so should be used with caution – so check the latest syllabus and study guide for changes.

It is essential that you have a good understanding of the verbs typically used in ACCA exam questions. Take a look at the article *What is the examiner asking?* which sets out some of the most commonly used verbs, and ensure that you understand how these are used in the F9 questions.

Work through the F9 resource *A guide to using the examiner's report* if you are sitting the exam for the first time or *A guide to reflection* if you are retaking your exam. Both of these interactive tools can be found under the

technical articles page for F9. These have been developed to sit alongside the self-study guide and the retake guide respectively, and provide you with further pointers for using the examiner's reports for previous sittings.