

Paper P2

Performance Management

variable cost, reducing division E's profits.

- A rise in external demand would have the opposite effect until all of the internal transfers are being made at the external selling price.

C(i). Evaluate the investment from the perspective of the manager of division E (six marks):

- A ten per cent increase in division E capacity will increase external sales.
- Reduction in volume of external sales foregone by selling to division D.
- No financial benefit to division E.
- Variable cost of items sold at market value: \$112m a year (cost saving of \$22.4m a year).
- Present value (8 per cent annuity): \$89.4432m.
- Cost of investment: \$120m.
- The investment is not financially viable from the perspective of division E's manager.

C(ii). Evaluate the investment from the perspective of the DE company (four marks):

- Consider the benefits to division D.
- 42,000 components at revised cost less 20 per cent = \$33.6m.
- 28,000 components at market value: \$43.4m.
- Division D saving: \$16.1m a year.
- Total cost saving per year to the DE company: \$22.4m + \$16.1m = \$38.5m.

'Your answer plan need not be detailed – it could simply be a number of bullet points featuring key headings and calculations'

- Present value: \$153.73m.

- The investment is worthwhile from the DE company's perspective.

D. Two factors that should be considered when designing divisional performance measures (six marks):

- They need to be easy to calculate and understand.
- Include only items that are within the divisional manager's control.
- Link each factor to the DE company, supported by a brief example.

Once you've made your plan, you're ready to start writing the answer. When you do this, use another mnemonic acronym – Pert – which was first highlighted in a *Velocity* article in June 2011 (bit.ly/VelocityASAP). Pert stands for: point, explain, relate and time:

- Point. Make your points in a concise sentence and use this as a heading to a short paragraph.
- Explain. Make the meaning of your point clear by using "because" or "owing to". Markers can mark only what you explicitly say, not what you might have meant.
- Relate. Your points must relate to the scenario.
- Time. Don't exceed your allocation.

Above all, remember that your points will earn marks only if they are relevant to the question.

Paper P2

Ignore ratios at your peril

Many candidates struggle with the ratio analysis question. Simple examples and an understanding of common errors can, however, help to illuminate this vital part of the syllabus

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When reviewing the examination scripts for the P2 paper in the November sitting it was quickly apparent that most candidates encountered problems when tackling the ratio analysis ques-

tion. This situation is difficult to understand as ratio analysis is one of the most important items in the syllabus. Is this topic not fully understood, or did candidates ignore it when preparing for the exam? The aim of this article is to:

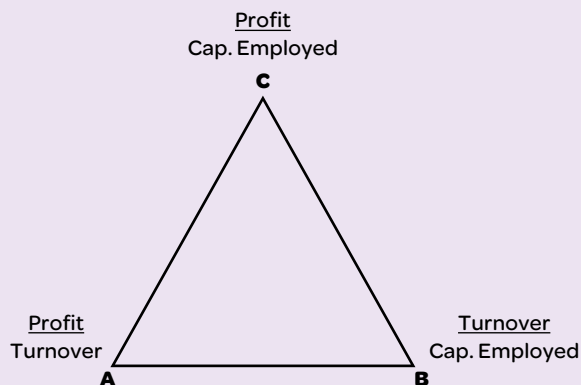
- a** Discuss the fundamentals of this area of the syllabus by working through a simple example.
- b** Closely examine the parts of the question that generated so many problems.
- c** Describe some of the most common errors.

Let's look at the requirements of a question (Q7 Part A) in the November 11 exam paper. The most important aspect centred on the relationship between the three requirements. ▶

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- The return on capital employed (ROCE).
 - The asset turnover.
 - The profit/sales percentage.
- This may be explained by the use of a diagram and a simply worked example:



From this triangle it is clear that there is a direct relationship between the three figures. All figures are used twice, meaning $A \times B = C$

Therefore:

$$\frac{\text{Profit}}{\text{Turnover}} \times \frac{\text{Turnover}}{\text{Cap Employed}} = \frac{\text{Profit}}{\text{Cap Employed}}$$

A simple example:

Extract from the accounts of Company B

Profit and loss extracts £000s

| | Company B |
|---------------|-----------|
| Sales/revenue | 1,556 |
| | ----- |
| Net profit | 67 |
| | ----- |

Balance Sheet extracts £000s

| | |
|---------------------|-------|
| Fixed assets | 1,380 |
| Stock | 241 |
| Due from customers | 201 |
| Cash | - |
| Due to creditors | (301) |
| | ----- |
| Net assets | 1,521 |
| | ===== |
| Shareholders' funds | 1,021 |
| Long-term borrowing | 500 |
| | ----- |
| Capital employed | 1,521 |
| | ===== |

'When completing an investment appraisal question you need to discount future cash flows to arrive at a net present value'

Calculations

$$A \quad \frac{\text{Net profit}}{\text{Turnover}} = \frac{67}{1,556} = 4.306\%$$

$$B \quad \frac{\text{Turnover}}{\text{Cap. Employed}} = \frac{1,556}{1,521} = 1.023 \text{ times}$$

$$C \quad \frac{\text{Net profit}}{\text{Cap. Employed}} = \frac{67}{1,521} = 4.405\%$$

Proof:

$$A \times B = C$$

$$4.306 \times 1.023 = 4.405$$

When completing the calculations it is imperative that the profit figure, capital employed and turnover figures used are the same on the two occasions that they appear. Failure to follow this rule will result in an imbalance. In other words: $A \times B$ will not equate to C .

Let's examine the actual exam question.

The following information is available:

1 Net assets of SHG as at 31 May (see Table A on p46).

2 For the years ended 31 May 2010 and 2011, turnover and operating cash flows were as follows:

| Division | 2011 | 2010 |
|----------|------|------|
| | \$m | \$m |

Turnover:

| | | |
|----------|-----|-----|
| Northern | 168 | 148 |
| Southern | 240 | 220 |

Operating cash flows:

| | | |
|----------|----|----|
| Northern | 42 | 37 |
| Southern | 60 | 55 |

REQUIREMENT ONE

To calculate the ROCE achieved by each division during the years ended 31 May 2010 and 31 May 2011.

The question specifically instructed candidates to use the average capital employed.

In order to calculate the ROCE, two actions were required:

Action 1: Calculate a profit figure for each division for each year.

Action 2: Calculate an average capital employed figure for each division for each year. ►

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Table A. Net assets of SHG as at 31 May

| Division | 2011 | | 2010 | | 2009 | |
|-------------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| | Northern \$m | Southern \$m | Northern \$m | Southern \$m | Northern \$m | Southern \$m |
| Non-current assets (net book value) | 78.75 | 146.25 | 72.45 | 134.55 | 70.00 | 138.00 |
| Net current assets | 47.25 | 87.75 | 46.55 | 86.45 | 42.00 | 78.00 |
| Net assets | 126.00 | 234.00 | 119.00 | 221.00 | 112.00 | 208.00 |
| Non-current assets acquired in year | 15.05 | 27.95 | 10.50 | 19.50 | | |

Notes:

There were no disposals of non-current assets during the above periods. Depreciation is charged at ten per cent per annum on a reducing balance basis in respect of all non-current assets held at the end of the year.

ACTION 1

This first action is, in many respects, similar to a typical investment appraisal situation, but in reverse. You may recall that when completing an investment appraisal question you need to discount future cash flows to arrive at a net present value. If the question gives a profit figure for each future year these have to be converted to a cash figure by adding a depreciation figure.

In this question the cash flow figures were given and candidates had to calculate a series of depreciation figures in order to arrive at the profit figures.

The calculations for the depreciation are:

Depreciation

| Year | 2011 | | 2010 | |
|--------------------|-----------------|-----------------|-----------------|-----------------|
| | Northern \$m | Southern \$m | Northern \$m | Southern \$m |
| NBV@ start of year | 72.45 | 134.55 | 70.00 | 130.00 |
| Add: Additions | 15.05 | 27.95 | 10.50 | 19.50 |
| Subtotal | 87.50 | 162.50 | 80.50 | 149.50 |
| Depreciation @ 10% | 8.75 | 16.25 | 8.05 | 14.95 |
| NBV @ end of year | 78.75 | 146.25 | 72.45 | 134.55 |

The conversion from cash flow to profit

| Year | 2011 | | 2010 | |
|-------------------|-----------------|-----------------|-----------------|-----------------|
| | Northern \$m | Southern \$m | Northern \$m | Southern \$m |
| Cash flow | 42.000 | 60.000 | 37.000 | 55.000 |
| Depreciation (W1) | 8.750 | 16.250 | 8.050 | 14.950 |
| Profit | 33.250 | 43.750 | 28.950 | 40.050 |

ACTION 2

Calculation of an average capital employed figure

| | 2011 | | 2010 | |
|------------|----------|----------|----------|----------|
| | Northern | Southern | Northern | Southern |
| Op. Bal. | 126.00 | 234.00 | 112.0 | 208.0 |
| Clos. Bal. | 119.00 | 221.00 | 119.0 | 221.0 |
| | 245.00 | 455.00 | 231.0 | 429.0 |
| Average | 122.50 | 227.50 | 115.5 | 214.5 |

Collection of data

| Year | 2011 | | 2010 | |
|------------------|-----------------|-----------------|-----------------|-----------------|
| | Northern \$m | Southern \$m | Northern \$m | Southern \$m |
| Turnover | 168.00 | 240.00 | 148.00 | 220.00 |
| Capital employed | 122.50 | 227.50 | 115.50 | 214.50 |
| Profit | 33.25 | 43.75 | 28.95 | 40.05 |

Results

| | 2011 | | 2010 | |
|-----------------|------------------|------------------|------------------|------------------|
| | N | S | N | S |
| ROCE | 33.25 122.5 | 43.75 227.5 | 28.95 115.50 | 40.05 214.50 |
| | 27.14% | 19.23% | 25.06% | 18.67% |
| Asset Turnover | 168.00 122.50 | 240.00 227.50 | 148.00 115.50 | 220.00 214.50 |
| | 1.37 | 1.05 | 1.28 | 1.03 |
| Profit/turnover | 33.25 168.00 | 43.75 240.00 | 28.95 148.00 | 40.05 220.00 |
| | 19.79% | 18.23% | 19.56% | 18.20% |

| | | | |
|-------|------|-------|----------------------|
| Proof | 2011 | North | 19.79 x 1.37 = 27.11 |
| | | South | 18.23 x 1.05 = 19.14 |
| | 2010 | North | 19.56 x 1.28 = 25.04 |
| | | South | 18.20 x 1.03 = 18.76 |

(The minor differences are simply the result of rounding.)

COMMON ERRORS

Return on capital employed

- 1 Making no attempt to calculate depreciation.
- 2 Using the cash figure as the profit figure.
- 3 Subtracting the cash flow figure from the turnover figure and assuming the resultant figure is the profit.
- 4 Calculating a depreciation figure but incorrectly adding it to the cash flow figure (as opposed to subtracting it).
- 5 Calculating a depreciation by using the net assets figure, as opposed to the non-current asset figure.
- 6 Using the opening capital employed figure or the closing capital employed figure as opposed to the average capital employed figure.
- 7 Using the opening capital employed figure in this calculation and the average or closing capital employed figure in the asset turnover calculation.

Profit/sales percentage

Using the cash flow figure, as opposed to the profit figure.

Asset turnover

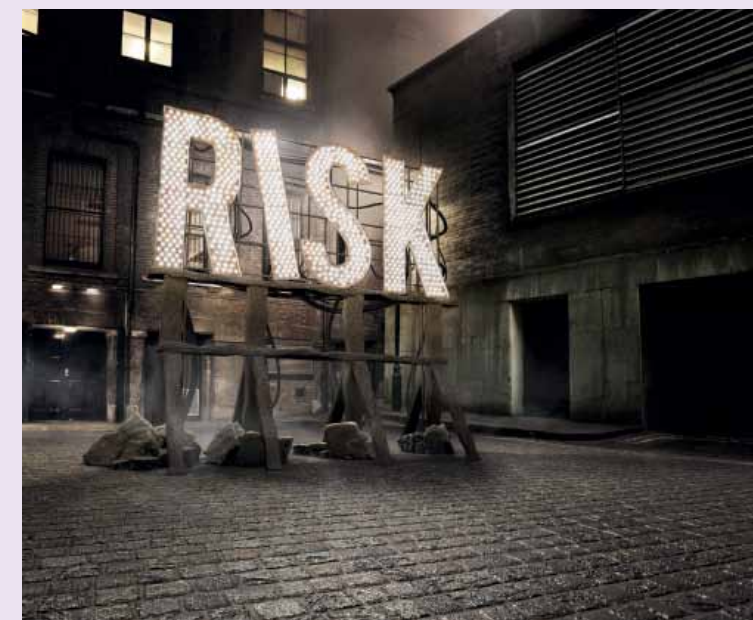
- 1 Using the turnover figure as the denominator.
- 2 Showing the answer as a percentage.
- 3 Using the opening or closing capital employed figure, as opposed to the average figure.
- 4 Using the opening capital employed figure in this calculation and the average or closing capital employed figure in the ROCE calculation.

DISCUSSION

When the various ratios had been calculated candidates were requested to "discuss the relative performance of the two divisions". To satisfy this requirement two issues needed addressing:

Issue 1

To establish if candidates were aware of the importance of these calculations. For example, the ROCE is a fundamental measure of business performance and expresses the relationship between the net profit generated by the business and the long-term capital invested in the business. The ratio attempts to measure the returns to all suppliers of long-term finance before any deductions for interest payment to lenders or payments of dividends to shareholders are made. ROCE is considered by many to be a primary measure of profitability. ▶



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The net profit margin (profit ÷ sales) represents the profit from trading operations before the interest costs are taken into account. This is often regarded as the most appropriate measure of operational performance because differences arising from the way in which the business is financed will not influence the measure.

The sales to capital employed ratio (or asset turnover ratio) examines how effectively the assets of the business are generating sales revenue. A higher asset turnover is usually preferred to a lower one as it indicates that the assets are being used effectively. However, an extremely high ratio may indicate that the business has insufficient assets to sustain the level of sales presently being experienced.

Issue 2

Candidates needed to relate the above comments to the scenario in the question; this should have included the following points.

1 Were the divisions able to achieve their target return on capital employed of 20 per cent?

2 A brief discussion relating to the non-current assets of the two divisions.

From the data given in the question it is easy to notice that the Southern division's non-current

asset values are higher, since the assets have been acquired more recently than the Northern division. Hence the capital employed by the Southern division is much higher than that of the Northern division, and consequently the ROCE of the Southern division will almost certainly be lower. It therefore seems unfair to apply the same target to both divisions. It also follows that the depreciation related to the newer equipment will be higher, thus having an adverse impact on the level of profit for the Southern division. This point can easily be proved as the cash flow is 25 per cent of the turnover for both divisions in both years. This suggests that both divisions have the same gross profit percentages and the same operating costs to sales revenue percentages if depreciation is ignored. Thus, the difference between the divisions' profit to sales percentages between each other and between years is a function of the depreciation policy, rather than that of the actions of the divisional management.

FINAL COMMENT

As always, candidates are urged to study and revise the entire syllabus, work through past exam questions and study closely the Post Examination Guide to understand where common errors are made.

'Candidates are urged to study and revise the entire syllabus'



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Editor's note: In our last issue we ran a study notes article on paper T4 (part b). The case writer has responded on some of the content at www.cimaglobal.com/t4may2012.

Exam notice

Visit www.cimaglobal.com regularly for updates

March 2012 exams

The March T4 part B case study and resit exam results were sent out on 22 March.

Strategic level and T4 part B script review service – March 2012 sitting

A script review service is available for the three strategic level subjects and the T4 Case Study exam. The service is only available if you received between 40 and 49 marks in the paper (strategic level) or between 20 and 24 credits (T4 part B case study) for which you want a script review.

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It contains details of your exam centre and the exams you are entered for. Take it to the exams and keep it afterwards as it has your candidate number(s).

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Download and read the exam rules and regulations from the website when you download your admission advice.

Going to the exam

You will also need to bring ID to the exam, such as a passport or driving licence, with your photograph, name and signature.

Pre-seen material – T4 part B case study and strategic level papers

Pre-seen material for the May 2012 T4 part B case study exams is available from www.cimaglobal.com/t4preseen. Mate-

rial for the May 2012 Strategic level exams will be available from mid-April on www.cimaglobal.com/strategicpreseen.

Absence from Strategic level exams

Apply to the examinations and assessment oversight panel if you miss any Strategic level exams on the first sitting. Visit the "after the exams" section at www.cimaglobal.com/students/exams/.

Ask a tutor sessions – live!

Information about live "ask a tutor" sessions for some professional qualification subjects in the run-up to the May exams will be on www.cimaglobal.com/sphere.

Index of technical articles 2011

Prepare for exams with our index of technical articles published in 2011. It is available in February's issue of *Velocity* at www.cimaglobal.com/velocity.

Exam papers and answers

All past exam papers and answers are available to download at www.cimaglobal.com/Students/2010-professional-qualification/.

Post exam guides

You can download post exam guides from the relevant Study Resources area. March 2012 post exam guides will be available by late March.

Certificate-level computer-based assessments

Assessments based on the CIMA Certificate in Business Accounting 2006 will only be available until 30 June 2012. After that, all assessments will be based on the 2011 syllabus. Visit www.cimaglobal.com/certificate.

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