Calculating profitability indicators - profitability

Introduction

When a business is deciding whether to grant credit to a potential customer, or whether to continue to grant credit terms to an existing customer, it can analyse the customer's current and past financial statements. This analysis should calculate key performance indicators for three key areas:

- liquidity
- profitability
- cash flow and financial position.

In this worksheet we will focus on calculating and interpreting **profitability** performance indicators. Similar worksheets have also been prepared for liquidity indicators and cash flow and financial position indicators.

You may also want to try the two worksheets: *Calculating liquidity indicators* and *Calculating financial position indicators*.

Profitability indicators measure the business's ability to generate profit. In the *Credit management and control* unit we focus on the ability of a customer to pay its suppliers when the invoices fall due. In the short term the cash flow and liquidity of a business is particularly relevant to its ability to pay its debts. Over the longer term the business must be profitable to enable it to pay its debts when they fall due.

As part of the decision to grant credit to a customer, a business should obtain copies of the customer's recent financial statements; ideally for the past three years; and calculate profitability indicators from these figures. These performance indicators can then be compared with the same measures for previous years; acceptable industry standards; or used as part of a credit scoring system.

On the next screen we will look at the formulae for calculating the key performance indicators used to assess the profitability of a business. We will then calculate these performance indictors to assess the profitability of a potential customer.

Key profitability performance indicators

The four key performance indicators normally calculated to assess profitability are as follows.

Gross profit margin	gross profit sales revenue	x 100
Profit for the period margin (net profit margin)	operating profit sales revenue	x 100
Interest cover	operating profit	

interest payable

Return on capital employed (return on net assets) $\frac{\text{operating profit}}{\text{capital employed}}$ x 100

To explain the calculation of these performance indicators and analyse the profitability of a business we are going use some financial information for a business called Delrex Limited. Delrex Limited has approached our business to buy from us on credit. Access the extracts from the financial statements of Delrex Limited for the past three years.

Gross profit margin

The gross profit margin shows what percentage of the business's sales revenue is gross profit. To calculate the gross profit margin we divide gross profit by sales revenue and then multiply by 100 to turn it into a percentage.

How is the formula stated? Click to display/hide the solution.

The 2010 figures that we need for this calculation for Delrex Limited are shown in the table below with the gross profit margin for 2010 already calculated. You should now complete the figures for 2011 and 2012 and calculate the gross profit margin for each of these years. Your calculations should be rounded to the nearest whole percentage.

Complete the table and then click to display/hide the solution.

	2012 (£'000)	2011 (£'000)	2010 (£'000)
Sales revenue			6,800
Gross profit			3,000
Gross profit margin			44%

The gross profit margin shows profit as a percentage of sales before expenses have been deducted. This percentage can vary depending on the type of business. However, it is important that the gross profit margin for a particular business remains constant over time. A change in gross profit margin can be because the cost of sales of the business increases or decreases without an increase or decrease in sales price. It can also change if the business changes it selling price while the cost of sales remains unchanged.

What do the gross profit margins that have been calculated for 2010–12 tell us about the profitability of Delrex Limited over the three year period? Write your answer down, and then click to reveal our suggested analysis.

Profit for the period margin

The profit for the period margin shows what percentage of the business's sales revenue has been turned into profit after all costs and expenses for the period have been deducted but before interest and taxation. To calculate the profit for the period margin we divide operating profit by sales revenue and then multiply by 100 to turn it into a percentage.

How is the formula stated? Click to display/hide the solution.

The 2010 figures that we need for this calculation for Delrex Limited are shown in the table below with the profit for the period margin for 2010 already calculated. You should now complete the figures for 2011 and 2012 and calculate the profit for the period margin for each of these years. Your calculations should be rounded to the nearest whole percentage.

	2012 (£'000)	2011 (£'000)	2010 (£'000)
Sales revenue			6,800
Operating profit			1,500
Profit for the period margin			22%

The profit for the period margin shows the percentage of sales revenue that the business turns in to profit after all costs and expenses have been taken into account. What do the above percentages tell us about the profitability of Delrex Limited over the three year period? Write your answer down, and then click to reveal our suggested analysis.

Interest cover

Interest cover is a measure of a business's ability to pay interest on its borrowings out of the profit that it has made. To calculate the interest cover we divide operating profit for the period by interest payable. This gives us a figure for the amount of times the profit of the business can cover the interest payable. A high interest cover indicates a financially stable business that is able to cover the interest payable on its borrowings.

How is the formula stated? Click to display/hide the solution.

The 2010 figures that we need for this calculation for Delrex Limited are shown in the table below with the interest cover for 2010 already calculated. You should now complete the figures for 2011 and 2012 and calculate the interest cover for each of these years. Your figures should be rounded to one decimal place.

	2012 (£'000)	2011 (£'000)	2010 (£'000)
Operating profit			1,500
Interest payable			250
Interest cover			6.0 times

From your calculations of the interest cover for Delrex Limited what do they tell us about the profitability of Delrex Limited over the three year period? Write your answer down, and then click to reveal our suggested analysis.

Return on capital employed

Return on capital employed measures the profit that the shareholders of a business are earning on the investment that they have made in the business. To calculate the return on capital employed we divide operating profit for the period by the capital employed and multiply by 100 to turn it into a percentage. Capital employed is total equity (that is share capital and reserves) plus non-current liabilities.

How is the formula stated? Click to display/hide the solution.

The 2010 figures that we need for this calculation for Delrex Limited are shown in the table below with the ROCE for 2010 already calculated. You should now complete the figures for 2011 and 2012 and calculate the ROCE for each of these years. Your calculations should be rounded to the nearest whole percentage.

	2012 (£'000)	2011 (£'000)	2010 (£'000)
Operating profit			1,500
Equity			2,400
Non-current liabilities			2,000
Capital employed			4,400
Return on capital employed			34%

What do the above calculations tell us about the profitability of Delrex Limited over the three year period? Write your answer down, and then click to reveal our suggested analysis.

Assessment of profitability of Delrex Limited

	2012 (£'000)	2011 (£'000)	2010 (£'000)
Gross profit margin	29%	44%	44%
Profit for the period margin	13%	22%	22%
Interest cover	4.0	5.5	6.0
Return on capital employed	20%	31%	34%

In this worksheet we have looked at performance indicators to assess the profitability of Delrex Limited. All of the profitability performance indicators have stayed fairly consistent for 2010 and 2011, with good gross profit and profit for the period margins. However, in 2012 the profit margins have dropped significantly and the interest cover has reduced by a third from 6 to 4. The ROCE in 2010 and 2011 is very healthy, with a return on investment of over 30%. However, in 2012 the profit for the year has decreased and the shareholders' equity has increased, which means the ROCE for 2012 has decreased significantly to just over 20%.

The deterioration in these profitability indicators in 2012 may suggest a problem at Delrex Limited, which will need to be investigated before granting credit terms.