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## Calculating financial position and cash flow indicators

#### 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
- financial position and cash flow.

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

You may also want to look at Calculating liquidity indicators and Calculating profitability indicators.

**Financial Position indicators** measure the extent to which a business is financed by debt. 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 liquidity of a business is particularly relevant to its ability to pay its debts. Over the longer term, the way in which a business is financed will be relevant as the higher the long-term debt the more interest payable the business will incur.

Earnings before interest, tax, depreciation and amortisation (EBITDA) is the key measure of the 'cash earnings' of a business. This will provide a good **cash flow indicator** and can be used to assess the cash available for a business to pay the interest on its long-term liabilities. It can also be used to assess the length of time it would take to pay back outstanding liabilities.

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 financial position and cash flow 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 for financial position and cash flow of a business. We will then calculate these performance indictors to assess the financial position and cash flow standing of a potential customer.

#### Key profitability performance indicators

The two key performance indicators normally calculated to assess financial position are as follows.

Gearing ratio (%)		<u>total debt</u> total debt plus equity	x 100
	or	<u>total debt</u> total equity	x 100

There are two ways of calculating the gearing ratio, which are shown above. In each method the total debt is the total of both long-term and short-term debt. Either of these methods of calculating gearing is acceptable, and will be marked correctly in the assessments for this unit.

Short-term debt ratio	short-term debt	x 100
	total debt	

The short-term debt ratio shows what proportion of the total debt of the business is repayable within 12 months (that is, short term).

The key performance indicators normally calculated to assess **cash flow** are as follows.

EBITDA interest cover	EBITDA
	interest payable
EBITDA to total debt ratio	<u>EBITDA</u>
	total debt

To explain the calculation of these performance indicators and analyse the financial position and cash flow 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.

#### Gearing ratio (%)

The gearing ratio shows the extent to which the business is funded by debt. To calculate gearing we can use two different calculations. One is total debt divided by total debt plus equity and then multiplied by 100 to turn it into a percentage. The other is total debt divided by total equity and then multiplied by 100.

How is the formula stated?

Click to display/hide the solution.

Gearing ratio (%) =	<u>total debt</u> x 100 total debt plus equity	
or	total debt x 100 total equity	

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

	2012 (£'000)	2011 (£'000)	2010 (£'000)
Non-current liabilities	2,000	2,000	2,000
Short-term debt	-	-	250
Total equity	3,900	3,300	2,400
Gearing (total debt / total debt + equity)	34%	38%	48%
Gearing (total debt / total equity)	51%	61%	94%

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

To avoid confusion we will concentrate on the more commonly used gearing calculation of total debt / (total debt + equity).

Gearing shows to what extent a business is financed by debt. A business that requires additional finance has a choice of how to raise it. One option is to increase the equity in the business, often by issuing further share capital. Alternatively it can rely on long-term loans. If it chooses to take out long-term loans this may result in a high level of gearing (that is heavy reliance on debt). This means that the business will need to pay interest on these loans. This is not a problem when the economic environment is good, however if there is a downturn in the market the business will continue to have to service these loans, which will directly affect its profitability.

What do the gearing ratios that you have calculated for 2010–12 tell us about the financial position of Delrex Limited over the three year period? Write your answer down, and then click to reveal our suggested analysis.

Click to display/hide the solution.

In 2010 Delrex Limited has a gearing percentage of 48%. This means the business is financed approximately half by equity and half by debt. Gearing of less than 40% is generally considered to be acceptable so in 2010 48% was quite high. Moving on to 2011 and then to 2012 the gearing has improved to 38% and 34% respectively. The reasons for this are that the business no longer has an overdraft after 2011 and also the increase in retained earnings each year has increased the equity in the business.

The gearing calculation for each of the three years for which we have financial statements indicates that Delrex Limited is financially stable and does not rely heavily on interest bearing debt to finance the business.

#### Short-term debt ratio (%)

The short-term debt ratio shows the proportion of the total debt of the business that is short term (that is, due in less than one year). To calculate the short-term debt ratio we divide short-term debt by total debt and then multiply by 100 to turn it into a percentage.

#### How is the formula stated?

Click to display/hide the solution.

When we calculate the short-term debt ratio we use interest bearing short-term current liabilities (usually an overdraft). Delrex Limited only has an overdraft in 2010 so this performance indicator can only be calculated for that year.

Calculate the short-term debt ratio for 2010 and then click to display/hide the solution.

Short-term debt ratio	=	250	x	100	=	9%	
		(2400 + 250)					

Ideally the short-term debt ratio should be as low as possible as a reliance on short-term debt, such as overdrafts, could adversely affect the liquidity of the business. For Delrex Limited the short-term debt ratio for 2010 is low and after that the business has no short-term debt.

The key performance indicators that can be calculated to assess **cash flow** are:

EBITDA interest cover	<u>EBITDA</u> interest payable
EBITDA to total debt ratio	<u>EBITDA</u> total debt

#### **EBITDA** interest cover

The EBITDA gives us an idea of the cash earnings of a business and can be used to calculate the EBITDA interest cover. The EBITDA interest cover gives an indication of a business's ability to pay interest on its borrowings, the higher the EBITDA interest cover the lower the risk. To calculate the interest cover we divide EBITDA for the period by interest payable. This gives us a figure for the amount of times the EBITDA of the business could cover the interest payable. This calculation is very similar to the interest cover that is used to assess the cash flow of the business.

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

EBITDA interest cover

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

	2012 (£'000)	2011 (£'000)	2010 (£'000)
Operating profit	1,200	1,650	1,500
Depreciation included in cost of sales	400	370	320
EBITDA	1,600	2,020	1,820
Interest payable	300	300	250
EBITDA interest cover	5.3 times	6.7 times	7.3 times

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

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

Click to display/hide the solution.

In 2010 Delrex Limited has EBITDA that covers interest payable over seven times. This reduces to 6.7 in 2011 and then reduces more significantly to 5.3 times by 2012. Despite this Delrex Limited is currently still generating more than sufficient cash to comfortably cover its interest payments. The fact that the interest cover has fallen over the last three years is due to the decrease in profit. This decline should be monitored as if it continues to fall this could indicate that Delrex Limited may struggle to meet its liabilities in the future.

#### EBITDA to total debt ratio

The EBITDA gives us an idea of the cash earnings of a business. We can use this figure to calculate the EBITDA to total debt ratio. The EBITDA to total debt ratio gives an indication of a business's ability to pay back its long-term borrowings, the lower the EBITDA to total debt ratio the lower the risk. To calculate this performance indicator we divide EBITDA for the period by the total debt of the business.

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

EBITDA interest cover

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

	2012 (£'000)	2011 (£'000)	2010 (£'000)
Operating profit	1,200	1,650	1,500
Depreciation included in cost of sales	400	370	320
EBITDA	1,600	2,020	1,820
Interest payable	2,000	2,000	2,250
EBITDA interest cover	0.8	1.0	0.8

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

From your calculations of the EBITDA to total debt ratio for Delrex Limited what do they tell us about the cash flow of the business over the three year period? Write your answer down, and then click to reveal our suggested analysis.

In 2010 Delrex Limited has EBITDA to total debt ratio of 0.8. This increases to 1.0 in 2011 and then reduces again in 2012 to 0.8. The lower the EBITDA to total debt ratio the lower the risk and hence the better cash flow position of the business. This ratio indicates that the cash flow position of Delrex Ltd is relatively stable and at this stage should not be cause for concern.

	2012 (£'000)	2011 (£'000)	2010 (£'000)
Gearing (total debt / total debt + equity)	34%	38%	48%
Gearing (total debt / total equity)	51%	61%	94%
Short-term debt ratio	-	-	9%

#### Assessment of financial position of Delrex Limited

	2012 (£'000)	2011 (£'000)	2010 (£'000)
EBITDA interest cover	5.3	6.7	7.3
EBITDA to total debt ratio	0.8	1.0	0.8

In this worksheet we have looked at performance indicators to assess the financial position and cash flow of Delrex Limited.

The gearing ratios for Delrex Limited decrease over the three years for which we have financial information, with debt forming less than 50% of the total financing of the business. For this business

the short-term debt ratio is no longer a relevant indictor as Delrex Limited no longer has an overdraft in 2012. This indicates that the business is in a relatively strong financial position and does not over rely on debt to finance its operations.

The EBITDA for Delrex Ltd has been used to calculate the interest cover. Although this has fallen over the three years, the business can still comfortably cover its interest payable out of its cash earnings. The ratio between EBITDA and total debt is consistent for the three years at between 0.8 and 1.0. At this low level we can see that the risk of the business being unable to repay its debts as they become due is low.

### Summary

As part of the assessment of creditworthiness for a new or existing customer performance indicators can be calculated on the financial statements of the business. Part of this analysis should assess the financial position and cash flow of the business.

Financial position performance indicators measure the financial position of a business and the extent to which it is financed by debt. The key profitability financial position indictors that can be calculated are:

- Gearing %
- Short-term debt ratio

Cash flow performance indicators measure the cash earnings of the business (EBITDA) and how this covers the interest payable and total debt of the business.

These performance indicators should be calculated for the most recent financial information and compared with previous years' figures. The performance indicators can also be compared with industry averages. This will help a business to decide whether to grant credit to a customer.

In addition to calculating financial position indicators and cash flow indicators, performance indicators that assess liquidity and profitability of a potential customer should also be calculated. Access worksheets for *Calculating liquidity indicators* and *Calculating profitability indicators*.