

Chapter 4

Profitability Ratios

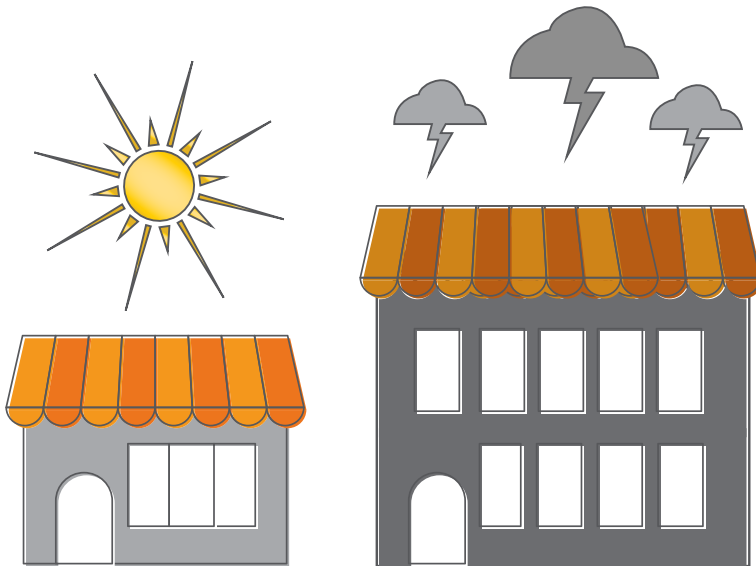
How can I use profitability ratios to assess the performance of my organisation?

Businesses use profitability ratios to monitor performance and judge success throughout the year.

Shareholders and potential investors will use the gross profit margin and the net profit margin to see how well the business turns sales into profits.

They will also use the return on capital employed and the return on equity to assess how efficiently it uses the capital invested in it.

However, the business won't simply look at the gross profit and net profit figures, because these aren't very good for making comparisons. For example, a small business might have done extremely well if it made £500,000 net profit in a year. But if a huge multinational company reported £500,000 as net profit - for them, it would have been a disaster!



Consequently, we don't just use the gross profit and net profit figures reported in profit and loss accounts to assess a company's profitability. Instead, we calculate various profitability ratios to make better comparisons.

*How well the business turns sales into profits:
gross profit margin and net profit margin*

*How efficiently the business uses capital:
return on capital employed and return on equity*

Gross Profit Margin (GPM)

The Gross Profit Margin or GPM is calculated from the business' gross profit, divided by sales, and then multiplied by a hundred to give a percentage.

Using X-AMPLE's profit and loss account, this is £12m divided by £20m, multiplied by a hundred, giving a gross profit margin of 60%.

Profit and Loss Account for X-AMPLE Ltd for the Year
Ended 30th September 2016

	£	£
Sales		20 000 000
Cost of sales		(8 00 000)
Gross profit		12 000 000

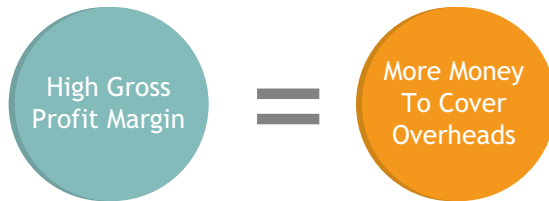
Gross profit margin = (gross profit / sales) x 100

$$= (12\text{m} / 20\text{m}) \times 100 = 60\%$$

This means that for every pound in sales X-AMPLE made, they kept 60 pence as gross profit.

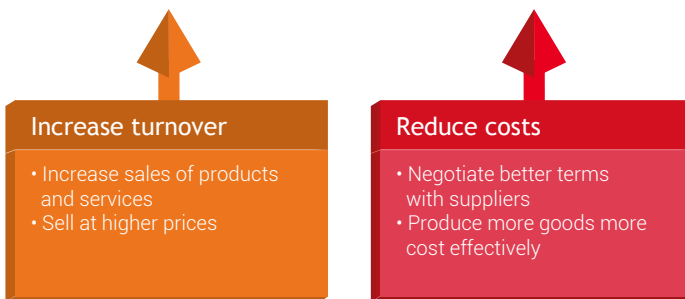
Like all financial ratios, this figure can be compared with previous years' performance, and with competitors across the industry.

A high gross profit margin means that the business has more money available to cover its overheads, or to fund other investments.



Gross profit margin can be increased in two primary ways. First, turnover can be increased by either selling more, or by selling at a higher price. Secondly, the cost of sales can be lowered by negotiating better terms with suppliers, or producing goods more cost effectively.

Increase Gross Profit Margin (GPM)



Net Profit Margin (NPM)

The Net Profit Margin or NPM is a business' net profit (profit after tax), divided by sales, and then multiplied by one hundred to give a percentage.

Using X-AMPLE's profit and loss account, this is £4m divided by £20m, multiplied by one hundred, giving a net profit margin of 20%.

Profit and Loss Account for X-AMPLE Ltd for the Year Ended 30th September 2016

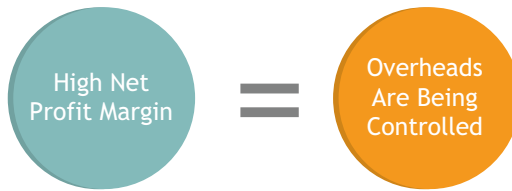
	£	£
Sales		20 000 000
Cost of sales		(8 000 000)
Gross profit		12 000 000
Less expenses		
Marketing costs	(3 000 000)	
Administration	(2 000 000)	
Depreciation	(500 000)	
		(5 500 000)
Operating profit		6 500 000
Interest		(500 000)
Profit before tax		6 000 000
Corporation tax		(2 000 000)
Net profit after tax		4 000 000

$$\text{Net profit margin} = (\text{net profit} / \text{sales}) \times 100$$

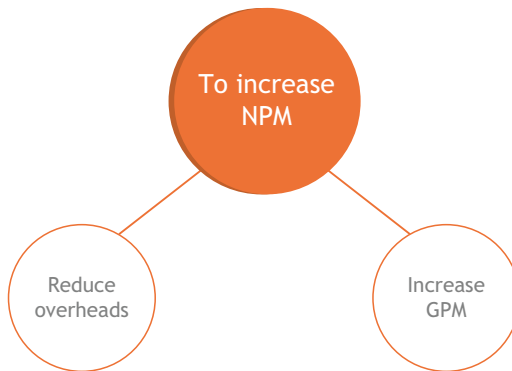
$$= (4\text{m} / 20\text{m}) \times 100 = 20\%$$

This means that for every pound of sales X-AMPLE made, they kept 20 pence as net profit after all expenses had been paid.

A high net profit margin means that the business is controlling overheads effectively enough to convert sales into net profits, which can then be used to pay dividends or repay loans.



If the net profit margin is too low, it means that running costs are too high and the business will have to cut overheads. Of course, increasing the gross profit margin will also increase the net profit margin.



Return on Capital Employed (ROCE)

This tells investors how well the business is using its capital to make a profit. For the purpose of this ratio, it does not matter whether this capital came from shareholders or loans.

The return on capital employed, or ROCE, is a business' operating profit (profit before interest and tax), divided by its capital employed (or total assets less current liabilities), then multiplied by one hundred to give a percentage.

$$\text{Return on capital employed} = \left(\frac{\text{operating profit}}{\text{capital employed}} \right) \times 100$$

The longer version of the original equation is on page 39.

Using X-AMPLE's profit and loss account and balance sheet, this is £6.5m divided by £5m, multiplied by one hundred – giving a return on capital employed of 130%.

Profit and Loss Account for X-AMPLE Ltd for the Year Ended 30th September 2016		
	£	£
Sales		20 000 000
Cost of sales		(8 000 000)
Gross profit		12 000 000
Less expenses		
Marketing costs	(3 000 000)	
Administration	(2 000 000)	
Depreciation	(500 000)	
		(5 500 000)
Operating profit		6 500 000
Interest		(500 000)
Profit before tax		6 000 000
Corporation tax		(2 000 000)
Net profit after tax		4 000 000

Balance sheet

Balance Sheet for X-AMPLE Ltd as at 30th September 2016

		£
Fixed assets		
Tangible		1 000 000
Intangible		500 000
Investments		500 000
Total fixed assets		2 000 000
Current assets		£
Stock		4 000 000
Debtors		2 500 000
Investments (short-term)		1 000 000
Cash		500 000
Total current assets		8 000 000
Total assets		10 000 000
Current liabilities		£
Creditors: amounts falling due within a year		5 000 000
Long-term liabilities		
Creditors: amounts falling due after more than one year		(1 000 000)
Total liabilities		(6 000 000)
Net assets		4 000 000

Capital & Reserves		£
Called- up share capital		2 500 000
Retained earnings		1 500 000
Shareholders' funds		4 000 000
Net current assets		3 000 000
Total assets less current liabilities		5 000 000

Return on capital employed = (operating profit or profit before interest and tax / capital employed or total assets less current liabilities) × 100

$$= (6.5\text{m} / 5\text{m}) \times 100 = 130\%$$

This means that every £1 of capital that was used made a return of £1.30 before the business made any payments to bondholders, or paid interest on loans, tax to the government, or dividends to shareholders.

The return on capital employed does not measure how this return is divided between equity investors and holders of debts. However, it is a good measure of profitability over the long-term, because it is not affected by any changes in the equity or debt amounts that finance the business.

ROCE:

- Measures how well the business uses its capital to make a profit
- Does not measure how the profit is split between equity investors and holders of debt so is a good measure of profitability over the long-term.

Return on Equity (ROE)

The return on equity, or ROE, equals a business' net profit or profit after tax, divided by shareholders' funds or net assets, and then multiplied by a hundred to give a percentage.

This tells shareholders how efficiently the equity they invested in the business is being used to make a profit for them.

		£
Net profit after tax		4 000 000
Shareholders' funds		4 000 000
Net current assets		3 000 000

Using X-AMPLE's profit and loss account and balance sheet, this is £4m divided by £4m, multiplied by a hundred, giving a return on equity of 100%.

$$\text{Return on equity} = (\text{net profit} / \text{shareholders' funds or net assets}) \times 100$$

$$= (4\text{m} / 4\text{m}) \times 100 = 100\%$$

This means that for every pound that shareholders invested, X-AMPLE generated £1 of net profit that will be returned to shareholders.

Investors can compare this return on equity with the returns they could receive by investing in other businesses, or with the interest they could achieve by simply putting their money in a bank. They will also consider the degree of risk involved in their investments.

ROE measures how efficiently shareholders' equity is being used to make a profit for them. You should generally compare ROE to other investments of similar risk.