11 Financial Analysis of Performance

11.1 Introduction and objectives

It is important for managers to understand how to analyse and evaluate financial information and to be able to utilise a range of techniques to understand financial performance of organisations. Managers use financial information in their daily work, but rarely see the whole picture of the performance of the firm, this chapter provides a comprehensive set of tools to analyse the performance of a business, providing a comprehensive guide for managers of both generic approaches and industry specific measures. Financial information can be complex and detailed so it is very useful for managers to be able to confidently and systematically analyse that information to support their decision making. This chapter will build on early chapters, which explained financial statements and the principles underpinning them (Chapter 2) and will provide a foundation for the understanding of later chapters, such as 'Working capital management' (Chapter 12), 'Performance measurement' (Chapter 15) and 'Critical success factors and management information needs' (Chapter 17).

After studying this chapter you should be able to:

- Understand the main techniques for analysing financial information
- Use common-sized and comparative data
- Calculate a range of ratios and understand their limitations
- Evaluate ratios relating to profitability, liquidity, assets and debt
- Interpret operational ratios from a range of sectors.

11.2 Methods of analysis

There are several different ways to approach the analysis of financial statements, these include scanning, trend and time series analysis, common-sized statements and ratio analysis, these are summarised in Table 11.1.

Table 11.1: Analysis techniques

Technique	Summary and benefits
Scanning	Simple common-sense approach to analysing financial results, mainly useful for spotting exceptional or unusual factors, which stand out, such as losses or to direct more systematic analysis.
Trend analysis	Useful when figures are available for two years or more, can reveal changes in key figures or metrics over time. Involves identifying a base year and plotting changes in key figures from this point, can use index numbers or as percentage change. It is important to choose the base year carefully.
Common-sized statements	This approach facilitates the comparison of financial statements over time or between different companies. It involves expressing all items in the financial statements as percentages; in the income statement all line items are expressed as a percentage of sales; in the balance sheet all lines items are expressed as a percentage of the balance sheet totals. This technique emphasises the relative importance of items.
Ratio analysis	Express the relationship between two items with the aim of making them more expressive and revealing. Ratios facilitate comparison of different companies over different time frames and even different currencies.

The choice of technique depends on the perspective and purpose of the analysis, there are several different user groups who may be interested in financial reports, these include investors, shareholders, (both ordinary and preferences), lenders and banks, government (HMR&C), employees and management. (For a broader discussion on the users of financial information and their user needs see Berry and Jarvis 2011, Chapter 1.)

11.3 Scanning, trend analysis and time series

Scanning involves a systematic review of financial information to see what stands out, by looking at key items such as sales and cost of sales and other key expense items, it is possible to get a feel for what is happening; however it is more valuable to review performance of time. Trend analysis allows the comparison and evaluation of performance over time. The following example shows how trend analysis can reveal patterns over a period of time.

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Simple example: a growing company using index numbers and percentage growth.

Growth figures (000s)	2009	2010	2011	2012	2013
Sales	4,750	5,938	7,030	8,550	9,025
Cost of sales	1,900	2,494	3,163	3,945	4,250

It is clear that this company is experiencing growth but how much growth? Index numbers show the growth of sales. (Index numbers are always calculated from the base year in this case 2009, so the index for 2010 is calculated by taking $100 \div 4,750 \times 5,938 = 125.01053$, index numbers are normally expressed as whole numbers, i.e. 125.) The choice of base year is important as different base years will result in different index numbers, if the base year is atypical (unusual or out of line with other figures), this can have an effect of distorting the numbers.

Growth figures (000s)	2009	2010	2011	2012	2013
Sales	4,750	5,938	7,030	8,550	9,025
Index numbers	100	125	148	180	190

These index numbers clearly show the sales volume is growing, but it is important to remember the effect of inflation when carrying out trend analysis, when inflation is high it is important to take into account how much of the growth is due to price inflation as opposed to increase in volume.

Index numbers are also useful to overcome the drawbacks of absolute or actual numbers, in this example, we can see that cost of sales is also rising, but without index numbers it is difficult to see if this is in proportion to the rise in volume. Calculating the index numbers reveals an interesting picture.

Growth figures (000s)	2009	2010	2011	2012	2013
Cost of sales	1,900	2,494	3,163	3,945	4,250
Index numbers	100	131	166	208	224

Index numbers now reveal that the cost of sales is increasing relatively faster than the sales, which will mean that performance, in terms of profit margins will be decreasing. So index numbers overcome the effect of absolute numbers and provide relative data, which can be directly compared. Another technique that facilitates this is percentage growth figures; look at the year on year change in figures so they are relative to the previous year not a base year. (Sales growth % 2011 is calculated as follows; $7,030 - 5,938 = 1,092$; expressed as a percentage of 5,938 the base year $- 1,092 \div 5,938 \times 100 = 18.39003$, simplified to 18%.)

% growth figures using the same data as above.

Growth figures (000s)	2009	2010	2011	2012	2013
Sales	4,750	5,938	7,030	8,550	9,025
Sales % growth		25%	18%	22%	6%
Cost of sales	1,900	2,494	3,163	3,945	4,250
COS % growth		31%	27%	25%	8%