Chapter 20

INTERPRETATION OF ACCOUNTS – RATIO ANALYSIS

Introduction

- ratio analysis is a method traditionally used by people who wish to understand more fully the financial statements and performance of an entity.
- it may be used to identify unusual items, trends or financial problems but, to be of any use, it depends entirely on comparisons being made.
- **these comparisons may be between the subject entity and :**
  - the industry as a whole
  - subject entity's prior period results
  - management accounts
  - forecasts
  - other entities
  - other related figures elsewhere in the financial statements
- in isolation, a calculated ratio or multiple is **totally meaningless**, and no useful interpretation can be drawn.

Users of financial statements

- there is a variety of potential users of an entity's financial statements, each of whom may have different objectives

Example 1

How may the following users of financial statements benefit from ratio analysis?

(a) Shareholders

(b) Potential investors

(c) Bank and other capital providers

(d) Employees

(e) Management

(f) Suppliers

(g) Government

- **categories of ratios**
  - profitability
  - liquidity
  - gearing
  - investors' ratios.
- ratio analysis cannot answer questions. It can only raise matters for further consideration and investigation.
- it must be stressed that ratio analysis on its own is not sufficient for interpreting an entity's performance, and that there are other items of information which should be looked at, for example:
  - the content of any accompanying commentary on the financial statements and other statements;
  - the age and nature of the entity's assets;
  - current and future developments in the entity's markets, at home and overseas, and recent acquisitions or disposals of a subsidiary by the entity;
  - any other noticeable features of the financial statements, for example, events after the reporting period, contingent liabilities, a qualified auditors' report, the entity's taxation position, and involvement in research and development

The key ratios

- **Profitability**

Return on capital employed (or ROCE)	$\frac{\text{PBIT}}{\text{TALCL}}$	expressed as a percentage
PBIT	Profit before interest and tax. It is often referred to internationally as IBIT (Income before interest and tax)	
TALCL	Total assets less current liabilities. It is equal to the capital invested in the business (equity plus non-current liabilities)	
Profit margin	$\frac{\text{PBIT}}{\text{Revenue}}$	expressed as a percentage
Asset turnover	$\frac{\text{Revenue}}{\text{TALCL}}$	expressed as a multiple
Return on equity	$\frac{\text{Profit available for equity}}{\text{Equity shareholders' funds}}$	expressed as a percentage

- **Liquidity**

Current ratio	Current assets : Current liabilities	expressed as ratio eg 3:1
Quick ratio (or acid test)	Current assets less inventory : Current liabilities	expressed as a ratio
Inventory turnover	$\frac{\text{Cost of sales}}{\text{Average inventory}}$	expressed as a multiple
Receivables collection period	$\frac{\text{Trade receivables}}{\text{Credit sales}} \times 365$	expressed as a number of days
Payables payment period	$\frac{\text{Trade payables}}{\text{Credit purchases}} \times 365$	expressed as a number of days

- **Gearing**

Debt/equity	$\frac{\text{Interest bearing net debt}}{\text{Shareholders' funds}}$	expressed as a percentage
Debt/debt + equity	$\frac{\text{Interest bearing net debt}}{\text{Shareholders' funds + Interest bearing net debt}}$	expressed as a percentage
Net debt	long term debt net of any spare cash. In some cases, a long term bank overdraft is classed as long term debt.	
Interest cover	$\frac{\text{PBIT}}{\text{Interest payable}}$	expressed as a multiple

- **Investors' Ratios**

Dividend yield	$\frac{\text{Dividend per share}}{\text{Mid market price (MMP)}}$	expressed as a percentage
Dividend cover	$\frac{\text{Earnings per share (EPS)}}{\text{Dividend per share}}$	expressed as a multiple
Price earnings ratio (PE Ratio)	$\frac{\text{MMP}}{\text{EPS}}$	expressed as a multiple
Earnings yield	$\frac{\text{EPS}}{\text{MMP}}$	expressed as a percentage

Example 2

Elchin is thinking about buying a substantial interest in a competitor, Aurelija, and has a copy of Aurelija's financial statements for the year ended 31 December, 2009.

Elchin has asked you to analyse these statements and to write a report to him identifying areas which are worthy of note, and areas which will require further investigations.

Aurelija's financial statements are set out below:
Statement of Profit or Loss and Other Comprehensive Income for the year ended 31 December, 2009

	2009		*2008*	
	$'000	*$'000*	*$'000*	*$'000*
Revenue		1,220		1,000
Cost of sales		900		760
Gross profit		320		240
Administrative expenses	100		74	
Distribution costs	105	205	90	164
Operating profit		115		76
Interest charge		24		-
Profit before tax		91		76
Taxation		27		22
Profit after tax		64		54
Proposed dividends		24		20
Retained profit		40		34

Statement of Financial Position as at 31 December, 2009

	2009		*2008*	
	$'000	*$'000*	*$'000*	*$'000*
Tangible non-current assets				
Property, plant and equipment		3,600		3,900
Motor vehicles		13,000		12,000
		16,600		15,900
Current assets				
Inventory	225		120	
Receivables	280		125	
Cash	15		65	
		520		310
TOTAL ASSETS		17,120		16,210
Equity share capital $1 each		4,000		4,000
Retained earnings		12,048		12,008
		16,048		16,008
Non-current liabilities				

8% Convertible bonds		200		-
Current liabilities				
Payables	440		160	
Taxation	49		22	
Bank	359		-	
Proposed dividend	24		20	
		872		202
TOTAL EQUITY AND LIABILITIES		17,120		16,210

Specialised, not-for-profit and public sector entities

Within the ACCA F7 syllabus is the topic "Explain how the interpretation of the financial statements of specialised, not-for-profit or public sector organisations might differ from that of a profit making entity by reference to the different aims, objectives and reporting requirements"

- it's easy when thinking about "financial statements" immediately to envisage a manufacturing or trading organisation
- but not all accountable organisations are either manufacturing or trading
- and you don't have to look far to think of an example! (Look at the bottom right-hand corner of this page!)
- but these "other" organisations include many diverse operations – some quick examples would include:
    - police
    - schools
    - charities
    - hospitals
    - universities
    - coast guard
    - armed forces
    - national utility providers
- yet, even though these organisations are not profit orientated, they are nevertheless accountable

Aims and objectives

- of the manufacturing / trading entity
    - the aims of a manufacturing entity are surely based around making profits to provide a return on the investment of their shareholders
    - as a secondary consideration (unfortunately) maybe the provision of quality goods at a reasonable price affordable by the end-user
    - almost a by-product of these is the provision of employment and the hope of continuity of employment for the entity's employees

- of the not-for-profit entity
  - as the title suggests, nirvana is not the aim of profit achievement
  - instead, the entity is often a service provider
  - the aim is to provide the relevant service efficiently, effectively and economically
    - efficiency is the ability to do things well, successfully, and without waste
    - effectiveness is measured as the achievement of all that was intended
    - economy is measured as the minimisation of expense whilst still achieving stated objectives
  - the distinction between efficiency and effectiveness may be blurred
  - so try these:
    - efficiency means "doing the thing right" whereas effectiveness means "doing the right thing", or
    - "efficiency is doing things right; effectiveness is getting things done"
- given these different aims and objectives for the two types of entity, measurement of success must also be different
- we no longer can use "profitability" as a benchmark for success
- nor are inventory turnover, receivables days, payables days, interest cover, gearing, borrowing, earnings per share, price/earnings ratios …. applicable
- in fact, all the traditional ratio calculations become inapplicable when looking at not-for-profit entities
- but these entities are nevertheless accountable
- instead of calculated values like "return on capital employed" or "asset turnover ratio" interpretation of financial statements for not-for-profit entities needs to be adapted to be meaningful
- there are not many "money" based conclusions that can be inferred from not-for-profit entity financial statements
- instead, entities should be encouraged to disclose non-monetary information that will give a better insight into performance
- consider, for example, a charity that receives donations and applies the available money to "good causes"
- amongst others, applicable interpretation measures could include:
  - number of projects undertaken and the average cost of those projects compared with average budgeted cost
  - percentage of income from donations applied to the chosen causes (as distinct from paying the running costs of the charity and the salaries of the charity employees)
  - number of staff employed by the charity, their aggregate remuneration, and the number of unpaid charitable workers
  - estimated number of people directly benefitted by the application of the charitable projects
  - estimated dollar cost per person benefitted or persons benefitted per dollar spent
  - steps taken to ensure sustainability of the project
  - current year's actual cost of such steps for projects completed in the past compared with historic estimates of those costs

WHEN YOU FINISHED THIS CHAPTER YOU SHOULD ATTEMPT THE ONLINE F7 MCQ TEST