

Chapter 13 Understanding financial reports: Using accounting ratios

Questions

1. Qureshi Brighthouse plc is a trading company. An analysis of its profit and loss accounts and balance sheets for a three year period has yielded the following information:

	20X9	20X8	20X7
Current ratio	1.3:1	1.6:1	1.7:1
Return on total capital employed	16.3%	19.7%	20.6%
Gross profit margin	28.4%	28.2%	27.9%
%age increase in sales compared to previous year	3.1%	2.9%	2.3%
Interest cover	2.4	16.2	15.3
%age increase/decrease in fixed assets compared to previous year	26.7%	(1.9%)	1.3%
Creditors turnover	55.2 days	47.6 days	45.3 days

Several explanations and descriptions of the company's performance and position are given below. Some of the explanations and descriptions are plausible, some less so. For each explanation assess how well or badly it fits with the evidence in the table above, giving reasons for your answer.

- (a) There has been a substantial increase in borrowing during 20X9
 - (b) The company's overall profitability has declined
 - (c) The company has attempted to expand its operations during 20X9 but the attempt has been a complete failure
 - (d) The company's liquidity position has worsened over the three year period under review
 - (e) Future prospects for the company look grim
2. Pollitt Jagger plc has the following balance sheets at its 20X3 and 20X4 year ends:

	20X4	20X4	20X3	20X3
	£	£	£	£
Fixed assets		1 832 477		1 561 620
Current assets				
Stock	380 380		291 662	
Debtors	293 437		286 112	
Cash at bank	—		18 296	
	<u>673 817</u>		<u>596 070</u>	
Current liabilities				
Trade creditors	397 132		355 186	
Overdraft	47 388		—	
	<u>444 520</u>		<u>355 186</u>	
Net current assets		229 297		240 884
Total assets less current liabilities		<u>2 061 774</u>		<u>1 802 504</u>
Long-term loan		400 000		210 000
		<u>1 661 774</u>		<u>1 592 504</u>
Share capital		500 000		500 000
Reserves		1 161 774		1 092 504
		<u>1 661 774</u>		<u>1 592 504</u>

Note:

Debtors days ratio: 20X4 – 36.1 days

20X3 – 38.4 days

Required:

- Calculate the company's turnover for 20X3 and 20X4
- Calculate the following ratios:
 - Fixed assets turnover
 - Current ratio
 - Quick ratio
 - Gearing (debt as a %age of equity)
- Compare the position of the company at the 20X4 year end with its position at the 20X3 year end, and comment briefly upon the comparison.

3. Russ has recently come into some money and wishes to make some investments on the Stock Market. He is very interested in sport and would like to start off his portfolio by making an investment in a leisure business. He has identified three possible investments and has asked for your opinion on them.

Armitt plc runs leisure centres

Bretherton plc manufactures and distributes sports equipment

Clancy plc franchises private gym operations

Russ has been busy obtaining the most recent financial statements for the three companies. He knows you are busy so he has extracted and summarised what he feels to be the most important information for the 20X6 financial year.

	Armitt plc	Bretherton plc	Clancy plc
	£000	£000	£000
Turnover	9 836	4 772	6 180
Cost of sales	(7 662)	(3 522)	(3 869)
Gross profit	2 174	1 250	2 311
Administrative expenses	(628)	(281)	(884)
Distribution and selling costs	(61)	(349)	(135)
Operating profit	1 485	620	1 292
Interest payable	(602)	(108)	(540)
Profit before taxation	883	512	752
Taxation	(214)	(150)	(211)
Profit after taxation	669	362	541
Dividends	(250)	(100)	(300)
Profit for the financial year	419	262	241
Share capital (50p shares)	600	500	800
Reserves	5 250	6 320	5 570
Long-term borrowings	8 600	1 200	10 000

Current share price	£6.92	£8.76	£2.94
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Required:

- (a) From the information given, calculate the following ratios for each company:

Interest cover

Gearing

Return on total capital employed

Dividend cover

Earnings per share

P/E ratio

- (b) Present a vertical analysis of all three profit and loss accounts (sales = 100%)
- (c) Write a report to Russ which comments on the strengths and weaknesses of each of the three companies' performance. You should explain the significance of each of the ratios you have calculated.

Note to students from the author: I must have been in a bad mood when I wrote these questions; now I look at them again I find that some aspects of them are actually quite difficult. So don't be too discouraged. If you've understood Chapter 13 and have worked through the end of chapter questions thoroughly, you should be able to make a good attempt at these three questions. If there are elements you cannot do, make sure you have a really good look at the answers and follow through all the workings.

Answers

1. Qureshi Brighthouse plc

- (a) *There has been a substantial increase in borrowing during 20X9*

The very substantial decrease in interest cover could arise from an increase in borrowing. If profit had remained more or less the same but interest charges increased substantially, the consequence would be a poorer interest cover ratio. On the other hand, it is possible that interest has remained the same but profit has declined – this would also give rise to a poorer interest cover ratio.

The plausibility of the explanation is supported to some extent by the large increase in fixed assets which could have been financed by borrowing. Also, there has been a decrease in return on total capital employed: this can happen where total capital employed has increased (a larger figure on the bottom of the fraction decreases the overall return).

- (b) *The company's overall profitability has declined*

The gross profit margin has actually increased. However, there is no conclusive information about operating profitability or retained profits. The fact that the return on total capital employed has fallen may indicate a decline in operating profitability; however, it may be that capital employed has increased, but that the benefits of the increased investment have not yet emerged in the form of additional profits.

- (c) *The company has attempted to expand its operations during 20X9 but the attempt has been a complete failure*

The company's investment in fixed assets has increased substantially during 20X9 so the first part of this description is certainly plausible. The decline in return on total capital employed might suggest that the attempt to expand has not succeeded. However, it is quite possible that the increased investment in fixed assets was made part-way through the 20X9 financial year. It may well be that the increased investment will produce higher profits in the future but that it has not yet started to pay off. The second part of the description is not proven by the evidence.

- (d) *The company's liquidity position has worsened over the three year period under review*

The current ratio has certainly declined over the three years reviewed. Also, creditors turnover is much slower (55.2 days in 20X9 compared to 45.3 days in 20X7). This means that the company is taking much longer to pay its creditors than

previously. When this happens, it may well be because the company is short of ready cash. This description appears to be born out by the evidence of the ratios.

(e) *Future prospects for the company look grim*

Although return on total capital employed has certainly fallen, this may, as noted above, be a temporary fall. There is certainly not enough evidence in the ratios given to suggest that future prospects for the company are grim. Gross profitability has improved, and the company has made additional investments in fixed assets which may yield higher profits in the future. Also, sales have increased each year. The description of the company's future prospects is not supported by the evidence of the ratios.

2. Pollitt Jagger Limited

- (a) The company's turnover can be calculated by using the debtor days ratio, as follows:

Debtor days ratio =

$$\frac{\text{Debtors}}{\text{Sales}} \times 365 = \text{debtor days outstanding}$$

We know two pieces of information: debtors and debtor days, so we can work out sales.

For 20X4:

$$\frac{\pounds 293\,437}{\text{Sales}} \times 365 = 36.1 \text{ days}$$

$$\text{Sales} = \pounds 293\,437 \times \frac{365}{36.1} = \pounds 2\,966\,884 \text{ (to the nearest } \pounds \text{)}$$

For 20X3:

$$\frac{\pounds 286\,112}{\text{Sales}} \times 365 = 38.4 \text{ days}$$

$$\text{Sales} = \pounds 286\,112 \times \frac{365}{38.4} = \pounds 2\,719\,554 \text{ (to the nearest } \pounds \text{)}$$

(b)

$$\text{Fixed assets turnover} = \frac{\text{Turnover}}{\text{Fixed assets}}$$

$$20X4: \frac{\pounds 2\,966\,884}{\text{Fixed assets}} = 1.52$$

$$1\,832\,477$$

$$20X3: \frac{\pounds 2\,719\,554}{1\,561\,620} = 1.74$$

Current ratio = $\frac{\text{current assets}}{\text{current liabilities}}$

$$20X4: \frac{\pounds 673\,817}{444\,520} = 1.62:1$$

$$20X3: \frac{\pounds 596\,070}{355\,186} = 1.68:1$$

Quick ratio = $\frac{\text{current assets less stock}}{\text{current liabilities}}$

$$20X4: \frac{\pounds 293\,437}{444\,520} \text{ (i.e. debtors only)} = 0.66:1$$

$$20X4: \frac{\pounds 286\,112 + 18\,296}{355\,186} \text{ (i.e. debtors and cash)} = 0.86:1$$

Gearing (debt as a %age of equity)

$$20X4: \frac{\pounds 400\,000}{1\,661\,774} \times 100 = 24.1\%$$

$$20X3: \frac{\pounds 210\,000}{1\,592\,504} \times 100 = 13.2\%$$

- (c) The position of Pollitt Jaeger plc appears to have worsened in several respects between the two year ends. Liquidity has declined (as evidenced by the current and quick ratios), and long-term borrowing has increased. The company now has a bank overdraft as well. This is despite a small improvement in the debtor days ratio. Stock has increased by over 30%, a very substantial increase, and creditors are also significantly higher. However, we can see from the calculation of sales in part (a) that there has been a large increase in turnover (9.3%). Allied to the increase in fixed assets (17.3%) it appears that the company has been expanding its operations, and that it has increased its long-term and short-term borrowing accordingly. The build-up of stocks may be

deliberate: for example, the company may be planning a major sales campaign.

Although the liquidity position has worsened, there is probably, as yet, no cause for serious concern. The increase in fixed assets may be very recent and may not have had time to pay off yet in terms of increased profits and cash flow.

3. Russ

(a) Ratio calculation

	Armitt plc	Bretherton plc	Clancy plc
<i>Interest cover</i>	$\frac{1\,485}{602} = 2.5$	$\frac{620}{108} = 5.7$	$\frac{1\,292}{540} = 2.4$
<i>Operating profit</i>	602	108	540
<i>Interest</i>			
<i>Gearing %</i>	$\frac{8600}{600 + 5250} \times 100 = 147\%$	$\frac{1200}{500 + 6320} \times 100 = 17.6\%$	$\frac{10\,000}{800 + 5570} \times 100 = 157\%$
<i>Debt</i> × 100	600 + 5250	500 + 6320	800 + 5570
<i>Equity</i>			
<i>Return on total capital employed</i>	$\frac{1485}{600 + 8600 + 5250} \times 100$	$\frac{620}{500 + 1200 + 6320} \times 100$	$\frac{1292}{800 + 10\,000 + 5570} \times 100$
<i>Operating profit</i>	=	=	=
<i>Total capital</i>	$\frac{1485}{14\,450} \times 100 = 10.3\%$	$\frac{620}{8020} \times 100 = 7.7\%$	$\frac{1292}{16\,370} \times 100 = 7.9\%$
<i>Dividend cover</i>	$\frac{669}{250} = 2.7$ times	$\frac{362}{100} = 3.6$ times	$\frac{541}{300} = 1.8$ times
<i>Profit after tax</i>	250	100	300
<i>Dividend</i>			
<i>Earnings per share</i>	$\frac{699}{1200} = 55.8\text{p}$	$\frac{362}{1000} = 36.2\text{p}$	$\frac{541}{1600} = 33.8\text{p}$
<i>Profit after tax</i>	1200	1000	1600
<i>Number of shares</i>			
<i>P/E ratio</i>	$\frac{692}{55.8} = 12.4$	$\frac{876}{36.2} = 24.2$	$\frac{294}{33.8} = 8.7$
<i>Price of share</i>	55.8	36.2	33.8
<i>Earnings per share</i>			

(b) Vertical analysis of profit and loss accounts

Armitt plc	Bretherton plc	Clancy plc
%	%	%

Turnover	100.0	100.0	100.0
Cost of sales	(77.9)	(73.8)	(62.6)
Gross profit	22.1	26.2	37.4
Administrative expenses	(6.4)	(5.9)	(14.3)
Distribution and selling costs	(0.6)	(7.3)	(2.2)
Operating profit	15.1	13.0	20.9
Interest payable	(6.1)	(2.3)	(8.7)
Profit before taxation	9.0	10.7	12.2
Taxation	(2.2)	(3.1)	(3.4)
Profit after taxation	6.8	7.6	8.8
Dividends	(2.5)	(2.1)	(4.9)
Profit for the financial year	4.3	5.5	3.9

(c) Report to Russ

All of the companies are profitable, but there are some important differences between them. We can see from the vertical analysis that Clancy plc appears to be the best company at generating profits: its gross profit and operating profit margins are far superior to the other two companies. However, a substantial proportion of Clancy's and of Armitt's operating profit is eaten up in interest charges. Both Clancy and Armitt are very highly geared (157% and 147% respectively), and so present a greater risk for the equity investor than a company like Bretherton whose gearing is low. Armitt has the highest return on total capital employed.

All of the companies have paid a dividend in the year under review. However, Clancy's dividend is proportionately higher than those of the other two companies and its dividend cover is consequently worse. Clancy's shareholders may be pleased to receive the dividend but may nevertheless wonder whether sufficient profits are retained in the company for reinvestment.

The earnings per share figure really makes sense only in comparison to previous eps figures for the same company. However, the P/E ratio provides an important point of differentiation between the companies as it indicates something about the market perception of the companies. The highest P/E is for Bretherton and the lowest for Clancy. P/E is often an indicator of perception of risk and certainly, an investment in Bretherton seems less risky than an investment in either of the other two companies (because of their high level of gearing).

Although all the companies are classified as leisure businesses they are actually very different operations and any comparison between them must be interpreted with caution. Bretherton, for example, is different from the other two companies in that it is primarily a manufacturing and distribution operation; this probably explains why its distribution and selling costs constitute a relatively high proportion of sales (see the vertical analysis in part (b)). Russ would be well advised to try to find other leisure companies whose operations are more similar in order to provide a better comparison.