Case study – Horizontal trend analysis

This is the solution to the case study found at the end of:

- Chapter 13 *Understanding financial reports: using financial ratios*

Because there are three years of figures available it is possible to carry out, to a limited extent, horizontal trend analysis, as follows:

Fitton Parker Limited: Horizontal trend analysis for 20X3, 20X2 & 20X1

	% change over previous year 20X3	% change over previous year 20X2
Sales	21.5%	18.1%
Cost of sales	24.0%	19.7%
Gross profit	16.6%	15.2%
Selling and distribution costs	26.4%	16.0%
Administrative expenses	6.5%	(3.3%)
Directors' remuneration	0%	0%
Interest payable	27.5%	23.0%
Fixed assets	4.3%	(11.9%)
Stock	23.8%	23.0%
Debtors	25.0%	27.3%
Trade creditors	36.7%	10.7%

Overdraft	0.6%	(5.2%)

The horizontal trend analysis shows that there is a general trend towards increases in most items. The increase in sales is substantial but although there is a corresponding increase in gross profit, the increase is not as great. It looks as though gross profit margin may be declining.

Selling and distribution costs have risen a lot between 20X2 and 20X3 but administrative costs appear to be firmly under control. Also, the directors have not increased their own remuneration in the three-year period.

Investment in fixed assets has been modest, but all working capital items have increased substantially. The overdraft remains at a fairly constant level, but trade creditors have increased by a large percentage (over 36%) in 20X3, suggesting that the business is relying to an increasing extent on the interest-free source of credit offered by trade creditors. This is cheaper than increasing the overdraft (because interest has to be paid on an overdraft) but there is a danger of alienating suppliers if they are not paid promptly.

Case study – Vertical analysis

Vertical analysis of the profit and loss accounts is based upon sales = 100% and vertical analysis of the balance sheets is based upon net assets = 100%. The vertical analysis produces the following results:

Fitton Parker Limited: Vertical analysis of profit and loss account for the years ending 31 March 20X3, 20X2, and 20X1

	20X3	20X2	20X1
	£	£	£
Sales	100.0	100.0	100.0
Cost of sales	(67.5)	(66.2)	(65.3)
Gross profit	32.5	33.8	34.7
Selling and distribution costs	(12.9)	(12.4)	(12.6)
Administrative expenses	(5.7)	(6.4)	(7.9)
Directors' remuneration	(10.0)	(12.2)	(14.4)
Operating profit/(loss)	3.9	2.8	(0.2)
Interest payable and similar charges	(0.9)	(0.8)	(0.8)
Profit/(loss) on ordinary activities before taxation	3.0	2.0	(1.0)
Taxation	(0.6)	(0.5)	—
Retained profit for the year	2.4	1.5	(1.0)

Fitton Parker Limited: Vertical analysis of balance sheets at

31 March 20X3, 20X2 and 20X1

	20X3	20X2	20X1
	£	£	£
Fixed assets	89.1	100.6	125.2
Current assets			
Stock	57.0	54.2	48.3
Debtors	72.2	68.0	58.5
Cash	—	1.0	—
	129.2	123.2	106.8
Trade creditors	48.8	42.0	41.6
Overdraft	11.0	12.9	14.9
Creditors: amounts due within one year	59.8	54.9	56.5
Net current assets	69.4	68.3	50.3
Creditors: amounts due after more than one year	(58.5)	(68.9)	(75.5)
	100.0	100.0	100.0
Capital and reserves			
Share capital	46.2	54.4	59.6
Reserves	53.8	45.6	40.4
	100.0	100.0	100.0

The vertical analysis of the profit and loss account confirms the suspicion that the gross profit margin is declining. Administrative expenses are declining as a percentage of sales. This may be because of very good controls over costs and a deliberate attempt to keep administrative expenses to a minimum. However, savings on such costs can be taken too far, and the business may be operating at less than optimal efficiency.

The operating profit margin is low, as is the margin of retained profits to sales. Although there has not been a loss since 20X1, profits are not impressive, and, even at their highest level in 20X3, there would not be much scope for paying a dividend.

Stocks and debtors have increased as a percentage of net assets, with a particularly large increase in debtors between 20X1 and 20X2. Trade creditors, as noted in the horizontal analysis, have also increased substantially.

Ratio analysis

Performance

Gross and operating profit margin were discussed in the vertical analysis section. Because Louise is looking to invest as an ordinary shareholder, she will probably be most interested in the return on shareholders' funds:

Profit before tax; and after interest

Shareholders' funds

	20X3	20X2	20X1
Return on	18 023×100	9 642×100	(4 188) ×100

shareholders'	97 368	82 695	75 459
funds	= 18.5%	= 11.7%	= (5.6%)

The overall return has increased rapidly.

Liquidity

Information is available to calculate two ratios: the current ratio and the quick ratio.

	20X3	20X2	20X1
Current ratio			
Current assets / Current liabilities	125 765 / 58 187 = 2.2	101 830 / 45 385 = 2.2	80 615 / 42 640 = 1.9
Quick ratio			
(Current assets – stock) / Current liabilities	(125 765 – 55 450) / 58 187 = 1.2	101 830 – 44 791 / 45 385 = 1.3	(80 615 – 36 425) / 42 640 = 1.0

Neither liquidity ratio appears to give any cause for concern. Although the figure for creditors is very much higher in 20X3 than it was in 20X2, it is covered quite adequately by current assets.

Efficiency ratios

Three will be calculated: fixed asset turnover, stock turnover (in days) and debtors turnover (in days). Creditors turnover cannot be calculated because no figures for purchases are available.

	20X3	20X2	20X1
Fixed asset turnover: $\frac{\text{Stock}}{\text{Fixed assets}}$	$\frac{596\,860}{86\,790} = 6.88$	$\frac{491\,383}{83\,250} = 5.90$	$\frac{415\,985}{94\,484} = 4.40$
Stock turnover: $\frac{\text{Stock}}{\text{Cost of sales}} \times 365$	$\frac{55\,450}{402\,964} \times 365$ $= 50.2\ days$	$\frac{44\,791}{325\,089} \times 365$ $= 50.3\ days$	$\frac{36\,425}{271\,588} \times 365$ $= 49.0\ days$
Debtors turnover: $\frac{\text{Debtors}}{\text{Sales}} \times 365$	$\frac{570\,315}{596\,860} \times 365$ $= 43.0\ days$	$\frac{56\,233}{491\,383} \times 365$ $= 41.8\ days$	$\frac{44\,190}{415\,985} \times 365$ $= 38.8\ days$

Fixed asset turnover shows an increasing rate. Stock turnover at 50 days may indicate that stock is being managed inefficiently, but we would need to know more about the business activities to be able to reach conclusions on this point. It is gradually taking the business longer to collect debtors, although even at 43 days (assuming that debtors are allowed 30 days to pay) there is unlikely to be a serious problem.

Note that the investor ratios are mostly irrelevant because of a lack of information. No dividend has been paid in any of the years, and, of course, it would

not be possible to calculate the P/E ratio because the company is unquoted and so there is no market price for its shares.

Gearing

In the circumstances it is relevant to calculate gearing because the business has a long-term loan of significant size.

	20X3	20X2	20X1
Gearing:			
Debt	57 000	57 000	57 000
Debt + Equity	57 000 + 97 368	57 000 + 82 695	57 000 + 75 459
	×100 = 36.9%	×100 = 40.8%	×100 = 43.0%

Although debt remains constant at £57 000, equity gradually increases because of retained profits, so debt becomes relatively less important. Nevertheless, it is still significant at 36.9%.

General comments and advice

Ben asks Barney for the company figures towards the end of 20X4, but Barney is able to provide figures up to 31 March 20X3 only. Nine months or so after the year-end of 31 March 20X4 it would be reasonable to expect 20X4 accounts to be available. If they are not yet available it may indicate some serious administrative problems within the business. There would be good grounds for serious doubts if the accounts had been prepared but Barney was unwilling to provide them. The question

could be easily resolved by checking the latest filing at Companies House. Also, the information Barney provides is limited to the basic profit and loss and balance sheet statements. Although he assures Ben that the audit report is fine, he does not include it in the information; nor are the notes to the accounts or the directors' report made available. This looks a little suspect.

The business appears to be growing fairly rapidly, with increasing sales and fixed asset turnover. Working capital is growing, but there do not appear to be any immediate liquidity problems. It is not a particularly profitable business, and Louise or any other potential investor would need to know a great deal more about the prospects for the business and the directors' plans for expansion. Louise is being invited to buy into about 18% of the shares of a business with net assets at 31 March 20X3 of £97 368. Her 'share' of net assets would be £97 368 × 18% – approximately £17 500, in exchange for £30 000 in cash. If the net asset value approximates at all closely to current values it does not appear to be a very good bargain. The directors would no doubt argue that she would be buying into their expertise and the future prospects of the business, but, again, Louise would need to know a great deal more about these factors before she could commit to the investment. The other directors are not offering Louise a directorship and she will not, therefore, have much control, if any, over her investment.

Finally, it should be pointed out to Louise that this type of investment is almost certainly not appropriate for someone in her position. Investing in shares is risky, and should really be undertaken only by people who are in a fairly sound financial position, and who could afford to lose all the money. Investment in a private limited company is especially risky. Usually, it is difficult, sometimes impossible, to get the

money out again if it is needed for some other purpose. As Patrick points out, at least by investing in listed company shares Louise would be able to turn her investments into cash again comparatively easily (although she might well lose money on such investments).

It is up to Louise to make her own decision on the investment; she should try not to be influenced by either Ben or by her father.