Topic 6: Ratios

Activity 1: Practicing ratios

1.1 Percentage gross profit on sales:

$$\frac{\text{Gross profit}}{\text{Sales}} \times \frac{100}{1}$$

$$= \frac{600\ 000}{1\ 400\ 000} \times \frac{100}{1}$$

$$= 42{,}86\%$$

Mark-up percentage (percentage gross profit on cost of sales):

$$\frac{\text{Gross profit}}{\text{Cost of sales}} \times \frac{100}{1}$$

$$= \frac{600\ 000}{800\ 000} \times \frac{100}{1}$$

$$= 75\%$$

Percentage operating profit on sales:

$$\frac{\text{Operating profit}}{\text{Sales}} \times \frac{100}{1}$$

$$= \frac{239\ 400}{1\ 400\ 000} \times \frac{100}{1}$$

$$= 17{,}11\%$$

Percentage operating expenses on sales:

$$\frac{\text{Operating expenses}}{\text{Sales}} \times \frac{100}{1}$$

$$= \frac{432\ 800}{1\ 400\ 000} \times \frac{100}{1}$$

$$= 30{,}91\%$$

Percentage net profit on sales:

$$\frac{\text{Net profit}}{\text{Sales}} \times \frac{100}{1}$$

$$= \frac{194\ 200}{1\ 400\ 000} \times \frac{100}{1}$$

$$= 13{,}87\%$$

When comparing these percentages with the same information from 20.7:

- The gross profit on sales increased from 38,45% in 20.7 to 42,86% in 20.8.
- The gross profit on cost of sales increased from 74,32% in 20.7 to 75% in 20.8.
- The operating profit on sales decreased from 22,3% in 20.7 to 17,11% in 20.8.
- The operating expenses on sales increased from 25,45% in 20.7 to 30,91% in 20.8.
- The net profit on sales decreased from 16,32% in 20.7 to 13,87% in 20.8.

1.2 The mark-up percentage increased from the previous year, which is a good indication.
The operating expenses decreased, which indicates the business did not have good cost control.
The business needs to find ways to manage the expenses and stick to the budget forecasts.

2.1 Current ratio:

Current assets	:	Current liabilities
180 800	:	123 200
1,47	:	1

Acid test ratio:

Current assets - Inventories	:	Current liabilities
180 800 - 78 400	:	123 200
102 400	:	123 200
0,83	:	1

When comparing these percentages with the same information from 20.7:

- The current ratio increased from 1,2 : 1 in 20.7 to 1,47 : 1 in 20.8.
- The acid test ratio increased from 0,55 : 1 in 20.7 to 0,83 : 1 in 20.8.

2.2 Although both ratios increased from the previous year, the business will find it difficult to pay its short-term debts.

3.1 Solvency ratio:

Total assets	:	Total liabilities
1 505 800	:	523 200
2,88	:	1

When comparing these percentages with the same information from 20.7:

- The solvency ratio increased from 2,01 : 1 in 20.7 to 2,88 : 1 in 20.8.

3.2 The business is solvent, for each R1 liability the business has R2,88 assets.

4.1 The return on average equity ratio:

$$\frac{\text{Net profit}}{\text{Average equity}} \times \frac{100}{1}$$

$$= \frac{194\ 200}{921\ 500} \times \frac{100}{1}$$

$$= 21{,}07\%$$

Average equity

$$= \frac{\text{Capital balance at the start of the year + Capital balance at the end of the year}}{2}$$

$$= \frac{860\ 400 + 982\ 600}{2}$$

$$= 921\ 500$$

When comparing these percentages with the same information from 20.7:

- The return on average equity increased from 18,26% in 20.7 to 21,07% in 20.8.

4.2 The owner can be satisfied with his return, compared to other investments.

Activity 2: Using ratios to comment on business performance

1.1 Percentage operating expenses on sales:

$$\frac{\text{Operating expenses}}{\text{Sales}} \times \frac{100}{1}$$

$$= \frac{343\ 400}{1\ 280\ 000} \times \frac{100}{1}$$

$$= 26{,}83\%$$

Percentage net profit on sales:

$$\frac{\text{Net profit}}{\text{Sales}} \times \frac{100}{1}$$

$$= \frac{131\ 900}{1\ 280\ 000} \times \frac{100}{1}$$

$$= 10{,}31\%$$

When comparing these percentages with the same information from 20.7:

- The operating expenses on sales decreased from 30,22% in 20.7 to 26,83% in 20.8
- The net profit on sales increased from 7,12% in 20.7 to 10,31% in 20.8.

1.2 Yes, the business has better cost control. The percentage operating expenses on sale decreased, thus the business made a better net profit.

2. Calculations:

Inventories	=	60 000 + 870
	=	60 870
Trade and other receivables	=	22 600 + 1 200 + 860
	=	24 660
Cash and cash equivalents	=	48 400 + 2 000 + 4 000
	=	54 400
Trade and other payables	=	54 500 + 5 350 + 6 000 + 4 500 + 1 200 + 8 000 + 120
	=	79 670
Current portion of loan	=	60 000

Current ratio:

Current assets	:	Current liabilities
60 870 + 24 660 + 54 400	:	79 670 + 60 000
139 930	:	139 670
1	:	1

Acid test ratio:

Current assets - Inventories	:	Current liabilities
139 930 – 60 870	:	139 670
79 060	:	139 670
0,57	:	1

When comparing these percentages with the same information from 20.7:

- The current ratio decreased from 1,6 : 1 in 20.7 to 1 : 1 in 20.8
- The acid test ratio decreased from 0,84 : 1 in 20.7 to 0,57 : 1 in 20.8

Comment:
Yes, the business has liquidity problems and will find it difficult to pay back its short-term debts.

3. Total assets:

Fixed assets	=	540 000 + 435 000 + 108 400 – 47 000 – 26 520
	=	1 009 880
Fixed deposit	=	50 000
Current assets	=	139 930
Total assets	=	1 009 880 + 50 000 + 139 930
	=	1 199 810
Total liabilities	=	420 000 + 139 670
	=	559 670

Solvency ratio:

Current assets	:	Current liabilities
1 199 810	:	559 670
2,14	:	1

When comparing these percentages with the same information from 20.7:

- The solvency ratio increased from 1,8 : 1 to 2,14 : 1.

Comment:
The business is solvent, for each R1 liability the business has R2,14 assets.

4. Liquidity is the ability of a business to pay its short-term debts, while solvency is the ability of a business to pay all its debts.

5 The return on average equity ratio:

$$\frac{\text{Net profit}}{\text{Average equity}} \times \frac{100}{1}$$

$$= \frac{131\,900}{615\,500} \times \frac{100}{1}$$

$$= 21{,}43\%$$

Average equity

$$= \frac{\text{Capital balance at the start of the year + Capital balance at the end of the year}}{2}$$

$$= \frac{530\,860 + 700\,140}{2}$$

$$= 615\,500$$

When comparing these percentages with the same information from 20.7:

- The percentage return on equity increased from 20,32% in 20.7 to 21,43% in 20.8.

Comment:
The owner can be happy with his return, the return is higher than the interest rate at financial institutions on other investments.

Activity 3: Exam type question 1

1. Profitability:
   The percentage operating expenses decreased from 38,14% in 20.7 to 34,42 in 20.8
   The percentage net profit on sales increased from 10,14% in 20.7 to 12,28% in 20.8.
   The business has better cost control.

2. Liquidity:
   The current ratio increased from 2,4 : 1 in 20.7 to 3,12 : 1 in 20.8.
   The acid test ratio decreased from 1,6 : 1 in 20.7 to 1,2 : 1 in 20.8.
   Yes, the business will be able to pay its short-term debts although if you look at the ratios for 20.8, the business has too much stock.

3. Return:
   The return on average equity increased from 10,56% in 20.7 to 14,3% in 20.8.
   The owner can be satisfied with his return compared to the interest rate at financial institutions.

Activity 4: Exam type question 2

1.1 Current ratio:

Current assets	:	Current liabilities
110 600	:	54 200
2,04	:	1

Acid test ratio:

Current assets - Inventories	:	Current liabilities
110 600 - 48 200	:	54 200
62 400	:	54 200
1,15	:	1

1.2 The current ratio increased from 1,82 : 1 in 20.7 to 2,04 : 1 in 20.8.
The acid test ratio increased from 0,94 : 1 in 20.7 to 1,15 : 1 in 20.8.
The business will be able to pay back its short-term debts.

2.1 The return on average equity ratio:

$$\frac{\text{Net profit}}{\text{Average equity}} \times \frac{100}{1}$$

$$= \frac{124\ 600}{712\ 500} \times \frac{100}{1}$$

$$= 17{,}49\%$$

Average equity

$$= \frac{\text{Capital balance at the start of the year + Capital balance at the end of the year}}{2}$$

$$= \frac{644\ 600 + 780\ 400}{2}$$

$$= 712\ 500$$

2.2 The return on average equity increased from 15,38% in 20.7 to 17,49% in 20.8.
The owner can be happy with his return compared to the interest rate at financial institutions.