

International
Preparation Course in Business
Business Finance module
LO3 part 2 session

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Aims and objectives for today's session

- Explain LO3 of the finance module
- Provide some teaching and learning resource ideas
- Answer any questions on LO3- part 2
- Set homework/assessment task

Course handbook

Prepare a statement of comprehensive income and statement of financial position for a given organisation

Analyse what the profit and loss account and the balance sheet show for a given organisation

Give suggestions to what the organisation should change in their finances to make the business more successful

3. Be able to prepare statement of comprehensive income and statement of financial position

- statement of comprehensive income: purpose and use; trading account and calculation of gross profit (sales, purchases, opening and closing stocks); calculation of net profit (overheads, other revenue income eg discounts received); commission received; transfer of net profit to balance sheet
- statement of financial position: purpose and use; vertical presentation; order of permanence; fixed assets; current assets; intangible assets; long-term liabilities; current liabilities; working capital; net assets; transfer of net profit from profit and loss account; capital employed
- Basic financial ratio analysis: profitability, (gross profit margin, net profit margin, return on capital employed) and liquidity (current ratio, liquid capital ratio).

LO3 - End of year statements - key questions

Part 1 (last session)

What are '*end of year statements*'?

What is a '*statement of comprehensive income*'? (content, layout, function)

What is a '*statement of financial position*'? (content, layout, function)

Part 2 (this session)

What are *financial ratios*? What is *financial ratio analysis*?

Ratios to be covered:

Profitability (GPM, Mark-up, NPM, ROCE), Liquidity (Current ratio, Liquid Capital Ratio)

What do the above ratios tell the business about their financial state, i.e how do they help analysing the end of year financial statements?

Start the lesson by creating an image, discuss with your students

For example:

Financial Ratio Analysis

- **Purpose:**
- To identify aspects of a business's performance to aid decision making
- 'Health check' of the business
- Quantitative process – may need to be supplemented by qualitative factors to get a complete picture



Follow with some useful definitions

- Profitability
- Liquidity
- Financial ratio analysis

Interpretation and analysis –

key aspects to consider

- Profitability of the business – measured by its profit margins, mark up and efficiency in using capital
- Liquidity – the business's ability to be able to cover its current liabilities by its current assets

Gross profit and mark-up

Businesses use four profitability ratios to measure how well they are performing. On this page, you will revise gross profit margin and mark-up and how to calculate them.

Gross profit margin

This enables a business to work out the gross profit on goods sold after deducting their cost. Gross profit is measured as a percentage of revenue.

A business can improve its gross profit margin either by increasing sales, or by reducing its costs.

Mark-up

The mark-up is the percentage added to the cost to create the selling price. Gross profit is measured as a percentage of cost of sales.

The larger the mark-up, the greater the gross profit.

Gross profit margin formula

$$\frac{\text{gross profit}}{\text{revenue}} \times 100$$

Mark-up formula

$$\frac{\text{gross profit}}{\text{cost of sales}} \times 100$$

Calculating gross profit margin

A business has a gross profit of £6000 on sales of £10 000. The gross profit margin is:

$$\frac{£6000}{£10\ 000} \times 100 = 60\%$$

For every £1 that the business makes in sales 60p is gross profit.

Calculating mark-up

A business has sales revenue of £100 000. It shows a gross profit of £20 000 on those sales. The mark up is:

$$\frac{£20\ 000}{(£100\ 000 - £20\ 000)} \times 100 = 25\%$$

E.g.

Business sells products for £100 in total.

60% GPM means that £60 of the £100 is their gross profit, to be used for covering expenses

E.g.

Cost of Sales (product cost) = £0.80 per unit

Mark-up 25%

Then Selling price would be £0.80 + £0.20 = £1.00

Possible student task

Now try this

- 1 Jak spent £100 000 on stock over the course of the year. His sales revenue was £500 000. Unfortunately, one of his product lines was faulty and he was forced to refund £50 000 to customers. Calculate Jak's gross profit margin for the year.
- 2 A business has sales of £96 000. It shows a profit of £12 000. Calculate the mark-up.



1 Don't forget to take off the £50 000 in lost sales for the gross profit as well as the revenue!

2 Try and remember how to use the formula.

Answer:

1. $\text{GPM} = \text{gross profit} / \text{revenue} \times 100$
Revenue = £500,000 - £50,000 = £450,000
Gross profit = £450,000 - £100,000 = £350,000
GPM = £350,000 / £450,000 \times 100 = 77.7 %
2. $\text{Mark-up} = \text{gross profit} / \text{cost of sales} \times 100$
Cost of Sales = £96,000 - £12,000 = £84,000
Mark-up = £12,000 / £84,000 \times 100 = 14.3 %

Profit margin and ROCE

On this page, you will revise two further profitability ratios – net profit margin and return on capital employed – and how to calculate them.



Links

See gross profit and mark-up on page 76.

Net profit margin

This ratio measures the profit made by the business after all expenses have been deducted – net profit. For this reason, it is considered to be a more accurate measure of efficiency and performance than gross profit margin ratio. It is measured as a percentage of revenue. If net profit falls, the business may take steps to reduce its expenses.

Return on capital employed (ROCE)

Investors and owners put capital into a business in the hope that this will enable it to make a profit. From this profit, investors expect a return (profit) on their investment. This ratio measures the return on capital as a percentage of the capital employed, and shows how efficiently the business uses the money invested. A high profit from a low investment means the business is performing well.

Net profit margin formula

$$\frac{\text{net profit}}{\text{revenue}} \times 100$$

ROCE formula

$$\frac{\text{net profit before interest and tax}}{\text{capital employed}} \times 100$$

Calculating net profit margin

A business has sales of £90 000, with expenses (rent, rates and wages) of £60 000. The net profit is £90 000 – £60 000 = £30 000. The net profit margin is:

$$\frac{£30\,000}{£90\,000} \times 100 = 33.33\%$$

For every £1 of sales, 33p is net profit.

Calculating ROCE

Two business owners invest £120 000 into a new business. In the first year, the business shows a profit of £440 000. ROCE is:

$$\frac{£440\,000}{£120\,000} \times 100 = 366\%$$

For every £1 of capital invested, the owners received £3.66.

Possible student task

Now try this

- 1 Rav borrows £96 000 to set up his new business. He puts £13 000 aside as a contingency fund and invests the rest in equipment and machinery. At the end of the first year his business has created a profit of £92 000. Calculate the ROCE.
- 2 Rav's profit of £92 000 was on sales of £226 000. Calculate his net profit margin.



Match the figures you need to the right formula to make the correct calculation.

1. $\text{ROCE} = \text{Net profit} / \text{Capital employed} \times 100$
Capital invested = £96,000 - £13,000 = £83,000
 $\text{ROCE} = £92,000 / £83,000 \times 100 = 110.8\%$
2. $\text{NPM} = \text{Net profit} / \text{sales revenue} \times 100$
 $\text{NPM} = £92,000 / £226,000 \times 100 = 40.7\%$

Liquidity

Liquidity ratios allow you to measure the ability of a business to be able to pay its short-term debts. You need to revise current and the liquid capital ratios, and how to calculate them.

Current ratio

This is also known as the working capital ratio. It measures a business's assets compared to its liabilities and shows whether a business is being managed properly.

Ideally a business should have £1.50 of assets for every £1 of debt. So the ideal ratio is 1.5:1. If it has less than 1:1 it will struggle to pay its debts. It will not have sufficient current assets to cover current liabilities.

Liquid capital ratio

This is sometimes known as the liquidity ratio or the acid test ratio. It removes inventory from the calculation as this may be difficult to quickly turn into cash to pay a debt.

The ideal ratio is 1:1. If a business has less than this it will have problems paying off its current liabilities.

Current ratio formula

$$\frac{\text{current assets}}{\text{current liabilities}}$$

Liquid capital ratio formula

$$\frac{(\text{current assets} - \text{inventory})}{\text{current liabilities}}$$

Calculating current ratio

A business has current assets amounting to £46 000. Its current liabilities are £39 000. The current ratio is:

$$\frac{£46\,000}{£39\,000} = 1.18:1$$

The business has just enough current assets to cover its debts.

Calculating liquid capital ratio

The same business has £3800 tied up in inventory. The calculation for the liquid capital ratio is:

$$\frac{(\text{£}46\,000 - \text{£}3800)}{\text{£}39\,000} = 1.08:1$$

The business has just enough to cover its short-term debt, just over 1:1.

So this ratio would be below the ideal of 1.5:1, too low, may indicate cash-flow problems if stock not sold.

So this ratio is slightly above the ideal, so looks better for the business, but they would be under pressure of selling their stock to cover current liabilities.

Possible student task

Now try this

A business has current assets of £77 000 and short-term debts of £56 000. It has £22 000 of unsold inventory.

Calculate:

- (a) its current ratio
- (b) its liquid capital ratio.



Make sure you have the right figures for each of the calculations.

- a) $CR = CA / CL$
 $£77,000 / £56,000 = 1.37 : 1$ too low (recommended figure at least 1.5:1)
- b) $LCR = (CA - \text{inventory}) / CL$
 $(£77,000 - £22,000) / £56,000 = 0.98 : 1$ too low, but only just (recommended figure at 1:1)

Student practice tasks

It is important to provide students with plenty of opportunities to practice

Make up businesses and provide them with numbers.

Start simple and get more complicated once students understand the simple layout.

Use one continuous business example for introducing the concepts.

See examples provided

Use accounts example form end of year statements topic

Chique T-shirts Statement of comprehensive income for the year ending 30 April 2016		
	£000	£000
Sales		236
Less cost of sales		
Opening stock	51	
Purchases	71	
Closing stock	10	
Cost of goods sold		112
Gross profit		124
Expenses		
Insurance	10	
Business rates	22	
Administration	15	
Wages	45	
Marketing	10	
Utilities	8	
Depreciation	6	
Total expenses		116
Net profit before tax		8

Chique T-shirts Statement of financial position for the year ending 30 April 2016			
	(Historical) cost	Accumulated depreciation	Net book value
	£000	£000	£000
Non-Current Assets			
Premises	12	0	12
Fixtures and fittings	12	4	8
Machinery	16	6	10
Vehicles	8	3	5
	48	13	35
Current Assets			
Stock		10	
Trade Receivables (Debtors)		53	
Cash in bank		49	
Cash in hand		14	
			126
Current Liabilities			
Tax owed	29		
Trade Payables (Creditors)	20		
			49
Net Current Assets			77
Less Non-Current Liabilities			
Bank loan			1
NET Assets			111
Financed by:			
Opening Capital			110
Add Net profit			8
Less Drawings			7
Capital employed			111



AS

Profitability ratios

Having produced their accounts Chique T-shirts are keen to review their business performance. They are going to look at their business' profitability.

1. What is meant by the term 'profitability'?

2. What is the difference between gross profit and net profit?

3. Calculate four profitability ratios for the business based on their income statement.

Ratio	Formula	Calculation	Result

4. How well do you think they have performed in this financial year? Justify your answer.

5. Look at the business' income statement and profitability ratios. Identify one area for potential improvement and recommend an action they could take.

Area for improvement _____

Action _____

GPM

Gross Profit Margin

- **GPM = Gross Profit ÷ Sales x 100**
- Expressed as a percentage (%)
- The higher the better
- Enables the firm to assess the impact of its 'sales' and how much it cost to generate (produce) those sales
- A gross profit margin of 45% means that for every £1 of sales, the firm makes 45p in gross profit

Gross Profit Margin

- **GPM = Gross Profit ÷ Sales x 100**
- **GPM = 124 ÷ 236 x 100 = 52.5%**
- A gross profit margin of means that for every **£1 of sales**, the firm makes **£0.53 in gross profit**
- If they sell a T-shirt for £10, they will make £5.30 gross profit

Mark-up

Mark-up

- **Mark-up = Gross Profit ÷ Cost of sales x 100**
- Expressed as a percentage (%)
- The higher the better
- 'Gross profit' as percentage of 'cost of sales'
- Shows what percentage is added to the vc to reach the 'selling price'
- 25% means that any item costing £1 to buy in would be sold for £1.25

Mark-up

- **Mark-up = Gross Profit ÷ Cost of sales x 100**
- **Mark-up = $124 \div 112 \times 100 = 110.7\%$**
- **110.7%** means that any item costing £1 to buy in would be sold for **£2.11**.
- If a T-shirt was bought in from the supplier for £5, it would be sold for £10.54.

NPM

Net Profit Margin

- **NPM = Net Profit ÷ Sales x 100**
- Expressed as a percentage (%)
- The higher the better
- Net profit takes into account the fixed costs involved in production – the overheads
- Keeping control over fixed costs is important – could be easy to overlook for example the amount of waste - paper, stationery, heating, water, electricity etc.
 - e.g. – leaving a photocopier on overnight uses enough electricity to make 5,300 A4 copies. (1,934,500 per year)
 - 1 ream = 500 copies. 1 ream = £5.00 (on average)
 - Total cost therefore = £19,345 per year – or 1 person's salary

Net Profit Margin

- **GNPM = Net Profit ÷ Sales x 100**
- **NPM = 8 ÷ 236 x 100 = 3.4%**
- A net profit margin of **3.4%** means that for every **£1 of sales**, the firm makes **£0.03 in net profit**
- If they sell a T-shirt for £10, they will make £0.30 net profit
- Large difference between **gross** and **net profit** shows that the business might need to try and lower their expenses

ROCE

Return on Capital Employed (ROCE)

- **ROCE = Net Profit ÷ capital employed x 100**
- Capital Employed = Capital, Retained Profit and Reserves
- %, the higher the better
- Shows how effective the firm is in using its capital to generate profit.
- A ROCE of **25%** means that every **£1 of capital** invested into the business by the owner/s generates **£0.25 in net profit.**
- You can include long-term finance (mortgage & loans) in your capital employed, if you do, you have to use this method every year.

Return on Capital Employed (ROCE)

- **ROCE = Net Profit ÷ capital employed x 100**
- **ROCE = 8 ÷ 111 x 100 = 7.2%**
- A ROCE of **7.2%** means that every **£1 of capital** invested in the business by the owner/s generates **£0.07 in net profit.**
- An investment of £100,000 would have generated £7,200 of net profit.



AS

Liquidity ratios

Having produced their accounts Chique T-shirts are keen to review their business performance. They are now going to look at their business' liquidity.

1. What is meant by the term 'liquidity'?

2. Calculate two liquidity ratios for Chique T-shirts based on their balance sheet

Ratio	Formula	Calculation	Result

3. Why do you think Chique T-shirts' current ratio and liquid capital ratio are similar?

4. What type of business might find a much bigger difference between its current ratio and liquid capital ratio? Justify your answer.

5. How good is their liquidity at the end of his financial year? Justify your answer.

6. Look at the 'statement of financial position' and liquidity ratios. Identify one area for potential improvement and recommend an action that could be taken.

Area for improvement _____

Action _____

Current Ratio

Current Ratio

- **CR = Current Assets ÷ Current Liabilities**
- Looks at the ratio between Current Assets and Current Liabilities
- Ideal level? – 1.5 : 1

- A ratio of **0.75 : 1** would suggest the firm has only 75p in assets available to cover every £1 it owes
- A ratio of **5 : 1** would imply the firm has £5 of assets to cover every £1 in liabilities

- Too low - risk of not being able to pay your way
- Too high – Might suggest that too much of its assets are tied up in unproductive activities – too much stock, for example?

Current Ratio

- **CR = CA ÷ CL**

- **CR = 126 ÷ 49 = 2.6**
- **Ratio CA : CL = 2.6 : 1**

- A ratio of **2.6 : 1** would suggest the firm has £2.60 in current assets available to cover every £1 it owes in short-term debt.

- No cash flow problem as above 1.5:1, but might be considered too high, i.e. cash resources not managed efficiently.

Liquid Capital Ratio

Liquid Capital Ratio

- **Liquid Capital Ratio = $(CA - \text{stock}) \div CL$**
- Also referred to as the 'Acid Test Ratio' and 'Quick ratio'
- 1:1 seen as ideal
- The omission of stock (= 'closing stock' that still needs to be sold) gives an indication of the ready available cash the firm has in relation to its short-term liabilities (what it owes)
- A ratio of **3:1** therefore would suggest the firm has 3 times as much cash as it owes – very healthy!
- A ratio of **0.5:1** would suggest the firm has twice as many liabilities as it has cash to pay for those liabilities. This *might* put the firm under pressure but is not in itself the end of the world!

Liquid Capital Ratio

- **Liquid Capital Ratio = $(CA - \text{stock}) \div CL$**
- **LC = $(126 - 10) \div 49 = 2.4$**
- **Ratio $(CA - \text{stock}) : CL = 2.4 : 1$**
- A ratio of **2.4:1** therefore would suggest the firm has £2.40 in ready available short-term funds to cover every £1 of short-term debt
- No cash flow problems, well above 1:1, but too high (see before)
- Not much difference between CR and LC ratio; this indicates that they do not hold much stock.

Topic: F3 Measuring Profitability Worksheet (1)

Q1 Fowl Foods, a chicken dinner label has provided an extract of their statement of comprehensive income.

Revenue	£3.5m
Cost of Sales	£1.4m
Expenses	£0.9m

Activity: Using the information provided, calculate Fowl Foods' net profit margin.

Your workings:

Topic: F3 Measuring Profitability Worksheet (1)

Q2 Bread Zeplin are a specialist bread maker. They have provided some financial information.

Revenue	£280,000
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Their cost of sales was 60% of revenue.

Activity: Using the information provided, calculate Bread Zeplin's gross profit.

Your workings:

Q3 In 2016, Bed Wetter, an automatic garden sprinkler business had a net profit margin of 15%, on revenue of £500,000. In 2017 they predict to have a net profit margin of 20% on expected revenue of £750,000.

Activity: Using the information provided, calculate the total net profit made for 2016 and the net profit predicted to be made in 2017.

Your workings:

Topic: F3 Measuring Profitability Worksheet (1)

Q4 Dark Secrets is a tanning salon located in Sunderland. They have provided information from their statement of financial position and statement of comprehensive income.

Revenue	£330,000
Cost of Sales	£95,000
Other Expenses	£17,000
Capital Employed	£323,000

Activity: Using the data provided, calculate the mark up and ROCE for Dark Secrets.

Your workings:

Topic: F3 Measuring Profitability Worksheet (1)

Q5 The following year, Dark Secrets net profit is expected to rise by 18%. The capital employed is expected to also increase by 5%

Activity: Using the data provided for Q4, calculate the expected ROCE for the following year.

Your Workings:

Topic: F4 Measuring Liquidity Worksheet (1)

Q1 The following information comes from the businesses statement of financial position of Junk n Disorderly, a specialist antiques dealer.

Current Assets	
Inventories	£50,000
Trade Receivables	£16,000
Cash	£24,000
Current Liabilities	
Trade Payables	£61,500

Activity: Using the information provided, calculate the current ratio for Junk n Disorderly.

Your Workings:

Q2 **Activity:** Using the information in Q1, calculate the liquid capital ratio for Junk n Disorderly.

Your Workings:

Topic: F4 Measuring Liquidity Worksheet (1)

Q3 Junk n Disorderly predict that inventories will increase by 25% as a result of an expansion to their shop. It is thought this will increase trade receivables by 15%, with cash dropping by half. Trade payables are also expected to increase by 7%.

Activity: Using the information provided, calculate the revised current ratio for Junk n Disorderly.

Your Workings:

Q4 **Activity:** Using the information provided in Q3, calculate the revised liquid capital ratio for Junk n Disorderly.

Your Workings:



Q5 Active Bodz is a chain of sportswear shops, located around the UK. Information from its statement of financial position shows that it owes £40,000 to its suppliers and is owed £18,000 by trade customers such as schools and clubs who buy kits from them on credit. Active Bodz have a short-term bank loan of £20,000 and are currently overdrawn by £7,000. They have £9,000 cash in store tills and stock in stores is valued at a sales value of £90,000, which includes a 50% mark-up.

Activity: Using the information above, calculate the current ratio for Active Bodz.

Your Workings:

Q6 **Activity:** Using the information provided in Q5, calculate the liquid capital ratio for Active Bodz.

Workings:

Useful videos on this topic

□ Profitability ratios



<https://www.youtube.com/watch?v=IYRf9fwB9lw&index=35&list=PLBuW3SAj0djly2MaKyOzL4cnmeaPbEJj1>

□ Liquidity ratios



<https://www.youtube.com/watch?v=0GMTfB-VIpA&list=PLBuW3SAj0djly2MaKyOzL4cnmeaPbEJj1&index=36>

Kahoot on this topic

[Kahoot on LO3 - ratios only](#)

Note: you have to copy and amend this quiz, some ratios won't have been covered in your lessons

Exam questions

- There will be some MCQs, including calculations
- There will be ratio analysis calculations - calculator needed..
- There will be an analysis and evaluation question on the ratios.

Example exam questions

Q 9f

1 mark

The formula for calculating gross profit is:

A	Net profit + sales	<input type="checkbox"/>
B	Sales – expenses	<input type="checkbox"/>
C	Sales – cost of goods sold	<input type="checkbox"/>
D	Cost of goods sold - sales	<input type="checkbox"/>

1 mark

Q 9g

A capital employed figure of 20% means :

A	For every £1 invested into the business, it makes NP of £1.20	<input type="checkbox"/>
B	For every <u>£100 invested</u> into the business, it makes NP of 20p	<input type="checkbox"/>
C	For every £1 invested into the business, it makes NP of 20p	<input type="checkbox"/>
D	For every <u>£100 invested</u> into the business, it makes NP of £120	<input type="checkbox"/>

1 mark

Q 12

Based on the figures above, calculate the following ratios for Susie's business.

10 marks

- (i) Gross profit margin

Show your workings

- (ii) Net profit margin

Show your workings

Susie has gathered her key financial results for two previous years of trading.

Financial Data		
	Year 1	Year 2
Sales	15,000	25,000
Gross Profit Margin	23%	28%
Net Profit Margin	11%	15%
ROCE	5%	12%
Current Ratio	2.1:1	1.3:1
Liquid Capital Ratio	1.1:1	0.7:1

Evaluate whether Year 2 was a better year financially than Year 1 for Susie's business.

Include

- judgements on each individual ratio by explaining what this ratio shows Susie about her management of her business,
- an overall judgement at the end.

Summary/conclusion

- Students need to be able to
- Explain what financial ratio analysis is in business
- Understand what profitability and liquidity mean
- Know the formulas, be able to calculate and evaluate the following ratios:
GPM, (Mark-up), NPM, ROCE, CR, LCR

Assignment for next session on LO3 - part 2

- I will answer all the questions you may have on this topic after you have studied it a bit more.
- Prepare a 1 hour lesson on ratio analysis
 - Either Profitability or Liquidity ratios

THANK YOU
ANY QUESTIONS?

