

Finance Management & Planning

Financial Ratios – Continued 11-08

- This Week
 - Investor Ratios
 - Refresh of Ratios
 - Annual Report

- Grouped into categories relating to a particular aspect of financial performance or position.
 - Profitability
 - Efficiency / Activity
 - Liquidity
 - Financial Gearing
 - Investment (of more interest to external stakeholders)
- Atrill & McLaney chapter: 6
 - Analysing and interpreting financial statements

Investor Ratios

As an Investor looking to purchasing shares , what information is important to you ?

What determines a good investment to you ?

- Brand ?
- Share price movement ?
- Dividends ?
- Performance ?
- Short Term v Long Term
- Your risk appetite

Investor Ratios

$$\text{Earnings Per Ordinary Share} = \frac{\text{Net Income (Profit after Tax)}}{\text{No of Shares}}$$

$$\text{Dividend cover} = \frac{\text{Net Income (Profit after Tax)}}{\text{Dividend Proposed and Paid}} \times 100\%$$

$$\text{Price per Earnings Ratio} = \frac{\text{Market Value per Share}}{\text{EPS}}$$

$$\text{Dividend Yield Ratio} = \frac{\text{Dividend per Share}}{\text{Market Value per Share}} \times 100\%$$

Investor Ratios

Investor ratios are the financial ratios that the investors use in order to evaluate the company's ability to generate the return for their investment.

1. Earnings per Share (EPS) calculates the earnings generated per every share issued in the company.
2. Dividend Cover is used to determine the number of times a company can pay out dividends to its shareholders by comparing the company's net income to the dividend that is paid. (Similar to Interest Cover)
3. Price Earnings Ratio can be defined as the financial ratio that depicts the cost associated with owning a share in the company in comparison to the financial earnings of the company. Cost v Potential Benefit
4. Dividend Yield provides a direct measure of the return on investments in the company's shares.

Investor Ratios

$$\text{Earnings Per Ordinary Share} = \frac{\text{Net Income (Profit after Tax)}}{\text{No of Shares}}$$

$$\text{Dividend cover} = \frac{\text{Net Income (Profit after Tax)}}{\text{Dividend Proposed and Paid}} \times 100\%$$

$$\text{Price per Earnings Ratio} = \frac{\text{Market Value per Share}}{\text{EPS}}$$

$$\text{Dividend Yield Ratio} = \frac{\text{Dividend per Share}}{\text{Market Value per Share}} \times 100\%$$

RATIO ANALYSIS



Woodcroft plc

You have been supplied with the following data relating to Woodcroft plc for the years 2015 and 2016.

	<u>2015</u> <u>€ 0</u>	<u>2016</u> <u>€ 0</u>			
			Earnings Per Ordinary Share	=	$\frac{\text{Net Income (Profit after Tax)}}{\text{No of Shares}}$
Sales	1,200	1,600			
Net profit before tax	120	180	Dividend cover	=	$\frac{\text{Net Income (Profit after Tax)}}{\text{Dividend Proposed and Paid}} \times 100\%$
Net profit after tax	80	130			
Ordinary dividend (paid and proposed)	60	70	Price per Earnings Ratio	=	$\frac{\text{Market Value per Share}}{\text{EPS}}$
Cost of sales	720	880			
			Dividend Yield Ratio	=	$\frac{\text{Dividend per Share}}{\text{Market Value per Share}} \times 100\%$
Balance Sheets					

	<u>2015</u> <u>€000s</u>	<u>2015</u> <u>€000s</u>	<u>2016</u> <u>€ 0</u>	<u>2016</u> <u>€ 0</u>
Fixed assets		100		120
Current assets				
Stock	200		180	
Debtors	<u>300</u>		<u>340</u>	
	<u>500</u>		<u>520</u>	
Less Current liabilities				
Creditors	160		180	
Proposed dividend	40		60	
Bank overdraft	<u>200</u>		<u>140</u>	
	<u>400</u>		<u>380</u>	
Current assets less current liabilities		<u>100</u>		<u>140</u>
		<u>200</u>		<u>260</u>
	<u>2015</u> <u>€ 0</u>		<u>2016</u> <u>€ 0</u>	
Capital Employed				
Ordinary share (€1 each)		100		100
Reserves		<u>100</u>		<u>160</u>
		<u>200</u>		<u>260</u>

Market Value per share

2015 1.60

2016 1.70

RATIO ANALYSIS



Woodcroft plc

You have been supplied with the following data relating to Woodcroft plc for the years 2015 and 2016.

	<u>2015</u> <u>€ 0</u>	<u>2016</u> <u>€ 0</u>
Sales	1,200	1,600
Net profit before tax	120	180
Net profit after tax	80	130
Ordinary dividend (paid and proposed)	60	70
Cost of sales	720	880

Balance Sheets

	<u>2015</u> <u>€000s</u>	<u>2015</u> <u>€000s</u>	<u>2016</u> <u>€ 0</u>	<u>2016</u> <u>€ 0</u>
Fixed assets		100		120
Current assets				
Stock	200		180	
Debtors	<u>300</u>		<u>340</u>	
	<u>500</u>		<u>520</u>	
Less Current liabilities				
Creditors	160		180	
Proposed dividend	40		60	
Bank overdraft	<u>200</u>		<u>140</u>	
	<u>400</u>		<u>380</u>	
Current assets less current liabilities		<u>100</u>		<u>140</u>
		<u>200</u>		<u>260</u>
Capital Employed		<u>2015</u> <u>€ 0</u>		<u>2016</u> <u>€ 0</u>
Ordinary share (€1 each)		100		100
Reserves		<u>100</u>		<u>160</u>
		<u>200</u>		<u>260</u>

Calculate the following Ratios

Earnings per Share

Price per Earnings Ratio

Dividend Cover

Dividend Yield Ratio

$$\text{Start with EPS} = \frac{\text{Profit after Tax}}{\text{No of ordinary Shares}}$$

$$= \frac{80}{100}$$

$$= 0.80$$

$$\text{Dividend Cover} = \frac{\text{EPS}}{\text{Dividend per Share}}$$

$$= \frac{0.8}{0.6}$$

$$= 1.33$$

RATIO ANALYSIS



Woodcroft plc

You have been supplied with the following data relating to Woodcroft plc for the years 2015 and 2016.

	<u>2015</u> <u>€ 0</u>	<u>2016</u> <u>€ 0</u>		
Sales	1,200	1,600	Price per earnings Ratio	= $\frac{\text{Market Value per Share}}{\text{EPS}}$
Net profit before tax	120	180		= $\frac{1.6}{0.8}$
Net profit after tax	80	130		
Ordinary dividend (paid and proposed)	60	70		
Cost of sales	720	880		= 2.00

Balance Sheets

	<u>2015</u> <u>€000s</u>	<u>2015</u> <u>€000s</u>	<u>2016</u> <u>€ 0</u>	<u>2016</u> <u>€ 0</u>		
Fixed assets		100		120	Dividend Yield Ratio	= $\frac{\text{Dividend per Share}}{\text{Market Value per Share}}$
Current assets						
Stock	200		180			= $\frac{0.6}{1.6}$
Debtors	<u>300</u>		<u>340</u>			
	<u>500</u>		<u>520</u>			
Less Current liabilities						= 37.5%
Creditors	160		180			
Proposed dividend	40		60			
Bank overdraft	<u>200</u>		<u>140</u>			
	<u>400</u>		<u>380</u>			
Current assets less current liabilities		<u>100</u>		<u>140</u>		
		<u>200</u>		<u>260</u>		
		<u>2015</u> <u>€ 0</u>		<u>2016</u> <u>€ 0</u>	Market Value per share	
Capital Employed					2015	1.60
Ordinary share (€1 each)		100		100	2016	1.70
Reserves		<u>100</u>		<u>160</u>		
		<u>200</u>		<u>260</u>		

RATIO ANALYSIS



Woodcroft plc

You have been supplied with the following data relating to Woodcroft plc for the years 2015 and 2016.

	<u>2015</u> <u>€ 0</u>	<u>2016</u> <u>€ 0</u>
Sales	1,200	1,600
Net profit before tax	120	180
Net profit after tax	80	130
Ordinary dividend (paid and proposed)	60	70
Cost of sales	720	880

Balance Sheets

	<u>2015</u> <u>€000s</u>	<u>2015</u> <u>€000s</u>	<u>2016</u> <u>€ 0</u>	<u>2016</u> <u>€ 0</u>
Fixed assets		100		120
Current assets				
Stock	200		180	
Debtors	<u>300</u>		<u>340</u>	
	<u>500</u>		<u>520</u>	
Less Current liabilities				
Creditors	160		180	
Proposed dividend	40		60	
Bank overdraft	<u>200</u>		<u>140</u>	
	<u>400</u>		<u>380</u>	

Current assets less current liabilities	<u>100</u>	<u>140</u>
	<u>200</u>	<u>260</u>

	<u>2015</u> <u>€ 0</u>	<u>2016</u> <u>€ 0</u>
Capital Employed		
Ordinary share (€1 each)	100	100
Reserves	<u>100</u>	<u>160</u>
	<u>200</u>	<u>260</u>

$$\text{Earnings Per Ordinary Share} = \frac{\text{Net Income (Profit after Tax)}}{\text{No of Shares}}$$

$$\text{Dividend cover} = \frac{\text{Net Income (Profit after Tax)}}{\text{Dividend Proposed and Paid}} \times 100\%$$

$$\text{Price per Earnings Ratio} = \frac{\text{Market Value per Share}}{\text{EPS}}$$

$$\text{Dividend Yield Ratio} = \frac{\text{Dividend per Share}}{\text{Market Value per Share}} \times 100\%$$

Market Value per share

2015 1.60

2016 1.70

2016

$$\begin{aligned}
 \text{Start with EPS} &= \frac{\text{Profit after Tax}}{\text{No of ordinary Shares}} \\
 &= \frac{130}{100} \\
 &= 1.30
 \end{aligned}$$

$$\begin{aligned}
 \text{Dividend Cover} &= \frac{\text{EPS}}{\text{Dividend per Share}} \\
 &= \frac{1.30}{0.7} \\
 &= 1.86
 \end{aligned}$$

$$\begin{aligned}
 \text{Price per earnings Ratio} &= \frac{\text{Market Value per Share}}{\text{EPS}} \\
 &= \frac{1.7}{1.3} \\
 &= 1.31
 \end{aligned}$$

$$\begin{aligned}
 \text{Dividend Yield Ratio} &= \frac{\text{Dividend per Share}}{\text{Market Value per Share}} \\
 &= \frac{0.7}{1.7} \\
 &= 41.2\%
 \end{aligned}$$

Refresh of Ratios

Profitability Ratios Formula

$$\text{Gross Profit Margin} = \frac{\text{Gross Profit}}{\text{Sales}} \times 100$$

$$\text{Net Profit Margin} = \frac{\text{Net Income}}{\text{Sales}} \times 100$$

$$\text{Operating Profit Margin} = \frac{\text{Operating Profit}}{\text{Sales}} \times 100$$

$$\text{Return on Assets} = \frac{\text{Net Income}}{\text{Assets}} \times 100$$

$$\text{Return on Equity} = \frac{\text{Net Income}}{\text{Shareholder's Equity}}$$

- **Types of Profitability Ratios**
- Margin Ratios – Shows the ability for a company to convert sales into profitability.
- Return Ratios – Shows the companies ability to generate returns to its shareholders.

Liquidity Ratios

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

$$\text{Quick Ratios (or Acid Test Ratio)} = \frac{\text{Current Assets Less Stock}}{\text{Current Liabilities}}$$

$$\text{Cash Ratio} = \frac{\text{Cash and Cash Equivalents}}{\text{Current Liabilities}}$$

Consider :-

- | | |
|---------------|---------------------|
| Current Ratio | – Low Test Level |
| Quick Ratio | – Medium Test Level |
| Cash Ratio | – High Test Level |

Activity Ratios

$$\text{Days Sales Outstanding (DSO)} = \frac{\text{Trade and other receivables}}{\text{Average Revenue per Day}}$$

$$\text{Inventory Turnover} = \frac{\text{Cost of Goods Sold}}{\text{Average Inventory / Stock}}$$

$$\text{Days Payable Outstanding (DPO)} = \frac{\text{Trade and other payables}}{\text{Average COGS per day}}$$

$$\text{Where Average Revenue per Day} = \frac{\text{Annual Revenue}}{365}$$

$$\text{Where Average COGS per Day} = \frac{\text{Annual COGS}}{365}$$

Leverage Ratios

$$\text{Gearing Ratio} = \frac{\text{Non Current Liabilities}}{\text{Equity Plus Non Current Liabilities}} \times 100\%$$

$$\text{Debt / Equity Ratio} = \frac{\text{Total Liabilities}}{\text{Stockholders Equity}} \times 100\%$$

$$\text{Long Term Debt / Equity Ratio} = \frac{\text{Long Term Debt}}{\text{Stockholders Equity}} \times 100\%$$

$$\text{Interest Coverage} = \frac{\text{Operating Profit}}{\text{Interest Charge}} \times 100\%$$

Investor Ratios

$$\text{Earnings Per Ordinary Share} = \frac{\text{Net Income (Profit after Tax)}}{\text{No of Shares}}$$

$$\text{Dividend cover} = \frac{\text{Net Income (Profit after Tax)}}{\text{Dividend Proposed and Paid}} \times 100\%$$

$$\text{Price per Earnings Ratio} = \frac{\text{Market Value per Share}}{\text{EPS}}$$

$$\text{Dividend Yield Ratio} = \frac{\text{Dividend per Share}}{\text{Market Value per Share}} \times 100\%$$

Limitations of Ratio Analysis

1

Historical information

2

Inflation effects

3

Change in accounting policies

4

Operational changes

5

Seasonal effects

6

Manipulation of financial statements

We have covered 5 key areas with 19 ratios for your assignment, this is the minimum requirement for the assignment

Remember there are other Ratios that can be utilised, so Research

- Expense Ratios
 - ROI
 - ROCE
 - Solvency Ratios
 - Etc.
-
- Consider what is relevant to your assignment

Exercise

ZZZZ Ltd

Year	2019	2020
Revenue	750,000	1,000,000
COGS	600,000	840,000
Gross Profit	150,000	160,000
SG&A	50,000	80,000
Operating Profit	100,000	80,000
Interest	10,000	20,000
Tax	19,800	13,200
Net Income	70,200	46,800

Balance Sheet		
Year	2019	2020
Fixed Assets	150,000	250,000
Stock	90,000	200,000
Cash and Cash Equivalents	0	10,000
Debtors	125,000	250,000
Other Current Assets	10,000	2,000
Current Assets	225,000	462,000
Total Assets	375,000	712,000

Cash and Cash Equivalents	14,800	0
Creditors	120,000	300,000
Accruals	10,000	15,000
Current Liabilities	144,800	315,000
Long Term Liabilities	100,000	170,000
Total Liabilities	244,800	485,000
Net Assets	130,200	227,000
Ordinary Shares	60,000	110,000
Retained Earnings	70,200	117,000
Shareholders Equity	130,200	227,000

Calculate the following Ratios

Profitability

Liquidity

Activity / Efficiency

Leverage Ratios

Gross Margin %
Operating Profit %
Net Profit %
Return on Assets
Return on Shareholder Equity
Current Ratio
Quick Ratio
Cash Ratio
Days Sales Outstanding
Inventory Turns
Days Payable Outstanding
Gearing Ratio
Debt / Equity Ratio
LT Debt / Equity Ratio
Interest Coverage

Questions

- How is the company performing ?
- What is your assessment of the health of the business?
- Key Risks to the company ?
- What recommendations would you have to improve the performance and / or health ?

Exercise

ZZZZ Ltd

Year	2019	2020
Revenue	750,000	1,000,000
COGS	600,000	840,000
Gross Profit	150,000	160,000
SG&A	50,000	80,000
Operating Profit	100,000	80,000
Interest	10,000	20,000
Tax	19,800	13,200
Net Income	70,200	46,800

Balance Sheet

Year	2019	2020
Fixed Assets	150,000	250,000
Stock	90,000	200,000
Cash and Cash Equivalents	0	10,000
Debtors	125,000	250,000
Other Current Assets	10,000	2,000
Current Assets	225,000	462,000
Total Assets	375,000	712,000

Cash and Cash Equivalents	14,800	0
Creditors	120,000	300,000
Accruals	10,000	15,000
Current Liabilities	144,800	315,000
Long Term Liabilities	100,000	170,000
Total Liabilities	244,800	485,000
Net Assets	130,200	227,000
Ordinary Shares	60,000	110,000
Retained Earnings	70,200	117,000
Shareholders Equity	130,200	227,000

Calculate the following Ratios

Profitability

Liquidity

Activity / Efficiency

Leverage Ratios

Gross Margin %	20.0%	16.0%
Operating Profit %	13.3%	8.0%
Net Profit %	9.4%	4.7%
Return on Assets	18.7%	6.6%
Return on Shareholder Equity	53.9%	20.6%
Current Ratio	1.55	1.47
Quick Ratio	0.93	0.83
Cash Ratio	0.00	0.03
Days Sales Outstanding	60.83	91.25
Inventory Turns	6.67	5.79
Days Payable Outstanding	73.00	130.36
Gearing Ratio	43.4%	42.8%
Debt / Equity Ratio	188.02%	213.66%
LT Debt / Equity Ratio	76.80%	74.89%
Interest Coverage	1000%	400%

Questions

- How is the company performing ?
- What is your assessment of the health of the business?
- Key Risks to the company ?
- What recommendations would you have to improve the performance and / or health ?



Definition : An annual report is a document that public corporations must provide annually to shareholders that describes their operations and financial conditions.

The front part of the report often contains an impressive combination of graphics, photos, and an accompanying narrative, all of which chronicle the company's activities over the past year and may also make forecasts about the future of the company.

The back part of the report contains detailed financial and operational information.

Annual Report

What do you think they achieve ? Or

What's their purpose ?



What is the purpose of an Annual Report ?

- **Serving a marketing and PR function**
- **Stating financial performance and goals**
- **Meeting regulatory requirements**
- **Highlighting Achievements in the prior year**
- **Highlights the Companies Mission statement and goals**

Information supplied

General corporate information

Operating and financial highlights

Letter to the shareholders from the CEO

Narrative text, graphics, and photos

Management's discussion and analysis (MD&A)

Financial statements, including the balance sheet, income statement, and cash flow statement

Notes to the financial statements

Auditor's report

Summary of financial data

Accounting policies

Key Reports

- **Chief Executive Letter to Shareholders**
 - **Reviews Strategy**
 - **Vision of the business**
 - **Where we have been and where we are going**
 - **Key changes within the business**
 - **Opportunities for the future**
 - **How we are performing against our plan**
 - **Reassurance / Clarity to Shareholders**

Key Reports

- **Chairman's Letter to Shareholders**
 - **Vision of the business**
 - **Where we have been and where we are going**
 - **Key changes within the business**
 - **Opportunities for the future**
 - **How we are performing against our plan**
 - **Reassurance / Clarity to Shareholders**

Key Reports

- **Chief Finance Officer / FD**
 - **Reviews Strategy**
 - **Financial Performance**
 - **Segmental reporting**
 - **Overview of performance against expectation**
 - **Opportunities for the future**
 - **Reassurance / Clarity to Shareholders**

Key Reports

- **Financials**
 - **Income Statement**
 - **Balance Sheet**
 - **Cashflow**
 - **Notes to Accounts**

Walk through Aston Martin

Finance Management & Planning

Assignment pointers

Thoughts on Sections

Executive Summary

Introduction

Use and Limitation of Ratios

Ratio Analysis

Summary of Findings

Conclusion and Recommendation

Appendices

Thoughts on Sections

Executive Summary

Usually the last thing written as it is the overview and summary of your recommendations and findings.

This is to advise the reader of what the report is about and what your findings are

Introduction

Basic overview of the company - do not spend a lot of words or time on this !!!! This is not a mark rich area of the assignment .

Thoughts on Sections

Use and Limitations of Ratios

Why do we use statements and Ratios

What are the limitations of using them

Ratio Analysis

The outcomes of your calculations

What are they showing show

What changes have happened year on year

Can we link certain Ratio's together for a wider understanding

This is the important bit

Summary of Findings

Critical Analysis of what you are seeing and understanding from the ratios and the wider reading that is informing your decision.

Be conscience of descriptive writing i.e. just explaining

How do we link the findings together ?

Conclusion and Recommendation

What is your decision and how do you back it up with your findings with the information within the report.

This is a Financial review not a personal review.

Appendices

Reference list in Harvard Format

Ratio calculations

The Statements

Where are the marks ?

Engagement with Literature

10 Marks

- References
- Evidence of wider reading

Knowledge and Understanding

20 Marks

- Explanation of the use of Ratios and interpretation of the outcomes
- Demonstrate your knowledge

Cognitive and Intellectual Skills

35 Marks

- Critical Analysis of the information
- Use of the information to explain your decision and conclusion

Practical Skills

20 Marks

- Calculation of the Ratios

Transferable Skills

15 Marks

- The above sections will show how these skills will be used

Things to think about

References – ensure you have referenced your wider reading, the reference list is not bibliography .

Descriptive writing versus critical analysis

Validate your conclusion with your findings

Things to think about

Things to consider

How many years are you reviewing ? 2 year is the minimum

Are you going to compare to a competitor?

Trending analysis

Why do we use these statement

Limitations of the use of these

Why do we use Ratios

Advantages and Disadvantages of their use

What are the Chairman / CEO and CFO saying in the report – Key messages

What other information is available

What would you recommend to improve the financial health of the organisation ?

References for wider reading