Class Notes

Interpretation of accounts (Ratios)

Section 2

Part A - Formulas

Ratio Notes

Ratio analysis is a method of gaining insight into a company's liquidity, efficiency, and profitability by studying its financial statements such as the balance sheet and income statement.

It is used for the following reasons

1. To analysis the performance of the company form one period to the next
2. To try and establish trends from one year to the next
3. If can help aid decision making for different stakeholders
4. To compare performance and state of affairs between company in the same industry

There are 6 different areas of Ratio analysis

1. Profitability
2. Activity
3. Liquidity
4. Efficiency
5. Gearing
6. Investments

1. PROFITABILITY

These formulas look at how profitable a company is and includes the following ratios

1. Return On Capital Employed – usually needed in Part A and B
2. Return On Shareholders funds – usually needed in Part A
3. Gross Profit Percentage (Mark-up) – usually needed in Part A and B
4. Gross Profit Margin - usually needed in Part C
5. Net Profit Margin - usually needed in Part C

Note – The answer format is very important to be awarded the full marks. IT MUST BE CORRECT

Return On Capital Employed (ROCE)

Return on Capital Employed (ROCE)
Profit before interest and tax x 100 Capital Employed
Answer format – Percentage (%)

1. Capital employed is the money invested in the company. It is made up of issued share capital, reserves and long-term liabilities added together. Net profit before interest and tax is used so company who have a higher debt can be compared.
2. This ratio looks at the return to the shareholders from the capital employed. It should be compares to risk free investment of 0-1%. (Please check this rate as it can change each year)
3. A company is regarded profitable if the ROCE is higher than the risk-free investment. It should also be compared to the debenture and preference shareholders

Return on Shareholders Fund (ROSF)

Return on Shareholders Funds (ROSF)
Profit after tax and preference dividends x 100 Shareholders' Funds
Answer format – Percentage (%)

1. Shareholders' funds is the amount on money invested into the company by shareholder. It is made up of issued share capital and reserves added together.
2. This is the return to shareholders after interest, taxes and preference dividends

Difference between ROCE and ROSF

ROCE is the measure of how efficiently a company utilizes all available capital to

.

Gross Profit Percentage (Mark-Up)

Gross Profit Percentage (Mark-Up)
Gross Profit x 100 / Cost of Sales
Answer format – Percentage (%)

1. This shows how much more a company's selling price is than the amount the item costs the company.
2. The higher the markup, the more revenue a company makes. Markup is the retail price for a product minus its cost

Gross profit percentage (Margin)

Gross Profit (Margin)
Gross Profit x 100 / Sales
Answer format – Percentage (%)

1. Gross profit is the profit from buying and selling goods and services. It is calculate using sales – Cost of sales
2. This indicates how much each euro of sales contributes to the company before expenses. For example, if the gross profit margin was 40% this means that for every €100 of sales €40 is gross profit
3. The ratio can increase or decrease. The following are some reasons for this

Decrease	**Increase**	**Overcome a falling Gross profit margin**
1. Falling sale price without cost of sale falling	1. Increase sale price without cost of sale falling	1. Increase selling price
2. Increase in cost of sales (without the increase been passed onto the customer)	2. decrease in cost of sales (without the increase been passed onto the customer)	2. Shop around for a cheaper raw material (quality)
3. Increase in Cash sales not recorded, theft or stock going obsolete	3. Decrease in Cash sales not recorded, theft or stock going obsolete	3. Avail of discounts – pay invoice on time
4. Increased in competition	4. Increased in competition	5. Change the marketing mix
6. Incorrect valuation of stock	5. Buying stock that can be sold at a higher price	

Give 5 different explanations for the decrease/increase in the Gross profit percentage

1. Cash losses — cash sales not recorded
2. Stock losses — pilferage of stock or obsolescent stock
3. Change in sales mix — more sales of low markup goods
4. Mark downs — during sales to get rid of out-of-date stock
5. Incorrect valuation of stock — overvalue of opening stock, undervalue of closing stock
6. Increased cost of sales — without an increase in sales price
7. Falling sales price — without corresponding drop in cost of sales

Difference between Gross Profit Mark-Up and Gross Profit Margin

Markup usually determines how much money is being made on a specific item relative to its direct cost, whereas profit margin considers total revenue and total costs from various sources and various products.

Net Profit Percentage

Net Profit Percentage
Net Profit x 100 / Sales
Answer format – Percentage (%)

1. Net profit is the profit after expenses. It is calculate using Gross profit - Expenses
2. This indicates how much each euro of sales contribute to the company after expenses. for example if the Net Profit Margin was €20 – this means that for every €100 of sales €20 is net profit
3. The ratio can increase or decrease. The following are some reasons for this

Decrease	**Increase**	**Overcome a falling Net profit margin**
1. Decreases efficiency of the Manager	1. Increase efficiencies of the manage	1. Increase selling price
2. An Increase in expenses without passing in it onto the consumer	2. Decrease in expenses without the saving being passed on	2. Cut back on unnecessary expenses
3. An increase in slow moving stock	3. A decrease in slow moving stock	5. Check security system on stock

PAST EXAM THEORY QUESTIONS

2022 – Question 5 - Part C

(c) The gross profit percentage of Watson plc in 2020 was 36%.

- (i) Calculate the gross profit percentage for Watson plc in 2021.
- (ii) Give possible reasons for the change in gross profit percentage in 2021.
- (iii) Outline how a company could improve their gross profit percentage. (10)

2. EFFICIENCY

These ratios are used to see how efficient a company is in using their assets to generate an income. They include

1. Total Asset Turnover
2. Fixed Asset Turnover
3. Current Asset Turnover

Total Asset Turnover

Total Asset Turnover
$\frac{\text{Sales}}{\text{Total Assets}}$
Answer format – Times

1. This ratio measures the value of a company's sales relative to the value of its assets.
2. It can be an indicator of the efficiency with which a company is using its assets to generate revenue.
3. The higher the asset turnover ratio, the more efficient a company is at generating revenue from its assets.
4. But a low asset turnover ratio, it indicates it is not efficiently using its assets to generate sales.

Fixed Asset Turnover

Fixed Asset Turnover
$\frac{\text{Sales}}{\text{Fixed Assets}}$
Answer format – Times

1. This ratio determines the success of a company based on how it's using its fixed assets to make money.
2. A fall in this ratio may be due to management not using their resource wisely for example not producing enough goods for the premises they are in.

To increase this ratio a company should

1. Increase production
2. Move to a smaller premises
3. If they have too many delivery vans sell the one they don't need

Current Asset Turnover

Fixed Asset Turnover
Sales Current Assets
Answer format – Times

1. This ratio measures the efficiency a company uses its assets to produce sales.
2. A company with a high asset turnover ratio operates more efficiently as compared to competitors with a lower ratio.
3. A fall in this ratio may be due to a problem with sale or current assets.

For example, having more closing stock or an increase in people not paying us (Debtors). This can lead to overtraining.

To increase this ratio a company should

4. Offer a discount for slow moving stock
5. Offer discount to debtors to encourage them to pay on time

Overtrading this occurs when the company is trying to finance a high volume of sales with little working capital (to much credit given to Debtors)

3. LIQUIDITY

These ratios look at the company ability to repay the debt that it owes. It looks at the how liquid and Solvent a company is. They include the following ratios

1. Current Ratio / Working Capital Ratio - usually needed in Part B
2. Acid Text / Quick Ratio - usually needed in Part B

Liquidity

Def This measures the ability of the company to pay its short-term debts as they fall due.
For example - The acid test ratio is a good indicator of liquidity as it includes only liquid assets i.e. cash and debtors. (Liquid Assets are asset that can be converted into cash quickly)

Solvency

Def This is the ability of a company to pay all of its debts as they fall due for payment (long term). Solvency is the most important indicator of a company's ability to survive in the long term. A company is solvent if its total assets exceed its outside liabilities.

Current Ratio / Working Capital Ratio

Current Ratio / Working Capital Ratio
Current Assets / Current Liabilities
Answer format - 2 : 1

1. This ratio measures a company's capacity to pay its short-term liabilities due in one year.
2. This show whether the working capital is enough for the day-to-day running of the company. The recommended ratio is 2:1.
3. This means that for every €1 owed in the short term the company has €2 to pay it if the ratio is too high the company is making inefficient use of its resources

Acid test Ratio /Quick Ratio

Acid test Ratio / Quick Ratio
Current Assets – Closing Stock Current Liabilities
Answer format - 1 : 1

1. This rati0 measures a company's short-term liquidity and indicates whether a company has sufficient cash on hand to meet its short-term debt
2. It is a good indicator of how liquid the company is. It does not include closing stock as this is difficult to turn into cash quickly. A recommended ratio is 1:1.
3. This means that for every €1 owed in the short term the company has €1 to pay it if the ratio is too high the company is making inefficient use of its resources

Liquidity Problems

Remember liquidity is the ability of the company to pay its short-term debts as they fall due. The following are some steps that can be taken to solve a liquidity problem

1. Have a strict credit policy – debtors pay early – offer a cash discount
2. Issue remaining shares from authorised capital
3. Postpone any planned capital projects
4. Avoid paying dividends

PAST EXAM QUESTIONS – THEORY

2019 - Question 5 - part C

(c) Shannon plc is considering acquiring a solar panel company, Gener8 Ltd in 2019. Gener8 Ltd has supplied the following balance sheet information for 31/12/2018.

Closing stock	€47,000
Creditors	€45,000
Debtors	€39,000
Expenses accrued	€15,000
Expenses prepaid	€13,000
Bank overdraft	€16,500

Based on the information given in the above table:

(i) Calculate the current ratio for Gener8 Ltd. Calculate the acid test ratio for Gener8 Ltd.

(ii) Using the calculated figures explain why it is important for Shannon plc to analyse the liquidity position for Gener8 Ltd. (10)

2014 – Question 5 – Part C

(c) Explain the difference between the terms 'Liquidity' and 'Solvency' when used in Ratio Analysis. Refer to relevant ratios in your explanation. (10)

4. ACTIVITY RATIO

These ratios usually include the following. They usually come up in part A and MUST be known as one WILL appear in your exam

1. Stock turnover – usually needed in Part A
2. Average Stock - usually needed in Part A
3. Average period of credit given to debtors - usually needed in Part A and B
4. Average period of credit given to creditors - usually needed in Part A and B

Stock turnover

Stock Turnover
Cost of sales Average stock
Answer format - Times

Average stock
Opening stock + Closing stock 2
Answer format - Euro

1. This in the number of times in a year that the average stock is sold. It can vary from company to company – high end cars compare to everyday cars.
2. If the stock turnover figure is falling it could be an indicator that the company is slowing down.
3. If the stock turnover figure is increasing, it could mean they are running the risk of running out of stock and stock shortage.
4. These two formulas are usually used when asked to calculate opening stock or closing stock

How a faster stock turnover can increase the profitability of a company.

1. Each time stock is sold, because it contains a mark-up, profitability increases.
2. If the cost of buying the extra stock increases at a slower rate than the mark-up then profitability increases.
3. The more times the stock is turned over the greater the mark-up and profit will be increased.
4. Where stock turnover is high less stock may be held resulting in reduced stock holding costs (insurance, waste) which could lead to an increase in profitability.
5. A faster stock turnover means that the firm may enjoy economies of scale, such as bulk-buying discounts, which will reduce costs and increase profitability.

Average period of credit given to debtors

Average period of credit given to debtors
Trade debtors x 12 / 52 / 365 Credit Sales
Answer format - Months / Weeks / Days

1. This is the amount of time it takes the company to collect debts form debtors.
2. It is given in days, months or years. The faster the company collects the better it is
3. It is usually used when ask to calculate cash sales

Average period of credit given to creditors

Average period of credit given to debtors
Trade credit x 12 / 52 / 365 Credit Sales
Answer format - Months / Weeks / Days

1. This is the amount of time it takes the company to pay its debts to creditors. It is given in days, months or years.
2. The longer it takes can help the company with cashflow, but they will miss out on discounts
3. It is usually used when ask to calculate cash purchases

PAST EXAM QUESTIONS – THEORY

2020 – Question 5 – Part C

(c) Explain how a faster stock turnover can increase the profitability of a company. (10)

2018 – Question 5 – Part C

(c) Born2Run plc is considering expansion by purchasing a small sportswear company. It has obtained the following information relating to this company:

	2014	2015	2016	2017
Period of credit allowed to debtors	60 days	54 days	46 days	40 days
Period of credit received from creditors	20 days	26 days	30 days	34 days
Stock turnover	12 times	11 times	9 times	6 times

Having analysed the information in the above table, what advice would you give Born2Run plc regarding this purchase? (10)

5. GEARING

These ratios look at if the company is finance more by equity (lowly geared) or debt (highly geared). They include the following

1. Fixed interest capital to capital employed - usually needed in Part A and B
2. Fixed interest debt to equity - usually needed in Part A and B
3. Interest Cover - usually needed in Part A and B

Note – Only need to know Fixed interest capital to capital employed or Fixed interest debt to equity for the comment section of the exam. You will see from past making schemes that the fixed interest ratio is more popular and the fixed interest percentage is also given in the answer. If you leave this one out you might lose only 1 mark

Total Capital	Equity Capital + Fixed Interest Capital
Equity Capital (Equity)	Ordinary Share Capital + Reserves
Fixed Interest Capital (Debt)	Term Loans + Debentures + Preference Shares

There are 3 types of geared company

1. Lowly geared – Less than 50% and depends on outside borrowing so don't have to pay extra interest
2. Highly geared – Above 50% and depends on outside borrowing so pay back a lot in interest
3. Neutral – equal to 50% - debt = equity

Fixed interest Capital to Capital Employed

Fixed interest capital to capital employed
Loan + Debenture + Preference x 100 Capital employed
Answer format - Percentage

Fixed Interest Debt to Equity

Fixed interest debt to equity
Loan + Debenture + Preference x 100 Ordinary shares issued + Retained earning
Answer format - Percentage

Highly Geared

1. This is when the company has more debt finance that equity finance (Debt > Equity or Above 50%)
2. With more debt the company has to pay back more interest (Even if a profit has been mad or not). This means there is less dividend for the shareholders (as interest is paid out net profit)
3. A higher level of gearing can indicate a risk of company collapse

Lowly Geared

1. This is when the company has more equity finance that debt finance (Equity < Debt or Below 50%)
2. This meant that the company is finance more through equity finance than debt finance. There is less chance of the company having to sell collateral to pay back debts.
3. Finance comes from the selling of shares in the company which also dilutes the company

Neutrally Geared

1. This is when debt finance and equity finance are the same (50%)

Explain Gearing

1. This is a measure of how a company is financed on a long-term basis.
2. It measures the relationship between fixed interest debt (loans/debentures + preference shares) and total capital employed/equity.

When this is less than 50%/100%, the company is lowly geared. Above 50%/100% is highly geared. Low gearing is preferable

What are the Benefits of a low gearing Company?

When fixed interest debt is a small proportion of overall capital it has the following benefits:

1. Low interest repayments mean more profits are available for investment elsewhere in the company.
2. Shareholders are more likely to get a dividend when gearing is low.
3. The company should find it easier to raise additional loan finance.
4. Less risk of liquidation due to not being able to make interest payments.

What are the disadvantages to a company of having a high gearing?

When fixed interest debt is a high proportion of overall capital it has the following disadvantages:

1. High interest repayments mean less profits are available for investment elsewhere in The company
2. Shareholders are less likely to get a good dividend when gearing is high.
3. The company would find it more difficult to raise additional loan finance.
4. There is a higher risk of liquidation due to not being able to make interest payments.

Explain two ways to reduce gearing of a company.

1. Sell more ordinary shares to increase shareholders equity as a proportion of capital employed.
2. Reduce or repay loans to reduce fixed interest debt as a proportion of capital employed.
3. Increase reserves/retained profits to increase shareholders equity as a proportion of capital employed.
4. Convert long-term debt to ordinary shares reducing fixed interest debt and increasing Shareholders equity.

Interest Cover

Fixed interest debt to equity
Profit before interest and tax Interest for the year
Answer format - Times

1. The interest coverage ratio measures the ability of a company to pay the interest on its outstanding debt.
2. This measurement is used by creditors, lenders, and investors to determine the risk of lending money to a company.
3. A high ratio indicates that a company can pay for its interest expense several times over, while a low ratio is a strong indicator that a company may default on its loan payments.
4. A recommended ratio of 3:1 is advised

PAST EXAM QUESTIONS – THEORY

2021– Question 5 – Part C

(i) What are the disadvantages to a company of having a high gearing?

(ii) Explain two ways to reduce the gearing of a company. (10)

2016 – Question 5 – Part C

(c) (i) Explain the term 'Gearing'.

(ii) What are the benefits to a company of having a low gearing?

(iii) State two ways to reduce the gearing of a company. (15)

6. INVESTMENT RATIOS

These are ratios that the investors use in order to evaluate the company's ability to generate the return for their investment. They include the following

1. Earning per share (EPS) - usually needed in Part A and Part B
2. Price Earnings Ratio (P/E Ratio) - usually needed in Part A and Part B (also can be used to calculate Period to recover shares at present earnings/performance)
3. Period to recover shares at present payout – usually needed in Part A
4. Dividend per share - usually needed in Part A and Part B
5. Dividend Cover - usually needed in Part A and Part B
6. Dividend payout rate - usually needed in Part A and Part B
7. Dividend Yield - usually needed in Part A and Part B

Earnings Per Share

Fixed interest debt to equity
Net profit after preference dividends No. of ordinary shares issued
Answer format - Cent

1. This is the profit in cent that comes from each share. It shows investors (Shareholders) how well their investment is been used.
2. The answer is given in cent
3. The higher the return the better

Price Earnings Ratio

Price Earnings Ratio
Market price per share Earnings Per Share
Answer format - Years

1. This indicates how long it would take the company to cover the market value of one ordinary share based on today earnings
2. The answer is given in years

3. A high P/E ratio indicates that the company is expected to increase profits in the future
4. A low P/E ratio shows little confidence in the company ability to be profitable in the future

Note – Used also to calculate the period to recover shares at present earnings (performance)

Period to recover shares at present payout

Price to recover shares at present payout
Market price per share Dividend per share
Answer format - Years

1. This looks at how long it will take an investor to get their investment back based on the dividend policy of the company
2. The answer is given in years

Dividend Per Share

Dividend per share
Ordinary dividend No. of ordinary shares issued
Answer format - Cent

1. This is the amount of dividend paid to ordinary shareholders.
2. This is decided by the Board of Directors at the AGM and is usually a percentage of issued share capital

Dividend Cover

Dividend cover
Net profit after tax and preference dividends Ordinary dividend
Answer format - Times

1. This shows the number of times the company can pay it's ordinary shareholder dividends
2. It shows the level of rick to dividend if profits were to fall
3. Shareholders would like to see this figure high because it indicates that dividend will be paid in the future

Dividend Payout

Dividend payout
Dividend per share Earnings per share
Answer format - Percentage

Dividend pay-out should be less than 50% for Debenture holders to be satisfied and

1. should be around 50% for shareholders to be happy as this means the company is retaining enough money for expansion and paying interest.
2. If above 50% - they are paying out too much dividend – this means that debenture holders will not be happy as the company is not retaining enough money for expansion and paying interest.
3. If below 50% - Debenture holders would be happy as the company should have enough retained for expansion and paying interest.
4. The formula to calculate Dividend payout is = DPS/EPS x 100/1 = %

Dividend Yield

Dividend yield
Dividend per share x 100 Market price per share
Answer format - Percentage

1. This shous the return received by investors in dividend.
2. It should be compared with risk free investments
3. It is not the complete earnings as some profit is kept back in the company to help with expansion (Retained Earnings)

Limitation of the Ratio Analysis

State the limitations of ratio analysis as a financial analysis technique

1. It analyses past figures only and these figures are quickly out of date (historical). It merely gives us clues to the future.
2. Ratios do not show seasonal fluctuations
3. Firms use different accounting bases and therefore company comparisons are not accurate
4. Financial Statements do not reveal other important aspects of a company
5. Accounts alone cannot measure aspects which may be extremely significant such as monopoly position, economic climate, staff morale and management/staff relationships.

Why would employee be interested in financial information

An employee would be interested in the financial information for the following reasons

1. To assess job security.
2. To see if shareholder dividends are increasing which could be used as a negotiation strategy.
3. To see if the company can continue to pay existing wage rates or can it afford a pay rise.
4. To see if the company plans to expand and thereby assess the prospects for promotion.
5. To assess pension security.

Stakeholders interested in financial information

The following is a list of stakeholders who are interested in financial information

1. Lending institutions
2. shareholders,
3. competitors
4. Trade creditors
5. The revenue,
6. Directors.

PAST EXAM QUESTIONS – THEORY

Past Exam Question 2015 Question 5 Part C

State the limitations of ratio analysis as a financial analysis technique

Past Exam Question 2017 – Question 5 – Part C

(c) (i) Employees are users of financial information. If you were an employee of JB plc explain why the financial information of the company would be of interest to you.

(ii) Identify two other users of financial information. (10)