

# Interpretation of Financial Statements (Using UK GAAP)

---

## 1 Profitability ratios

### Return on capital employed (ROCE)

Capital employed is normally measured as fixed assets plus current assets less current liabilities and represents the long-term investment in the business, or owners' capital plus long-term liabilities. Return on capital employed is frequently regarded as the best measure of profitability.

$$\text{ROCE} = \frac{\text{Profit before interest and taxation (PBIT)}}{\text{Capital employed}} \times 100\%$$

Note that the profit before interest is used, because the loan capital rewarded by that interest is included in capital employed.

A low return on capital employed (assets used) is caused by either a low profit margin or a low asset turnover or both. This can be seen by breaking down the primary ROCE ratio into its two components: profit margin and asset turnover.

$$\begin{aligned}\text{ROCE} &= \frac{\text{PBIT}}{\text{Capital employed}} \\ &= \frac{\text{PBIT}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Capital employed}} \\ &= \text{Profit margin} \times \text{Asset turnover}\end{aligned}$$

### Profit margin (on sales)

$$\text{Margin} = \frac{\text{Profit before interest and taxation}}{\text{Sales}} \times 100\%$$

A low margin indicates low selling prices or high costs or both.

### Asset turnover

This will show how fully a company is utilising its assets.

$$\text{Asset turnover} = \frac{\text{Sales}}{\text{Capital employed}}$$

A low turnover shows that a company is not generating a sufficient volume of business for the size of the asset base. This may be remedied by increasing sales or by disposing of some of the assets or both.

### **Gross profit margin**

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

The gross profit margin focuses on the trading account. A low margin could indicate selling prices too low or cost of sales too high.

### **Return on owners' equity**

$$\frac{\text{Profit after interest and preference dividends but before tax}}{\text{Ordinary share capital and reserves}} \times 100\%$$

This looks at the return earned for ordinary shareholders. We use the profit after preference dividends and interest (ie, the amounts that have to be paid before ordinary shareholders can be rewarded).

## **2 Liquidity ratios and asset utilisation**

### **Current ratio**

This indicates the extent to which the claims of short-term creditors are covered by assets that are expected to be converted to cash.

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

### **Acid test ratio (quick ratio)**

This is calculated in the same way as the current ratio except that stocks are excluded from current assets.

$$\text{Acid test ratio} = \frac{\text{Current assets} - \text{Stock}}{\text{Current liabilities}}$$

This ratio is a much better test of the immediate solvency.

### **Debtors ratio**

This is computed by dividing the debtors by the average daily sales to determine the number of days sales held in debtors.

$$\text{Average collection period} = \frac{\text{Trade debtors}}{\text{Credit sales}} \times 365 \text{ days}$$

A long average collection period probably indicates poor credit control.

### **Creditors ratio**

This is computed by dividing the creditors by the average daily credit purchases to determine the number of days purchases held in creditors.

$$\text{Average payment period} = \frac{\text{Trade creditors}}{\text{Credit purchases}} \times 365 \text{ days}$$

### **Stock turnover**

This ratio indicates whether stock levels are justified in relation to sales. The higher the ratio, the healthier the cash flow position.

$$\text{Stock turnover} = \frac{\text{Cost of sales}}{\text{Stocks}}$$

Stock turnover can also be calculated in days as:

$$\text{Stockholding period} = \frac{\text{Stock}}{\text{Cost of sales}} \times 365 \text{ days}$$

## **3 Investor ratios**

### **Earnings per share**

$$\text{Earnings per share} = \frac{\text{Earnings available for ordinary shareholders}}{\text{Number of ordinary shares in issue}}$$

Earnings available for ordinary shareholders' means profits after interest, taxation and preference dividends. Earnings per share is used by investors in calculating the price-earnings ratio or PE ratio. This is simply calculated as follows.

$$\text{PE ratio} = \frac{\text{Market price of share}}{\text{Earnings per share}}$$

A high PE ratio means that the shares are seen as an attractive investment. For example, if the PE ratio is 20, it means that investors are prepared to pay 20 times the annual level of earnings in order to acquire the shares.

### **Dividend cover**

$$\text{Dividend cover} = \frac{\text{Profit available to ordinary shareholders}}{\text{Dividend}}$$

This gives an indication of the security of future dividends. A high dividend cover ratio means that available profits comfortably cover the amount being paid out in dividends.

#### 4 Risk

##### **Gearing**

Gearing measures the extent to which a business is dependent on borrowed funds, as opposed to equity funding. Gearing gives an indication of long-term liquidity and the risk inherent within the business. Highly geared companies have to meet interest commitments before paying dividends and may have problems raising further finance if expansion is necessary.

$$\text{Gearing} = \frac{\text{Long - term debt and preference share capital}}{\text{Shareholder funds and long - term debt and preference share capital}} \times 100\%$$

##### **Interest cover**

$$\text{Interest cover} = \frac{\text{Profit before interest}}{\text{Interest paid}}$$

Interest on debt has to be paid before shareholders can receive dividends. Therefore a good measure of risk is to compare available profit with the amount of interest to be paid.

## Example

Now calculate all of the above ratios on the following profit and loss account and balance sheet for a company called JG Ltd.

### SUMMARISED BALANCE SHEET AT 31 DECEMBER 20X8

	£000	£000
Fixed assets		2,600
Current assets		
Stocks	600	
Debtors	900	
Balance at bank	100	
	<u>1,600</u>	
Trade creditors	800	
		<u>800</u>
		<u>3,400</u>
Debenture stock		1,400
		<u>2,000</u>
Capital and reserves		
Ordinary share capital (£1 shares)		1,000
Preference share capital		200
Profit and loss account		<u>800</u>
		<u>2,000</u>

### SUMMARISED PROFIT AND LOSS ACCOUNT FOR THE YEAR ENDED 31 DECEMBER 20X8

	£000
Sales	6,000
Cost of sales (including purchases £4,300)	<u>4,500</u>
Gross profit	1,500
Administrative and distribution costs	<u>1,160</u>
Trading profit	340
Debenture interest	<u>74</u>
Profit before tax	266
Taxation	<u>106</u>
Profit after tax	160
Preference dividend	<u>10</u>
Profit available for ordinary shareholders	150
Ordinary dividend	<u>10</u>
Retained profit	<u>140</u>

## Solution

ROCE	=	10%	$340/3,400 \times 100\%$
Profit margin	=	5.7%	$340/6,000 \times 100\%$
Asset turnover	=	1.8 times	$6,000/3,400$
Gross profit margin	=	25%	$1,500/6,000 \times 100\%$
Return on owners' equity	=	14.2%	$(266 - 10)/(1,000 + 800) \times 100\%$
Current ratio	=	2 times	$1,600/800$
Acid test ratio	=	1.25 times	$(900 + 100)/800$
Debtors ratio	=	55 days	$900/6,000 \times 365 \text{ days}$
Creditors ratio	=	68 days	$800/4,300 \times 365 \text{ days}$
Stock turnover	=	7.5 times	$4,500/600$
Earnings per share	=	15p	$150/1,000$
Dividend cover	=	15 times	$150/10$
Gearing	=	47%	$(1,400 + 200)/3,400 \times 100\%$
Interest cover	=	4.6 times	$340/74$

## Interpretation

The first stage of answering questions on interpretation is to calculate the ratios; the second is to draw conclusions about the company based on those ratios. A study of the trend of ratios for several years is desirable before drawing firm conclusions about many aspects of a company's position. Let us consider what conclusions we may draw from the illustrative accounts of J G Ltd above.

### Profitability

1. Return on capital employed – The company shows a return on total capital employed of 10%: not dramatically good, but satisfactory. Note that it exceeds the rate of interest being paid on the debentures (5.3%).
2. Net profit as percentage of sales – This is fairly low at 5.7%. The net profit as a percentage of sales varies greatly from industry to industry: more information is needed about the performance of other companies to draw useful conclusions about the level of this ratio.
3. Asset turnover ratio – The overall efficiency may be judged by asset turnover. This is 1.8 times for J G Ltd.
4. Gross profit margin – This is a more respectable 25% but again comparison to the industry average would indicate whether it is acceptable.
5. Return on owners' equity – The level of acceptability of 14.2% will depend on three things.
  - ◆ The investors' anticipated return.
  - ◆ The industry average or that of competitors.
  - ◆ The return available in other forms of investment, eg building society.

## **Liquidity**

A quick ratio of about 1:1 is normally regarded as indicating a reasonable level of liquidity. The current ratio is often more variable, because of variations in a company's need to hold stocks. We may deduce either that the nature of J G Ltd's business is such that above-average stock levels are needed, or that its stock control procedures leave something to be desired. More information is clearly needed. The stock turnover ratio may throw more light on this aspect: see 'asset utilisation' below.

## **Asset utilisation**

Several ratios give some idea of management efficiency.

1. Asset turnover ratio – Unfortunately we can draw no conclusions whatsoever about the company and the efficiency of its management without more information to compare it with the ratios for J G Ltd in past years and the ratios for other similar companies in the current year.
2. Debtors ratio – J G Ltd's figure of 55 days is probably acceptable, since 60 days is often regarded as 'par' for a company offering normal credit terms of monthly settlement for all its sales.
3. Creditors ratio – J G Ltd is paying its creditors on average in 68 days. This is after the period from which it collects its debtors (55 days) so it will help cash flow overall.
4. Stock turnover ratio – This comes to 7.5 times for J G Ltd. It is again difficult to draw conclusions about this figure in isolation. It needs to be compared with other years for J G Ltd and with other companies.

## **Investor ratios**

1. Earnings per share – J G Ltd's earnings per share is 15p. This should be compared to J G Ltd's earnings per share achieved in prior years to determine whether the trend is favourable or not.
2. Dividend cover – This is fifteen times, a very secure profit to dividend ratio.

## **Risk**

1. The gearing ratio for J G Ltd is 47%. Anything over 50% would probably be regarded as fairly high.
2. Interest cover – For J G Ltd this is 4.6 times. This may be considered reasonable.