

**Why analyse financial statements?**

When we analyse financial statements, we would like to find answers to the following questions:

1. How profitable is the business?  
Did the business achieve their profit margin?  
How well does the business control its expenses?  
→ **Profitability**  
→ **Profit margin**
2. Do the assets exceed the liabilities?  
→ **Solvency**
3. Will the business be able to pay short term obligations (debt) such as creditors, bank overdraft and short term loans?  
→ **Liquidity**
4. What is the extent to which the company is financed by borrowed funds and how does this affect the degree of financial risk? Is the business credit worthy / low geared? Will the bank grant the business a loan?  
→ **Risk indicator**
5. Does the business earn a good return on the capital the shareholders invested in the business?  
→ **Return**
6. **Market value ratios**  
Financial indicators specific to companies. It evaluates the economic status of the company.

From the Income Statement → <b>Profitability</b> → <b>Profit margin</b> → <b>Operating efficiency</b>	
1.	Gross profit as % of sales $\frac{\text{Gross profit}}{\text{Sales}} \times \frac{100}{1} = \%$
2.	<b>Profit mark-up</b> = Gross profit as % of cost of sales $\frac{\text{Gross profit}}{\text{Cost of sales}} \times \frac{100}{1} = \%$
Compare these % to the % achieved during the previous years. Compare these % with the <b>expected profit margin</b> of the business. If the profit mark-up is <b>below the expected profit margin</b> , it can be due to the following: <ul style="list-style-type: none"> <li>- There were specials on sales (SALE) to get rid of old stock and/or to increase the turnover/sales.</li> <li>- Strong competition forcing the business to decrease their selling price.</li> <li>- Suppliers increased their prices, therefore the cost price will increase and the business will not manage to reach the expected profit margin.</li> <li>- Mistakes was made calculating prices with source documents or entries in the books.</li> <li>- Normal stock losses including theft of stock, damage to stock, stock became obsolete and cannot be sold anymore, etc.</li> </ul> The larger the gross profit margin, the better for the business. <b>If sales (turnover) increase, gross profit will also increase.</b>	

3.	<p>Net profit before tax as % of sales</p> $\frac{\text{Net profit before tax}}{\text{Sales}} \times \frac{100}{1} = \%$
<p>Measures overall operating efficiency.</p> <p>A comparison of <b>operating profit as % of sales</b> (6) with this figure will show the effect finance costs (interest income and interest expense) had on the business.</p> <p><i>A percentage of 12%, for example, will indicate that for ever R100 sales, R12 was made as profit before tax.</i></p>	
4.	<p>Net profit before tax as % of cost of sales</p> $\frac{\text{Net profit before tax}}{\text{Cost of sales}} \times \frac{100}{1} = \%$
5.	<p>Operating expenses as % of sales</p> $\frac{\text{Operating expenses}}{\text{Sales}} \times \frac{100}{1} = \%$
<p>This indicates <b>what percentage of sales is spent on operating expenses</b>.</p> <p>This also tests the cost control of the business and will be compared to the figures of the previous years.</p> <p><i>A percentage of 25%, for example, will indicate that for every R100 sales, R25 was spent on expenses.</i></p> <p>A <b>decrease</b> in this percentage indicates that the business <b>controlled their expenses well</b>.</p> <p>If this percentage is too high, the business should look at ways to cut expenses / overhead costs.</p>	

6.	<p>Operating profit as % of sales</p> $\frac{\text{Operating profit}}{\text{Sales}} \times \frac{100}{1} = \%$
<p>Operating profit = Gross profit + other operating income – operating expenses.</p> <p>Measures <b>overall operating efficiency</b>.</p> <p>It tests the cost control of the business → does the business have control over their operating expenses.</p> <p>A <b>decrease</b> in this percentage indicates the business was <b>less efficient in controlling expenses</b>.</p>	
<p>From the Balance Sheet</p> <p>→ <b>Solvency</b></p>	
7.	<p>Net assets = Total assets – Total liabilities</p>
8.	<p>Solvency ratio = Total assets : Total liabilities</p>
<p>This indicated whether a business will be <b>able to settle their total obligations</b>.</p> <p>It can also show how many assets are financed through debts.</p> <p>Banks and other financial institutions will inspect solvency to determine whether the business can pay off their total commitments.</p> <p>This should be <b>at least 1 : 1</b> for the business to be solvent.</p> <p>It is more acceptable if it is 2 : 1, as that would indicate there are TWO assets for every ONE liability.</p>	

	From the Balance Sheet → <b>Liquidity</b>
9.	Current ratio = Current assets : Current liabilities = X : 1
	<p>The Current ratio test if the business has enough <b>current assets</b> to <b>pay creditors, bank overdrafts, short term loans</b>, etc.</p> <p>A good indication for the current ratio is that there should be <b>at least TWO current assets for every ONE current liability</b>.</p> <p>If it is <b>less</b>, the business might <b>struggle to meet short-term obligations</b>.</p> <p>It is sometimes difficult to convert inventory into cash and the Acid test ratio will then be used → it tests if the business has enough liquid assets (debtors and cash) to pay short term obligations.</p>
10.	Asset test ratio (Current assets – Inventory) : Current liabilities = X : 1
	<p>The Acid test ratio test if the business has enough <b>liquid assets</b> (debtors and cash) to <b>pay creditors, bank overdrafts, short term loans</b>, etc.</p> <p>Acid test ratio test the <b>ability of the business to settle current debts under abnormal circumstances</b> such as a bad economic depression.</p> <p>A good indication for the acid test ratio is that there should be <b>at least ONE liquid asset for every ONE current liability</b>.</p> <p>If it is <b>less</b>, the business might <b>struggle to meet short-term obligations</b>.</p> <p>A possible way to improve the acid test ratio is to:</p> <ul style="list-style-type: none"> <li>- Sell off excess stock, and to</li> <li>- Collect debtors sooner</li> </ul>

	This ratio should not be too high as it could indicate that <b>excess funds are tied up in current assets/stock</b> which are not earning a return for the business.
11.	Net working capital = Current assets – Current liabilities
12.	<p>Average stock holding period</p> $\frac{\text{Average trading stock}}{\text{Cost of sales}} \times \frac{365}{1} = \text{days}$ $\frac{\text{Average trading stock}}{\text{Cost of sales}} \times \frac{12}{1} = \text{months}$
	<p>The <b>number of days / months stock on hand</b> in the business. This will vary from one business to the next depending on the <b>type of business and products they sell</b>.</p> <p>This helps the business to plan for stock replenishment.</p> <p><u>Too high stock levels</u> implicate:</p> <ul style="list-style-type: none"> <li>- Increase in insurance costs</li> <li>- Additional risk like fire or theft</li> <li>- Stock can become obsolete</li> </ul>
13.	Stock turnover rate $\frac{\text{Cost of sales}}{\text{Average trading stock}} = X \text{ times per year}$
	<p>A measure of the <b>number of times inventory is sold or used</b> in a time period such as a <b>year</b>. It is calculated to see if a business has an excessive inventory in comparison to its sales level.</p> <p>The more effective a business can <b>increase their rate of stock turnover</b>, the <b>more profit</b> they can make.</p> <p>It will be compared to the figures of the previous year and some objectives the business set for themselves.</p>

If stock turnover is **too high**, the business can **run out of stock**.

If stock turnover is **too low**, stock can **become obsolete**.

A low stock turnover rate means:

- Over investment in stock,
- Excessive purchases of stock,
- Slow moving (selling) of stock.

A way to improve the stock turnover rate is to have special sales, discounts or rewards.

**Good control** over stock will ensure that the business **do not run out of stock** or **prevent** stock from becoming **obsolete**.

14. Debtors collection period

Average debtors =  $\frac{1}{2}$  (Debtors beginning of year + Debtors end of year) → **Only Trade debtors**

$$\frac{\text{Average debtors}}{\text{Credit sales}} \times \frac{365}{1} = \text{days}$$

$$\frac{\text{Average debtors}}{\text{Credit sales}} \times \frac{12}{1} = \text{months}$$

If the collection period increases (e.g. from 30 to 35 days), the business should look at its credit and collection policy.

The collection of debts could **improve** by:

- ✓ Proper screening of new debtors (credit worthiness)
- ✓ Charging interest
- ✓ Setting credit limits

Encourage debtors to settle accounts by offering discounts.

15. Creditors payment period

Average creditors =  $\frac{1}{2}$  (Creditors beginning of year + Creditors end of year) → **Only Trade creditors**

$$\frac{\text{Average creditors}}{\text{Credit purchases}} \times \frac{365}{1} = \text{days}$$

$$\frac{\text{Average creditors}}{\text{Credit purchases}} \times \frac{12}{1} = \text{months}$$

A business should negotiate a longer payment period with creditors (60 – 90 days).

They should, however, make sure they **pay creditors on time** to **prevent interest charged** on overdue accounts.

A business may experience **cash flow problems** if **creditors demand payment** before receipts from debtors.

An increase in the number of days a business takes to pay creditors can be an indication that the business has liquidity problems.

From the Balance Sheet

→ **Risk indicator**

16. Debt/Shareholders equity ratio – *the lower the better!*

Non-current liabilities : Shareholders equity = X : 1

This ratio gives an indication **how the business is financed**.

Capital provided by the **Shareholders = own capital**.

Funds **borrowed** from other institutions = **foreign capital**.

This indicates the **ratio between borrowed capital and own capital**.

A business that relies mainly on own capital is often seen as a **low risk business** and would more easily obtain a loan.

One can assume that a business with a debt : shareholders equity ratio **under 0,5:1** is **low risk and creditworthy** (The firm does not depend on outside funding).

A business with a ratio **above 1:1** relies mainly on borrowed capital and is seen as **high risk and not creditworthy**.

A **decrease** indicates that a company is relying less on debts financing – indication of financial health.

An **increase** means more risk. The company has less cash available for general operations and to pay suppliers, since it needs to cover its interest expense and installments.

Compare the Return on total capital employed (ROTCE) with the interest rate on loans and comment on gearing.

When the ROTCE is higher than the % interest on loans, the business has a **positive gearing**.

When the ROTCE is lower than the % interest on loans, the business has a **negative gearing**.

From the Balance Sheet

→ **Return**

17. Return on shareholders equity (ROSHE)
- Average shareholders equity =  $\frac{1}{2}$  (Shareholders equity beginning of year + Shareholders equity end of year)
- Shareholders equity = Ordinary Share capital + Retained income

$$\frac{\text{Net profit after tax}}{\text{Average shareholders equity}} \times \frac{100}{1} = \%$$

This percentage gives an indication **how much return** the shareholders earned on the capital invested in the business.

It allows them to compare the **rate of return** in the **business** with the **rate of alternative investments** such as a fixed deposit/investment.

There are a couple of factors that could have an influence on this ratio, for instance how long the business has been running, economic climate and whether new shares were issued during the year.

18. Return on total capital employed (ROTCE) → **Gearing**

Capital employed = Shareholders equity + Long-term liabilities

$$\frac{\text{Net profit before tax} + \text{Interest expense}}{\text{Average capital employed}} \times \frac{100}{1} = \%$$

This indicates **how effective** the funds were used through operating activities to **generate revenue**.

The **percentage obtained** should be higher than the **interest paid** on borrowed capital for a positive gearing.

If a company has a low ROTCE, it means it is using its resources inefficiently and has a negative gearing.

EBIT = Earnings before interest and tax  
(Profit before tax and finance cost)

From the Balance Sheet → <b>Market value ratios</b>	
19.	<p>Earnings per share (EPS)</p> $\frac{\text{Net profit after tax}}{\text{Number of shares issued}} \times \frac{100}{1} = X \text{ cents per share}$ <p><b>NB:</b> If shares were <b>repurchased</b> on the <b>last day</b> of the financial year, we <b>do not take</b> the repurchasing transaction into account for “number of shares issued”. In other words we use the number of shares as it was for the whole year.</p>
<p>Compare the result with the previous year’s EPS.</p> <p><b>Profitability has an effect on earnings per share.</b></p> <p>There are a couple of factors that could have an influence on this ratio, for instance how long the business has been running, economic climate and whether new shares were issued during the year.</p>	
20.	<p>Dividends per share (DPS)</p> $\frac{\text{Dividends paid and declared}}{\text{Number of shares issued}} \times \frac{100}{1} = X \text{ cents per share}$ <p><b>NB:</b> If shares were <b>repurchased</b> on the <b>last day</b> of the financial year, we <b>do not take</b> the repurchasing transaction into account for “number of shares issued”. In other words we use the number of shares as it was for the whole year.</p>
<p>Compare the result to the previous year’s DPS.</p> <p>Having an <b>increase in DPS</b> is <b>usually a good sign</b> as it shows the directors of the company believe that the <b>growth can be sustained</b>.</p> <p>A <b>decrease</b> in DPS can indicate to investors that the <b>company is not doing well financially</b> and could lead to a <b>drop in market price</b>, as investors might sell off their shares.</p>	

<p><b>DPS and EPS can be compared</b> to each other as:</p> <ul style="list-style-type: none"> <li>- Earnings per share shows how much profit the business made per share and</li> <li>- Dividends per share shows how much of that profit per share was paid out to the shareholders and how much was retained.</li> </ul>	
21.	<p>Net asset value per share (NAV)</p> $\frac{\text{Shareholders equity}}{\text{Number of shares issued}} \times \frac{100}{1} = X \text{ cents per share}$ <p><b>NB:</b> If shares were <b>repurchased</b> on the <b>last day</b> of the financial year, we <b>do not take</b> the repurchasing transaction into account for “number of shares issued”. In other words we use the number of shares as it was for the whole year.</p>
<p>The <b>NAV</b> is sometimes also referred to as the <b>book value per share</b>. It indicated <b>how much a share is worth on that specific day according to the books of the business</b>.</p> <p>It can be <b>compared to market price</b> – take into consideration though that <b>market price</b> will usually be <b>higher</b>.</p> <p>Because of the <b>historical cost principal of GAAP</b>, <b>asset values</b> are usually <b>understated</b>, which means NAV will be lower, while supply and demand forces of the market place generally push stock prices and above book value.</p>	
22.	<p>Dividend payout rate = <math>\text{DPS} / \text{EPS} \times 100/1 = \%</math></p>
<p>This indicates <b>how much of the earnings</b> that the <b>shares generated</b> (EPS), were <b>paid out</b> to the <b>shareholders as dividends</b> (DPS) and how much of the earnings will be <b>retained</b> by the company.</p> <p><b>Indicate as a %</b>. It can be that both DPS and EPS increased in cents, but when the % is calculated, it actually decreased. Meaning a smaller percentage of the earnings were paid out as a dividend.</p>	

Example 1:

EPS = 51 cents, DPS = 20 cents

→  $DPS / EPS \times 100/1 = \%$

→  $20 / 51 \times 100/1 = 39\%$  of the earnings will be **paid out to shareholders as dividends**

**AND**

→ **61%** of the earnings will be **retained by the company** for future expansion.

*The company can also **pay out more than 100% of the earnings** to keep the shareholders happy.*

Example 2:

EPS = 60 cents, DPS = 69 cents

→  $DPS / EPS \times 100/1 = \%$

=  $69 / 60 \times 100/1 = 115\%$  of the earnings will be **paid out to shareholders as dividends**. The extra 15% will come from retained income.

**AND**

Nothing will be **retained by the company**.

23. Market price per share

Market price per share tell you **the latest price for which a single share of a company's stock was sold on the JSE.**

Forces of supply and demand push market prices up and down throughout the trading day.

24. Breakeven point

The breakeven point refers to **the amount of revenue necessary to cover the total fixed and variable expenses** incurred by a company within a specified time period.