3.5 Profitability and liquidity ratio analysis

Liquidity ratios

Liquidity refers to a company's ability to convert its short-term assets into cash. Liquidity ratios measure a company's ability to cover its short-term debt obligations, without having to sell off any fixed assets.

It is important that a company has good liquidity. Otherwise the business risks not being able to pay its trade creditors and may become insolvent.

The liquidity ratios are related to another important concept in business; the working capital cycle. Every business relies on a regular flow of cash into the business so that it has the funds to purchase resources and pay workers to produce the product. The working capital cycle is illustrated in **Figure 1**.

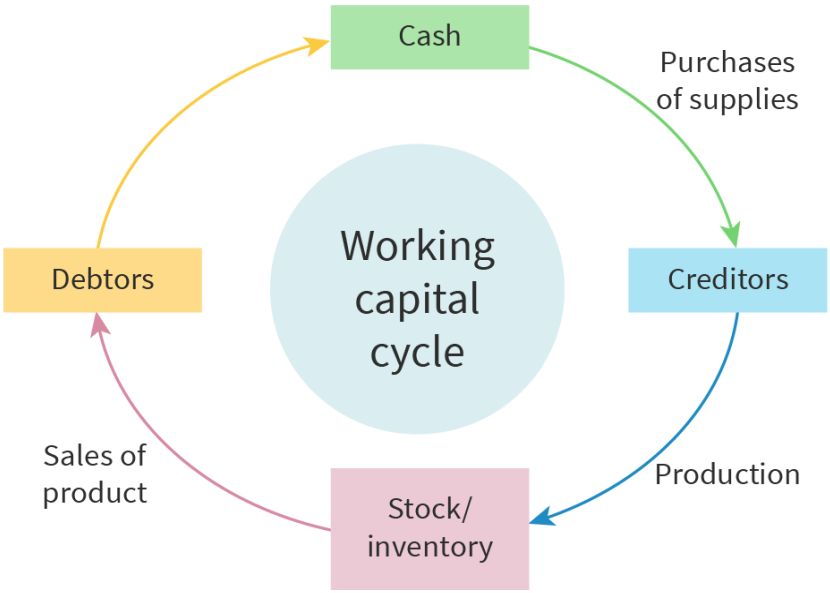

Figure 1. The working capital cycle.

The business uses cash to purchase raw materials and supplies. This money goes to trade creditors who have sold these resources to the business. The business then builds up stock (inventory) ready for sale. The business sells its product to debtors, who pay the business for the products. This inflow of cash is then used to purchase more resources to continue production.

Working capital is calculated by subtracting current liabilities from current assets and is a measure of cash flow into a business.

Working capital = current assets - current liabilities

You will learn more about cash flow in Subtopic 3.7 (/study/app/y12-business-management-a-hl-may-2024/sid-351-cid-174702/book/the-big-picture-id-39317). This section will explore liquidity ratios, which is another way of measuring how liquid a business is.

There are two liquidity ratios:

- the current ratio
- the acid test (quick) ratio

The current ratio and the acid test ratio are used by banks to determine whether they should make loans to companies. Managers also consider these ratios to evaluate the business's ability to pay its debts when they are due.

Exam tip

Ratios can involve different units of measurement. In the previous section, the gross profit margin and net profit margin were expressed as percentages. But liquidity ratios are expressed as simple numerical values. Make sure you are aware of how the final value for each of the ratios is expressed.

Current ratio

The current ratio is a liquidity ratio that calculates the business's current (short-term) assets relative to its current (short-term) liabilities.

You will remember from Section 3.4.3 (/study/app/y12-business-management-a-hl-may-2024/sid-351-cid-174702/book/final-accounts-st-of-financial-position-id-39285) that current assets include cash, debtors and stock (inventory). Cash is the most liquid of these assets, followed by debtors, and then finally stock. Current liabilities include overdrafts, trade creditor and short-term loans.

The current ratio is calculated using the formula:

$$\textbf{Current ratio} = \frac{\textbf{current assets}}{\textbf{current liabilities}}$$

The following worked example again uses data from the statement of financial position (balance sheet) of Pap-Pie Ltd. The business had current assets valued at $70 000 and current liabilities valued at $20 000.

$$\text{Current ratio} = \frac{\$70\,000}{\$20\,000}$$

$$= 3.5$$

This means that every $1 of current liabilities that Pap-Pie Ltd owes to its trade creditors, it has $3.50 in liquid current assets to cover those liabilities.

Generally, the prudent accounting recommendation is a current ratio in the range of 1.5 to 2. A ratio below 1 indicates that the company is at risk of not being able to cover its short-term debts. This could result in insolvency (Section 3.6.2 (/study/app/y12-business-management-a-hl-may-2024/sid-351-cid-174702/book/strategies-to-improve-efficiency-id-39313)). A business may want to adjust the current ratio too, depending on the uncertainty of the external environment.

Too high a current ratio, however, may be inefficient. It shows that there is too much money held in cash that could be invested more effectively in the business. It may also be that the debtors' figures are too high, indicating that the business has a problem collecting the money it is owed. It could also be that the business has too much stock on hand. Note that different industries have different ratios. For instance, fast-moving stock generates a steady cash flow. Thus, supermarkets and retailers can be comfortable with a lower current ratio. Pap-Pie Ltd seems to have a somewhat high current ratio.

There are several ways a business can improve its current ratio. A business can increase its current assets with methods listed in **Table 1**. Or a business can reduce its current liabilities with methods listed in **Table 2**.

Table 1. Benefits and limitations of methods to increase current assets.

Method	Benefits	Limitations

Method	Benefits	Limitations
Increase sales	Selling more products with lower prices or increased promotion, or increasing revenue per unit with higher prices, may increase cash coming into the business and reduce stocks.	It is not always clear whether changing prices or promotion will increase or decrease total revenues. In addition, some strategies can increase liabilities, so the benefits may be cancelled out.
Reduce debtors' figures	Asking customers who buy on credit to pay sooner with cash can increase cash assets.	Demanding cash up front from customers may cause the business to lose customers.
Sell unused fixed assets	The sale of unused assets such as old trucks and machinery could help bring in more cash.	The business must be very careful not to sell assets that it needs to produce its products efficiently.
Reduce drawings	Drawings refers to cash withdrawals from the business for the owner's personal use. If these are reduced, the business will have more cash on hand.	Owners (of small businesses in particular) may need the cash for personal expenses, especially if they do not take a salary.

Table 2. Benefits and limitations of methods to reduce current liabilities.

Method	Benefits	Limitations

Method	Benefits	Limitations
Extend credit period	If a business can lengthen the time it has to pay trade creditors for resources, then the trade creditors' figure can be lowered.	Increasing the time period of payment for resources can threaten relationships with suppliers.
Decrease overheads	Overheads such as rent, administrative staff salaries and stationery constitute a cash outflow. Reducing these costs could leave the company with more working capital to pay off its current liabilities.	A business may not be able to move to lower cost facilities. It must also be careful about motivational issues that might be caused by lowering salaries (Subtopic 2.4 (/study/app/y12-business-management-a-hl-may-2024/sid-351-cid-174702/book/the-big-picture-id-39054)).
Reduce current liabilities	Using some working capital to pay overdrafts and current liabilities will improve the current ratio and save money on interest payments.	A business may not have enough working capital to pay down debts more quickly. This will also limit the funds available to purchase the resources needed to produce its product.

Acid test (quick) ratio

The acid test (quick) ratio is a narrower indicator of a business's ability to pay its short-term debts. The acid test ratio excludes stock (inventory) from the current assets. Stocks are excluded because they are the least liquid of current assets. Whether a business can sell stock depends on many factors that may be out of the control of the business. The acid test (quick) ratio is calculated using the formula:

$$\textbf{Acid test ratio} = \frac{\textbf{current assets} - \textbf{stock}}{\textbf{current liabilities}}$$

The following worked example again uses data from the statement of financial position (balance sheet) of Pap-Pie Ltd. The business had current assets valued at $70 000, stock valued at $20 000 and current liabilities valued at $20 000.

$$\text{Acid test ratio} = \frac{70\,000 - 20\,000}{20\,000}$$

$$= 2.5$$

This means that for every $1 of current liabilities Pap-Pie Ltd incurs, the business has $2.50 worth of liquid assets to cover the liabilities. This is lower than the current ratio, but is still relatively high for a business with the same downsides as mentioned in the section on the current ratio.

If the acid test (quick) ratio is too low, the business can use all of the methods introduced in Table 2 for the current ratio. However, because stock is removed from the acid test ratio, reducing stocks is an additional method that a business can use to improve the ratio.

Activity

Learner profile: Knowledgeable
Approaches to learning: Thinking skills (transfer)

Chowdary Mills in Mumbai, India, is a small, family-owned business that designs and manufacturers fabrics. The privately held company was founded by Azra Sayyed and her husband Zaheer Chowdary. Due to the increase in competition, as well as restrictions caused by the COVID-19 pandemic in India, the financial situation of Chowdary Mills has worsened.

Azra and Zaheer's financial accountant Sana presented the financial information shown in **Table 3** for Chowdary Mills. All figures are expressed in Indian rupees (INR).

Table 3. Financial data for Chowdary Mills for the period ending 31 December 2021.

Cash	90000
Debtors	60000

Stock / Inventory	55000
Overdrafts	60000
Tax	30000
Trade creditors	50000

Questions

1. Calculate the current ratio for Chowdary mills. [2 marks]
2. Calculate the acid test (quick) ratio for Chowdary mills. [2 marks]
3. Comment on the figures for the current and acid test (quick) ratio. [2 marks]

Evaluation of ratio analysis

Ratio analyses provide useful data on the business for stakeholders (Subtopic 1.4 (/study/app/y12-business-management-a-hl-may-2024/sid-351-cid-174702/book/the-big-picture-id-36525)) who are directly interested in the business's financial performance. Profitability and efficiency ratios help stakeholders make decisions by assessing the strengths and weaknesses of the business's finances. These ratios would likely be part of a SWOT analysis for the internal strengths and weaknesses of a business. **Table 4** outlines some of the uses of ratio analyses for various stakeholders.

Table 4. Uses of ratio analyses.

Stakeholders	Uses of ratio analysis
Employees and managers	Employees can use financial ratios to anticipate any future pay increase and job security. Managers may be able to anticipate future bonuses.
Suppliers	Suppliers may have greater security that bills will be paid if the business has positive liquidity ratios.

Stakeholders	Uses of ratio analysis
Shareholders	Shareholders may use financial ratios to anticipate their returns on investment.
Banks	Banks use liquidity ratios to see if the business will be able to pay back loans.
Local community	Local communities might also use ratios to anticipate new job opportunities in the business.

However, like all quantitative data, ratio analyses have limitations and cannot be used alone to make business decisions. **Table 5** outlines some of the limitations of ratio analyses.

Table 5. Limitations of ratio analyses.

Limitation	Explanation
Incomplete picture of current and future finances	Ratios are historical financial figures. They do not show the current or future financial situation of the business.
External influences	External changes (Section 1.1.5 (/study/app/y12-business-management-a-hl-may-2024/sid-351-cid-174702/book/tool-swotsteeple-analysis-id-36504)) can influence the financial ratios of the business unexpectedly.
Qualitative factors ignored	Qualitative factors are not taken into account. Customer satisfaction, quality of goods, staff motivation are important factors in addition to quantitative data for business decisions.

Limitation	Explanation
Different interpretation by social enterprises	Social enterprises may interpret ratios differently from commercial enterprises. Social enterprises are likely distributing more value to a wider variety of stakeholders. Their financial ratios may be lower than other for-profit commercial enterprises, and this might actually be an indicator of success.

Exam tip

When answering extended response questions related to ratio analysis, it is important to examine factors other than the quantitative financial data. Businesses make decisions on strategy by examining both qualitative and quantitative data.

Table 6. Summary of ratio analysis.

Type	Ratio	Formula
Profitability ratios	Gross profit margin	$\frac{\text{gross profit}}{\text{sales revenue}} \times 100$
	Net profit margin	$\frac{\text{profit before interest and tax}}{\text{sales revenue}} \times 100$
	Return on capital employed	$\frac{\text{profit before interest and tax}}{\text{capital employed}} \times 100$
Liquidity ratios	Current ratio	$\frac{\text{current assets}}{\text{current liabilities}}$
	Acid test (quick) ratio	$\frac{(\text{current assets} - \text{stock})}{\text{current liabilities}}$