

CHAPTER 15

RATIO ANALYSIS IS A USEFUL TOOL TO IMPROVE DECISION MAKING

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113 A QUICK RECAP

As you will recall, we mentioned that Accounts can be used for a variety of different purposes. We have also discussed in Chapter 2 that these uses of Accounts can be categorized between internal and external uses.

In this Chapter, we will focus on how Businesses can use information in the Accounts for their internal purposes to assess whether the Business is doing better or worse. The technique through which Businesses can use Accounts to generate meaningful information is called "Ratio Analysis".

114 WHAT IS RATIO ANALYSIS?

Ratios are derived from Accounts, i.e. Balance Sheet and Profit & Loss Account. The purpose of ratios is to provide comparison and trend information which can be used by management of a Business to evaluate the direction to which the Business is heading.

Internal comparison, with different months or with prior years, as well external comparison with competitors and other players in the industry are useful indicators to gauge whether the Business is doing better, same as before, or worse.

However, there is one point to remember when using Ratio Analysis – Ratios only give an indication of the possible causes but do not give the exact reason. Management of a Business will need to analyze and investigate further to establish the reasons.

115 HOW CAN THESE RATIOS BE USED IN BUSINESSES?

There are as many as 150 Ratios which can be worked, out of which some may be important while others may not be. Here, we will talk about some of the commonly used Ratios.

The typically used Ratios can be summed up in four general categories:

- Liquidity
- Activity
- Solvency
- Profitability

Each of these categories and the Ratios included therein are explained below:

115.1 LIQUIDITY RATIOS

Two commonly used Ratios are included in this category:

- Current ratio

- Quick (liquid) ratio

These are explained in the following section:

115.1.1 CURRENT RATIO

Current ratio indicates the ability of a Business to meet its obligations (liabilities) in the short term i.e. in the next 12 months. In other words, this Ratio shows the sufficiency of short term assets to cover a Business's short term liabilities.

It is calculated as follows:

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

Current Ratio is expressed as a number.

Current Ratio of less than 1 means that the Business does not have enough short term assets to meet its short term obligations whereas a Ratio of more than 1 means that short term assets are more than adequate to pay for short term liabilities.

Please note that a Ratio of less than one does not necessarily mean that it is "good" or "bad". Every Business has its own requirements and there would be a typical Ratio which is acceptable for every type of Business – any deterioration from that Ratio should be explored further.

115.1.2 QUICK RATIO

This Ratio shows the availability of readily realizable assets to cover short term obligations. The rationale behind this Ratio is that since inventory is not readily convertible into cash, i.e. not readily saleable, the management may want to assess the ability of the Business to meet its short term obligations at short notice. Therefore, if inventory is excluded, are the other short term assets (which can be quickly converted into cash) sufficient to cover short term liabilities?

It is calculated as follows:

$$\text{Quick Ratio} = \frac{\text{Current Assets} - \text{Inventory}}{\text{Current Liabilities}}$$

Quick Ratio is expressed as a number.

Quick Ratio of more or less than 1 does not necessarily mean that it is good or bad. It depends on each type of Business but certainly a comparison over time or with competitors will give a good indication of the direction.

115.2 ACTIVITY RATIOS

These Ratios indicate the efficiency with which the Business is managing its working capital or operations.

Typically, the following Activity Ratios are used:

- Stock turnover.
- Days receivable.
- Days payable.
- Fixed asset turnover.
- Asset conversion cycle.

Each of these Ratios is briefly explained below:

115.2.1 INVENTORY DAYS

The purpose of this Ratio is to calculate the time that it takes a Business to convert its inventory into sales.

It is calculated as follows:

$$\text{Inventory Days} = \frac{\text{Average Inventory} \times 365}{\text{Total Sales}}$$

This Ratio is expressed in "Number of Days".

An increasing trend in this Ratio will indicate that the Business is taking longer to convert its inventory into sales which may be a function of slower sales, or the fact that a larger quantity of inventory is being held. On the other hand, a declining trend will be a good indication but may not necessarily be a good sign. E.g., maintaining low inventory levels may mean that a Business is also refusing customers because it does not have stock in hand to accommodate walk-in customers – this is especially true for retail businesses where ready availability of inventory items is very critical.

115.2.2 DAYS RECEIVABLE

The purpose of this Ratio is to calculate the time that the customers take to pay.

It is calculated as follows:

$$\text{Days Receivable} = \frac{\text{Average Trade Debtors} \times 365}{\text{Credit Sales}}$$

This Ratio is expressed in "Number of Days".

An increasing trend in this Ratio indicates that the customers are taking longer to pay, either because longer credit terms have been extended or because the credit control is weak. Whatever the reason be, it is important to appreciate that delay in recovery means that cash is getting used up for that much more period. On the other hand, decreasing trend in this Ratio will generally be taken as good news.

115.2.3 DAYS PAYABLE

The purpose of this Ratio is to calculate the time that a Business takes to pay for its supplies.

It is calculated as follows:

$$\text{Days Payable} = \frac{\text{Average Trade Creditors} \times 365}{\text{Cost of Sales}}$$

This Ratio is expressed in "Number of Days".

An increasing trend in this Ratio indicates that the Business is taking longer to pay its obligations, while a declining trend indicates that the Business is not able to pay its obligations on time – this could be because the creditors have offered extended credit terms, or because the Business is genuinely facing liquidity problems.

115.2.4 FIXED ASSETS TURNOVER RATIO

Fixed assets are a critical resource for any Business. They are expensive and are very closely involved in ensuring that the Business is able to manufacture its products. Excess of fixed assets, or not using these assets to the maximum ability and potential are some of the issues that this Ratio addresses.

It is calculated as follows:

$$\text{Fixed Assets Turnover} = \frac{\text{Total Sales}}{\text{Net Fixed Assets}}$$

This Ratio is expressed as a "Number".

An increasing trend in this "Number" indicates positive ability of the Business to generate more revenue from its fixed assets: price or quantity sold may be higher, or idle machinery and spare capacity may have gotten utilized, or even disposed of.

115.2.5 ASSET CONVERSION CYCLE

Asset conversion cycle calculates the time that a Business takes to convert its inventory into cash. If you recall the complete manufacturing process, you will remember that it starts from the time that a Business purchases stocks to the time that the customer has paid for the products sold.

This entire time period is known as the "Asset Conversion Cycle" and should be as short as possible – this time represents the time that Business's money is tied up in inventory or receivable and as long as this money is tied up, it is not earning any more revenue for the Business.

It is calculated as follows:

$$\text{Asset Conversion Cycle} = \text{Inventory Days} + \text{Receivable Days} - \text{Payable Days}$$

This Ratio is expressed in "Number of days".

Alternatively, this Ratio can also be used to give an indication of the working capital requirement for a Business. Working capital is that portion of the total capital which gets used up in running a Business's operating activities.

It is calculated as follows:

$$\text{Working Capital} = \text{Inventory} + \text{Receivables} - \text{Payables}$$

This is expressed as a "Number denominated in Rs."

This is also a commonly used measure by Banks to evaluate the working capital financing requirement for a Business.

115.3 SOLVENCY RATIOS

Solvency ratios measure the relationship between debt and equity as well as give an indication on the ability of the Business to continue in its operations.

115.3.1 DEBT COVERAGE RATIO

The purpose of this ratio is to show the ability of the Business to meet its financing obligations i.e. it shows whether the Business has sufficient cash flows or not to meet its repayment obligations.

It is calculated as follows:

$$\text{Debt Coverage} = \frac{\text{Profit Before Interest, Tax \& Depreciation}}{\text{Principal Repayment} + \text{Interest Charges}}$$

This Ratio is expressed as a "Number".

Since the only source of repayment for a Business is its operating cash flows, this is a very useful Ratio to calculate the ability of the Business to meet its obligations. The numerator in this Ratio does not equal the cash flows but is a good approximation for the same.

If this Ratio is increasing, it shows the increasing ability of the Business to meet its obligations while a downward trend will be a source of concern.

115.3.2 DEBT EQUITY RATIO

This Ratio determines the manner in which the Business has been financed, i.e. the mix between debt and equity, also known as the "Capital Structure".

It is calculated as follows:

$$\text{Debt / Equity} = \frac{\text{Total Long Term Debt} \times 100}{\text{Shareholders' Funds}}$$

This Ratio is expressed as a "percentage".

This Ratio shows the extent to which Debt has been taken on to fund a Business. Every Business, depending on the sector in which it operates, has a sustainable level of debt i.e. the level of debt which can be serviced or repaid through cash flows.

An increasing trend in this Ratio will indicate whether debt or equity levels are

increasing – over time, this Ratio should show a declining trend as debt should get repaid.

115.4 PROFITABILITY RATIOS

These Ratios measure the overall profitability of a Business and indicate the direction of profitability.

These Ratios are now briefly explained below.

115.4.1 GROSS MARGIN

This Ratio measures the profitability of a Business with reference to its core operating activities. Manufacturing or trading in products or even providing services are the core operations for any Business which directly account for profits that a Business can expect to earn.

It is calculated as follows:

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

This Ratio is expressed as a “Percentage”.

An increasing trend in this Ratio is a positive indication for a Business because it clearly shows increased profitability for the Business. However, there may be various reasons which account for this improvement, e.g. higher sales volume, better price for products, launch of new products, etc. On the other hand, a declining trend is a cause for concern which needs further looking into.

115.4.2 NET MARGIN

This Ratio calculates the overall profitability of the Business. This Ratio is an extension of the Gross Margin Ratio by taking into account other expenses for the Business. It is calculated as follows:

$$\text{Net Margin} = \frac{\text{Net Profit after Tax} \times 100}{\text{Total Sales}}$$

This Ratio is expressed as a “Percentage”.

An increase in this Ratio is a positive indication since it shows the overall improvement in a Business’s profitability. This Ratio extends the Gross Margin Ratio to include the impact of various support departments and financing costs to assess how the Business has performed as a whole.

An increasing trend in Gross Margin should also result in increase in Net Margin. However, there may be circumstances when this may not be so; this Ratio helps to identify whether the financing and other costs are under control or not.

115.4.3 RETURN ON CAPITAL EMPLOYED

The purpose of this Ratio is to give an indication of the return that the Owners of a Business are deriving from their investment. It is calculated as follows:

$$\text{Return on Capital Employed} = \frac{\text{Net Profit after Tax}}{\text{Shareholders Funds (or "Equity")}} \times 100$$

This Ratio is expressed as a "percentage".

Every Owner of a Business invests in his Business for a return or profit. An increase or decreasing trend in this Ratio will give an indication of the viability of the Business with respect to whether the return is getting better or worse. Even a decline in this Ratio may not be a cause for alarm because, as an example, the Business may have funded its entire expansion through debt as a result of which the net profit should be expected to be lower – financial charges will be considerably higher in this case which may decrease the profitability from last year(s).

CHAPTER HIGHLIGHTS

What have we covered?

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| 1. Ratio Analysis is a technique used to gauge and assess business performance. | 4. Ratios are typically divided in 4 categories: liquidity, profitability, solvency and activity. |
| 2. Ratios should not be evaluated in isolation. They have to be compared with Ratios of past years or with those of competitors. | 5. Ratios do not give a solution – they indicate and highlight issues which need further analysis. |
| 3. Ratios are derived from the information contained in the Profit & Loss Account and Balance Sheet. | |