Guide to Financial Ratios Analysis
A Step by Step Guide to Balance Sheet and Profit and Loss Statement Analysis

By BizMove Management Training Institute

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1. Introduction

If you are not fully familiar with the structure of financial statements please read first the bonus guide: Understanding Financial Statements.

What is ratio analysis? The Balance Sheet and the Statement of Income are essential, but they are only the starting point for successful financial management. Apply Ratio Analysis to Financial Statements to analyze the success, failure, and progress of your business.

Ratio Analysis enables the business owner/manager to spot trends in a business and to compare its performance and condition with the average performance of similar businesses in the same industry. To do this compare your ratios with the average of businesses similar to yours and compare your own ratios for several successive years, watching especially for any unfavorable trends that may be starting. Ratio analysis may provide the all-important early warning indications that allow you to solve your business problems before your business is destroyed by them.

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Balance Sheet Ratio Analysis

Important Balance Sheet Ratios measure liquidity and solvency (a business's ability to pay its bills as they come due) and leverage (the extent to which the business is dependent on creditors' funding). They include the following ratios:

Liquidity Ratios

These ratios indicate the ease of turning assets into cash. They include the Current Ratio, Quick Ratio, and Working Capital.

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2. Current Ratios

The Current Ratio is one of the best known measures of financial strength. It is figured as shown below:

Current Ratio =

Total Current Assets
____
Total Current Liabilities

The main question this ratio addresses is: "Does your business have enough current assets to meet the payment schedule of its current debts with a margin of safety for possible losses in current assets, such as inventory shrinkage or collectable accounts?" A generally acceptable current ratio is 2 to 1. But whether or not a specific ratio is satisfactory depends on the nature of the business and the characteristics of its current assets and liabilities. The minimum acceptable current ratio is obviously 1:1, but that relationship is usually playing it too close for comfort.

If you decide your business's current ratio is too low, you may be able to raise it by:

Paying some debts.

Increasing your current assets from loans or other borrowings with a maturity of more than one year.

Converting non-current assets into current assets.

Increasing your current assets from new equity contributions.

Putting profits back into the business.

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3. Quick Ratios

The Quick Ratio is sometimes called the "acid-test" ratio and is one of the best measures of liquidity. It is figured as shown below:

Quick Ratio =

Cash + Government Securities + Receivables
____
Total Current Liabilities

The Quick Ratio is a much more exacting measure than the Current Ratio. By excluding inventories, it concentrates on the really liquid assets, with value that is fairly certain. It helps answer the question: "If all sales revenues should disappear, could my business meet its current obligations with the readily convertible `quick' funds on hand?"

An acid-test of 1:1 is considered satisfactory unless the majority of your "quick assets" are in accounts receivable, and the pattern of accounts receivable collection lags behind the schedule for paying current liabilities.

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4. Working Capital

Working Capital is more a measure of cash flow than a ratio. The result of this calculation must be a positive number. It is calculated as shown below:

Working Capital = Total Current Assets - Total Current Liabilities

Bankers look at Net Working Capital over time to determine a company's ability to weather financial crises. Loans are often tied to minimum working capital requirements.

A general observation about these three Liquidity Ratios is that the higher they are the better, especially if you are relying to any significant extent on creditor money to finance assets.

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5. Leverage Ratio

This Debt/Worth or Leverage Ratio indicates the extent to which the business is reliant on debt financing (creditor money versus owner's equity):

Debt/Worth Ratio =

$$\frac{\text{Total Liabilities}}{\text{Net Worth}}$$

Generally, the higher this ratio, the more risky a creditor will perceive its exposure in your business, making it correspondingly harder to obtain credit.

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Income Statement Ratio Analysis

The following important State of Income Ratios measure profitability:

6. Gross Margin Ratio

This ratio is the percentage of sales dollars left after subtracting the cost of goods sold from net sales. It measures the percentage of sales dollars remaining (after obtaining or manufacturing the goods sold) available to pay the overhead expenses of the company.

Comparison of your business ratios to those of similar businesses will reveal the relative strengths or weaknesses in your business. The Gross Margin Ratio is calculated as follows:

Gross Margin Ratio =

Gross Profit

____

Net Sales

(Gross Profit = Net Sales - Cost of Goods Sold)

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7. Net Profit Margin Ratio

This ratio is the percentage of sales dollars left after subtracting the Cost of Goods sold and all expenses, except income taxes. It provides a good opportunity to compare your company's "return on sales" with the performance of other companies in your industry. It is calculated before income tax because tax rates and tax liabilities vary from company to company for a wide variety of reasons, making comparisons after taxes much more difficult. The Net Profit Margin Ratio is calculated as follows:

Net Profit Margin Ratio =

Net Profit Before Tax

____

Net Sales

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Management Ratios

Other important ratios, often referred to as Management Ratios, are also derived from Balance Sheet and Statement of Income information.

8. Inventory Turnover Ratio

This ratio reveals how well inventory is being managed. It is important because the more times inventory can be turned in a given operating cycle, the greater the profit. The Inventory Turnover Ratio is calculated as follows:

Inventory Turnover Ratio =

Net Sales

____

Average Inventory at Cost

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9. Accounts Receivable Turnover Ratio

This ratio indicates how well accounts receivable are being collected. If receivables are not collected reasonably in accordance with their terms, management should rethink its collection policy. If receivables are excessively slow in being converted to cash, liquidity could be severely impaired. The Accounts Receivable Turnover Ratio is calculated as follows:

$$\frac{\text{Net Credit Sales/Year}}{\text{365 Days/Year}} = \text{Daily Credit Sales}$$

Accounts Receivable Turnover (in days) =

$$\frac{\text{Accounts Receivable}}{\text{Daily Credit Sales}}$$

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10. Return on Assets Ratio

This measures how efficiently profits are being generated from the assets employed in the business when compared with the ratios of firms in a similar business. A low ratio in comparison with industry averages indicates an inefficient use of business assets. The Return on Assets Ratio is calculated as follows:

Return on Assets =

$$\frac{\text{Net Profit Before Tax}}{\text{Total Assets}}$$

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11. Return on Investment (ROI) Ratio.

The ROI is perhaps the most important ratio of all. It is the percentage of return on funds invested in the business by its owners. In short, this ratio tells the owner whether or not all the effort put into the business has been worthwhile. If the ROI is less than the rate of return on an alternative, risk-free investment such as a bank savings account, the owner may be wiser to sell the company, put the money in such a savings instrument, and avoid the daily struggles of small business management. The ROI is calculated as follows:

Return on Investment =

Net Profit before Tax

Net Worth

These Liquidity, Leverage, Profitability, and Management Ratios allow the business owner to identify trends in a business and to compare its progress with the performance of others through data published by various sources. The owner may thus determine the business's relative strengths and weaknesses.

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12. Understanding Financial Statements:

Financial Statements analysis record the performance of your business and allow you to diagnose its strengths and weaknesses by providing a written summary of financial activities. There are two primary financial statements: the Balance Sheet and the Statement of Income.

The Balance Sheet

Financial statement analysis looks first at the balance sheet. The Balance Sheet provides a picture of the financial health of a business at a given moment, usually at the close of an accounting period. It lists in detail those material and intangible items the business owns (known as its assets) and what money the business owes, either to its creditors (liabilities) or to its owners (shareholders' equity or net worth of the business).

Assets include not only cash, merchandise inventory, land, buildings, equipment, machinery, furniture, patents, trademarks, and the like, but also money due from individuals or other businesses (known as accounts or notes receivable).

Liabilities are funds acquired for a business through loans or the sale of property or services to the business on credit. Creditors do not acquire business ownership, but promissory notes to be paid at a designated future date.

Shareholders' equity (or net worth or capital) is money put into a business by its owners for use by the business in acquiring assets.

At any given time, a business's assets equal the total contributions by the creditors and owners, as illustrated by the following formula for the Balance Sheet:

Assets = Liabilities + Net worth

This formula is a basic premise of accounting. If a business owes more money to creditors than it possesses in value of assets owned, the net worth or owner's equity of the business will be a negative number.

The Balance Sheet is designed to show how the assets, liabilities, and net worth of a business are distributed at any given time. It is usually prepared at regular intervals; e.g., at each month's end, but especially at the end of each fiscal (accounting) year.

By regularly preparing this summary of what the business owns and owes (the Balance Sheet), the business owner/manager can identify and analyze trends in the financial strength of the business. It permits timely modifications, such as gradually decreasing the amount of money the business owes to creditors and increasing the amount the business owes its owners.

All Balance Sheets contain the same categories of assets, liabilities, and net worth. Assets are arranged in decreasing order of how quickly they can be turned into cash (liquidity). Liabilities are listed in order of how soon they must be repaid, followed by retained earnings (net worth or owner's equity).

The categories and format of the Balance Sheet are established by a system known as Generally Accepted Accounting Principles (GAAP). The system is applied to all companies, large or small, so anyone reading the Balance Sheet can readily understand the story it tells.

Balance Sheet - ABC Company	December 31,XXX1
Cash	18,960
Accounts Receivable	14,560
Inventory	68,220
Total Current Assets	101,740
Equipment and Fixtures	11,680
Prepaid Expenses	12,780
Total Assets	126,200
Notes Payable, Bank	20,000
Accounts Payable	22,400
Accruals	9,400
Total Current Liabilities	51,800
Total Liabilities	51,800
Net Worth*	74,400
Total Liabilities and Net Worth	126,200

*Assets - Liabilities = New Worth

Balance Sheet Categories

Assets and liabilities are broken down into categories as described as follows:.

Assets: An asset is anything the business owns that has monetary value.

Current Assets include cash, government securities, marketable securities, accounts receivable, notes receivable (other than from officers or employees), inventories, prepaid expenses, and any other item that could be converted into cash within one year in the normal course of business.

Fixed Assets are those acquired for long-term use in a business such as land, plant, equipment, machinery, leasehold improvements, furniture, fixtures, and any other items with an expected useful business life measured in years (as opposed to items that will wear out or be used up in less than one year and are usually expensed when they are purchased). These assets are typically not for resale and are recorded in the Balance Sheet at their net cost less accumulated depreciation.

Other Assets include intangible assets, such as patents, royalty arrangements, copyrights, exclusive use contracts, and notes receivable from officers and employees.

Liabilities: Liabilities are the claims of creditors against the assets of the business (debts owed by the business).

Current Liabilities are accounts payable, notes payable to banks, accrued expenses (wages, salaries), taxes payable, the current portion (due within one year) of long-term debt, and other obligations to creditors due within one year.

Long-Term Liabilities are mortgages, intermediate and long-term bank loans, equipment loans, and any other obligation for money due to a creditor with a maturity longer than one year.

Net Worth is the assets of the business minus its liabilities. Net worth equals the owner's equity. This equity is the investment by the owner plus any profits or minus any losses that have accumulated in the business.

The Statement of Income

The second primary report included in a business's Financial Statement is the Statement of Income. The Statement of Income is a measurement of a company's sales and expenses over a specific period of time. It is also prepared at regular intervals (again, each month and fiscal year end) to show the results of operating during those accounting periods. It too follows Generally Accepted Accounting Principles (GAAP) and contains specific revenue and expense categories regardless of the nature of the business.

Statement of Income Categories

The Statement of Income categories are calculated as described below:

Net Sales (gross sales less returns and allowances)

Less Cost of Goods Sold (cost of inventories)

Equals Gross Margin (gross profit on sales before operating expenses)

Less Selling and Administrative Expenses (salaries, wages, payroll taxes and benefits, rent, utilities, maintenance expenses, office supplies, postage, automobile/vehicle expenses, insurance, legal and accounting expenses, depreciation)

Equals Operating Profit (profit before other non-operating income or expense)

Plus Other Income (income from discounts, investments, customer charge accounts)

Less Other Expenses (interest expense)

Equals Net Profit (or Loss) before Tax (the figure on which your tax is calculated)

Less Income Taxes (if any are due)

Equals Net Profit (or Loss) After Tax

Income Statement - ABC Company
December 31,XXX1

Net Sales		681,160
Cost of Goods Sold		476,960
Gross Profit on Sales		204,200
Expenses:		
Wages	69,480	
Delivery Expenses	9,540	
Bad Debts Allowances	4,090	
Communications	2,040	
Depreciation Allowance	4,090	
Insurance	6,130	
Taxes	10,210	
Advertising	15,660	
Interest	4,090	
Other Charges	7,490	
Total Expenses		132,820
Net Profit		71,380
Other Income		8,860
Total Net Income		80,240

Calculating the Cost of Goods Sold

Calculation of the Cost of Goods Sold category in the Statement of Income (or Profit-and-Loss Statement as it is sometimes called) varies depending on whether the business is retail, wholesale, or manufacturing. In retailing and wholesaling, computing the cost of goods sold during the accounting period involves beginning and ending inventories. This, of course, includes purchases made during the accounting period. In manufacturing it involves not only finished-goods inventories, but also raw materials inventories, goods-in-process inventories, direct labor, and direct factory overhead costs.

Regardless of the calculation for Cost of Goods Sold, deduct the Cost of Goods Sold from Net Sales to get Gross Margin or Gross Profit. From Gross Profit, deduct general or indirect overhead, such as selling expenses, office expenses, and interest expenses.

to calculate your Net Profit. This is the final profit after all costs and expenses for the accounting period have been deducted.

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