

13. A Firm Has Sales Of \$750, Total Assets Of \$400, And A Debt-equity Ratio Of 1.50. If The Return On

13. A Firm Has Sales Of \$750, Total Assets Of \$400, And A Debt-equity Ratio Of 1.50. If The Return On is a common scenario in financial analysis, especially when evaluating a company's profitability and risk profile. Understanding how to interpret these financial metrics enables investors, managers, and analysts to make informed decisions. This article explores the key financial ratios involved, how to compute them based on the given data, and what insights they provide about the firm's financial health.

Understanding the Financial Metrics

When analyzing a firm's financial performance, several key metrics are crucial, including sales, total assets, debt-equity ratio, and return on investment measures like Return on Assets (ROA) and Return on Equity (ROE). Let's define each of these to establish a foundation for further analysis.

Sales (Revenue)

- Represents the total income generated from the sale of goods or services.
- In this scenario, the firm's sales amount to \$750.

Total Assets

- The sum of everything the firm owns that has value.
- Total assets are valued at \$400.

Debt-Equity Ratio

- Measures the relative proportion of debt and equity used to finance the firm.
- A debt-equity ratio of 1.50 indicates the firm has 1.5 times more debt than equity.

Return on Assets (ROA)

- Indicates how efficiently a company uses its assets to generate profit.
- Calculated as Net Income divided by Total Assets.

Return on Equity (ROE)

- Measures profitability relative to shareholders' equity.
- Calculated as Net Income divided by Shareholders' Equity.

Calculating the Financial Ratios

Given the data, the goal is to analyze the firm's profitability and leverage. Since some data are missing (such as net income or shareholders' equity), we will derive as much as possible from the provided information.

Step 1: Determine the Equity and Debt

- The debt-equity ratio (D/E) = 1.50.
- Total assets = Liabilities + Shareholders' Equity.
- Also, $D/E = \text{Total Debt} / \text{Shareholders' Equity}$.

Assuming the firm's total assets of \$400 comprise both debt and equity:

Let:

- Equity = E
- Debt = D

Then:

- $D / E = 1.50$
- $D + E = 400$

From $D / E = 1.50$, we get $D = 1.50 \times E$.

Substitute into total assets:

- $1.50 \times E + E = 400$
- $2.50 \times E = 400$
- $E = 400 / 2.50 = \$160$

Now, calculate debt:

- $D = 1.50 \times 160 = \$240$

Summary:

- Shareholders' Equity = \$160
- Total Debt = \$240

Step 2: Estimating Net Income and Return Metrics

Without explicit net income data, we need to make assumptions or derive it from other ratios if available. Often, the Return on Assets (ROA) or Return on Equity (ROE) is provided, but since the problem mentions "If The Return On," it suggests a discussion around these ratios.

Suppose the problem intends to analyze the Return on Assets or Return on Equity based on typical profitability levels.

Assuming a typical ROA or ROE:

- If we know the firm's profit margin or return on assets (ROA), we can estimate net income:

$$\text{Net Income} = \text{ROA} \times \text{Total Assets}$$

- If the Return On indicates a specific percentage, say, 10%, then:

$$\text{Net Income} = 10\% \text{ of Total Assets} = 0.10 \times 400 = \$40$$

Using this, we can compute ROA and ROE.

Calculating Return on Assets (ROA) and Return on Equity (ROE)

With an estimated net income of \$40 (assuming a 10% ROA), we can proceed.

Return on Assets (ROA)

- Formula: $\text{ROA} = \text{Net Income} / \text{Total Assets}$
- Calculation: $\text{ROA} = 40 / 400 = 0.10$ or 10%

This indicates the firm generates a 10% return on its assets.

Return on Equity (ROE)

- Formula: $\text{ROE} = \text{Net Income} / \text{Shareholders' Equity}$
- Calculation: $\text{ROE} = 40 / 160 = 0.25$ or 25%

This suggests that shareholders earn a 25% return on their investment.

Interpreting the Ratios and Financial Health

The ratios calculated provide valuable insights into the firm's efficiency, profitability, and leverage.

Leverage and Risk Analysis

- The debt-equity ratio of 1.50 indicates the firm is heavily leveraged.
- High leverage can amplify returns but also increases financial risk.
- Debt of \$240 compared to equity of \$160 means the firm relies significantly on borrowed funds.

Profitability Insights

- A 10% ROA suggests moderate asset efficiency.
- A 25% ROE indicates strong profitability relative to shareholders' equity.
- The difference between ROA and ROE reflects the impact of leverage (financial leverage enhances ROE).

Implications for Investors and Managers

- High leverage can lead to higher returns but also increases risk, especially if profits decline.
- The firm's profitability ratios suggest it is capable of generating substantial earnings relative to its equity.
- Proper management of debt levels is crucial to sustain growth and avoid insolvency.

Conclusion: Making Informed Decisions

Understanding the interplay between sales, assets, debt, and profitability ratios like ROA and ROE is essential for evaluating a company's financial health. Given the provided data—sales of \$750, total assets of \$400, and a debt-equity ratio of 1.50—analysts can estimate key metrics and assess risk and efficiency.

By calculating the firm's equity, debt, and potential net income, stakeholders gain a comprehensive view of its leverage and profitability profile. While high leverage can enhance returns, it also necessitates careful risk management. Investors should consider these ratios alongside other qualitative and quantitative factors before making investment decisions.

Lastly, grasping how these financial metrics interrelate aids in strategic planning, investment analysis, and performance evaluation, ultimately supporting the goal of sustainable business growth and value creation.

Frequently Asked Questions

What is the company's total debt given its debt-equity ratio of 1.50 and equity?

First, let's find the equity. Since Debt-Equity Ratio = Debt / Equity, then Debt = 1.50 × Equity. Total Assets = Debt + Equity, so: 400 = 1.50 × Equity + Equity = (1.50 + 1) × Equity = 2.50 × Equity. Therefore, Equity = 400 / 2.50 = 160. Debt = 1.50 × 160 = 240. The company's total debt is \$240.

How do you calculate the firm's equity using the given total assets and debt-equity ratio?

Using the formula: Total Assets = Debt + Equity. From the debt-equity ratio, Debt = 1.50 × Equity. So, Total Assets = 1.50 × Equity + Equity = 2.50 × Equity. Therefore, Equity = Total Assets / 2.50 = 400 / 2.50 = \$160.

What is the firm's debt-to-assets ratio based on the given data?

Debt-to-assets ratio = Total Debt / Total Assets = 240 / 400 = 0.60 or 60%.

How can we estimate the firm's return on sales (profit margin) if the return on assets (ROA) is known?

Return on sales (profit margin) = $\text{ROA} \times (\text{Total Assets} / \text{Sales})$. If ROA is given, multiply it by the ratio of total assets to sales to find the profit margin.

If the firm's return on assets is 8%, what is its net income?

Net income = $\text{ROA} \times \text{Total Assets} = 0.08 \times 400 = \32 .

Given a sales of \$750 and a net income of \$32, what is the firm's profit margin?

Profit margin = $\text{Net income} / \text{Sales} = 32 / 750 \approx 4.27\%$.

How does the debt-equity ratio impact the firm's financial leverage and risk?

A debt-equity ratio of 1.50 indicates high financial leverage, which can amplify returns but also increases financial risk, as the firm has significant debt obligations.

If the firm wants to improve its return on equity, what strategies could it pursue?

The firm could increase sales, improve profit margins, or optimize its asset utilization. Additionally, managing leverage carefully to balance risk and return can enhance ROE.

How would an increase in total assets affect the firm's return on assets and overall financial health?

An increase in total assets, all else equal, could dilute ROA unless accompanied by proportional increases in net income. Proper asset management and growth strategies are essential for maintaining

financial health.

Additional Resources

Analyzing Financial Metrics: A Deep Dive into a Firm's Performance with Sales of \$750, Total Assets of \$400, and a Debt-Equity Ratio of 1.50

Understanding a company's financial health requires a comprehensive analysis of its key financial metrics. In this article, we delve into a hypothetical firm with specific financial data: sales of \$750, total assets of \$400, and a debt-equity ratio of 1.50. We will interpret these figures, explore their implications, and analyze the firm's Return on Assets (ROA), Return on Equity (ROE), and overall financial stability. This detailed review aims to provide insights into the firm's operational efficiency, leverage, and profitability, equipping investors, managers, and analysts with a clearer picture of its financial standing.

Understanding the Core Financial Data

Before diving into ratios and performance metrics, it is crucial to understand the foundational data points provided:

- Sales (Revenue): \$750
- Total Assets: \$400
- Debt-Equity Ratio: 1.50

Each of these figures offers vital clues about the firm's operational scale, asset management, and capital structure.

Sales (Revenue): Significance and Context

Sales, or revenue, reflects the total income generated from the firm's core business activities before deducting expenses. At \$750, this figure suggests a relatively sizable operation; however, on its own, it does not reveal profitability or efficiency. The sales figure is critical because it forms the basis for calculating ratios such as the profit margin, asset turnover, and overall return metrics.

Total Assets: Implications for Asset Utilization

Total assets of \$400 indicate the scale of the firm's resource base. Assets encompass everything from cash, receivables, inventory, property, plant, equipment, and intangible assets. Asset size alone does not determine performance but, when combined with sales, allows for efficiency ratios like asset turnover to be computed.

Debt–Equity Ratio: Understanding Leverage

The debt-equity ratio of 1.50 indicates that the firm's total debt is 150% of its equity. This leverage ratio provides insight into the firm's capital structure and risk profile. A higher debt ratio suggests greater leverage, which can amplify returns but also increases financial risk, especially if profits are volatile.

Deciphering the Debt–Equity Ratio and Capital Structure

A critical element of financial analysis is understanding how firms finance their operations—through debt, equity, or a combination of both.

Calculating Equity and Debt Levels

Given:

- Debt-Equity Ratio (D/E) = 1.50
- Total Assets = \$400

Let's define:

- E = Equity
- D = Debt

From the debt-equity ratio:

$$D/E = 1.50 \rightarrow D = 1.50 \times E$$

Total assets are financed by debt and equity:

$$D + E = \$400$$

Replacing D :

$$1.50 \times E + E = \$400$$

$$(1.50 + 1) \times E = \$400$$

$$2.50 \times E = \$400$$

$$E = \frac{\$400}{2.50} = \$160$$

Then D :

$$D = 1.50 \times \$160 = \$240$$

Summary:

- Equity (E): \$160
- Debt (D): \$240

This capital structure indicates that the firm finances 60% of its assets through debt and 40% through equity. This reliance on debt suggests a leveraged firm, which can impact profitability and risk.

Implications of Leverage

Leverage amplifies the potential returns to shareholders when profits are positive but also magnifies losses during downturns. The firm's high debt level increases financial obligations, such as interest payments, which must be managed carefully to sustain profitability.

Profitability Ratios and Return Analysis

The core question posed relates to the firm's return—most notably, the Return on Assets (ROA). Although the problem statement cuts off, typical financial analysis focuses on ROA, Return on Equity (ROE), and profit margins to gauge efficiency and profitability.

Calculating Return on Assets (ROA)

ROA measures how effectively the firm uses its assets to generate net income. The formula is:

$$\text{ROA} = \frac{\text{Net Income}}{\text{Total Assets}}$$

Since the net income figure is not directly provided, we need to derive or estimate it based on other data, such as sales, profit margins, or return metrics.

Assumption-Based Approach:

If, hypothetically, the firm's net profit margin is known, or if a typical profit margin is assumed, we can estimate net income. Alternatively, the question may have intended to relate ROA to the return on

sales or other ratios.

Estimating the Return on Assets and Equity

Assuming the problem is about computing ROA, and considering common industry benchmarks or typical profit margins, we can proceed with illustrative calculations.

Scenario 1: Assuming a Profit Margin

Suppose the firm operates with a profit margin of 10%.

Net Income:

\[

$$\text{Net Income} = \text{Sales} \times \text{Profit Margin} = 750 \times 0.10 = \$75$$

\]

ROA Calculation:

\[

$$\text{ROA} = \frac{\$75}{\$400} = 0.1875 = 18.75\%$$

\]

This indicates that the firm generates an approximately 18.75% return on its assets, a healthy figure reflecting operational efficiency.

Scenario 2: Computing Return on Equity (ROE)

Using the net income derived above and the equity of \$160:

\[

$$ROE = \frac{\$75}{\$160} = 0.46875 = 46.88\%$$

\]

This high ROE suggests that the firm leverages debt effectively to generate substantial returns for shareholders, but also indicates higher financial risk.

Analyzing Financial Performance and Risk

The leverage and profitability ratios reveal much about the firm's operational efficiency and risk profile.

Advantages of Leverage

- Enhanced Returns: The use of debt allows the firm to fund growth without issuing additional equity, potentially increasing returns on equity.
- Tax Benefits: Interest payments on debt are tax-deductible, reducing taxable income and improving after-tax profitability.

Risks of High Leverage

- Financial Distress: High debt levels increase the risk of insolvency, especially if earnings decline.
- Interest Burden: Fixed interest obligations can strain cash flow, especially during downturns or periods of low sales.

Efficiency Metrics: Asset Turnover and Profitability

- Asset Turnover Ratio:

$$\text{Asset Turnover} = \frac{\text{Sales}}{\text{Total Assets}} = \frac{750}{400} = 1.875$$

This suggests that for every dollar invested in assets, the firm generates \$1.875 in sales, indicating efficient utilization of assets.

- Profit Margin:

Assuming 10% as a typical margin, the firm's profitability seems robust if such margins are achievable.

Conclusion: Overall Financial Health and Strategic Insights

The analysis of this hypothetical firm, with sales of \$750, total assets of \$400, and a debt-equity ratio of 1.50, paints a picture of a leveraged but potentially profitable operation. The key takeaways include:

- The firm's capital structure is heavily leveraged, with debt constituting 60% of total assets. This increases potential returns but also heightens financial risk.
- Estimated profitability metrics suggest a healthy return on assets (~18.75%) and a strong return on equity (~46.88%), driven by effective leverage.
- Asset efficiency appears solid, with an asset turnover ratio of 1.875, indicating efficient utilization of assets to generate sales.
- The firm must balance the benefits of leverage with the inherent risks, particularly in managing interest obligations and ensuring consistent profitability.

Strategic Recommendations:

- Risk Management: The firm should monitor debt levels and interest coverage ratios to prevent over-leverage.
- Operational Efficiency: Continuing to optimize asset utilization can improve profitability margins.
- Profitability Focus: Enhancing profit margins through cost control or value addition can further improve returns.

Final Thoughts:

This case exemplifies how financial ratios and metrics serve as critical tools for assessing a company's health. By understanding leverage, efficiency, and profitability, stakeholders can make more informed decisions, whether in investment, management, or strategic planning. The firm's ability to sustain and grow depends on balancing these factors amid changing market conditions.

Note: The analysis here is based on hypothetical assumptions where data was incomplete, especially regarding net income. For precise evaluations, actual net income figures and additional financial statements would be necessary.

13 A Firm Has Sales Of 750 Total Assets Of 400 And A Debt Equity Ratio Of 1 50 If The Return On

13 A Firm Has Sales Of 750 Total Assets Of 400 And A Debt Equity Ratio Of 1 50 If The Return On

Related Articles

- [What Type Of Glial Cell Provides Myelin For The Axons In A Tract? A. Oligodendrocyte B. Astrocyte C.](#)
- [1. A Scuba Diver Wants To Dive More Than 2 1/2, Times His Previous Deepest Dive. That Means He Has To](#)
- [A Baseball Pitcher Can Throw A 132 Km/h \(82 Mph\) Curve Ball Thatrotates About 6.0102 Rpm. What Is The](#)

[Back to Home](#)