

Financial analysis

The Importance of a Financial Plan

- Common mistake among business owners: Failing to collect and analyze basic financial data.
- Many entrepreneurs run their companies without any kind of financial plan.
- Only 11% of business owners analyze their companies' financial statements as part of the managerial planning process.
- Financial planning is essential to running a successful business and is not that difficult!

Basic Financial Statements

- Balance Sheet – “Snapshot.”
- Estimates the firm’s worth on a given date;
built on the accounting equation:
$$\text{Assets} = \text{Liabilities} + \text{Owner's Equity}$$

Basic Financial Statements

- Income Statement – “Moving picture.”
Compares the firm’s expenses against its revenue over a period of time to show its net income (or loss):

$$\text{Net Income} = \text{Sales Revenue} - \text{Expenses}$$

- Statement of Cash Flows – Shows the change in the firm's working capital over a period of time by listing the sources and uses of funds.

Creating Projected Financial Statements

- Helps the entrepreneur transform business goals into reality
- Challenging for a business start-up
- Start-ups should focus on creating projections for two years
- Projected financial statements:
 - Income statements
 - Balance sheet

Ratio Analysis

- “How is my company doing?”
- A method of expressing the relationships between any two elements on financial statements.
- Important barometers of a company’s health.
- Studies indicate few small business owners compute financial ratios and use them to manage their businesses.

Twelve Key Ratios

Liquidity Ratios - Tell whether or not a business will be able to meet its maturing obligations as they come due.

1. ***Current Ratio*** - Measures solvency by showing the firm's ability to pay current liabilities out of current assets.

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}} = \frac{\text{€686,985}}{\text{€367,850}} = 1.87:1$$

Twelve Key Ratios

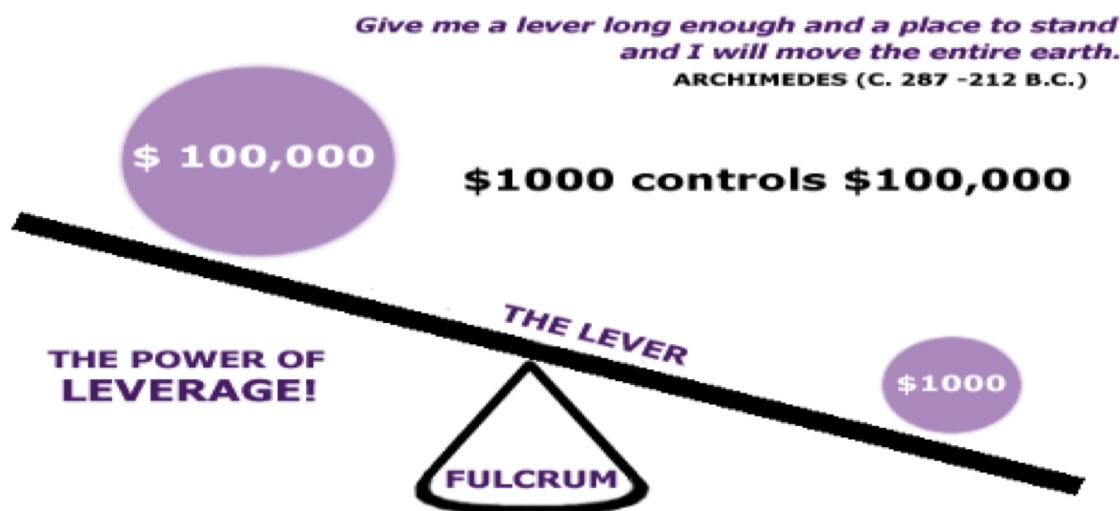
Liquidity Ratios - Tell whether or not a business will be able to meet its maturing obligations as they come due.

2. **Quick Ratio** - Shows the extent to which a firm's most liquid assets cover its current liabilities.

$$\text{Quick Ratio} = \frac{\text{Quick Assets}}{\text{Current Liabilities}} = \frac{686,985 - 455,455}{€367,850} = .63:1$$

Twelve Key Ratios

- Leverage Ratios
 - Measure the financing provided by the firm's owners against that supplied by its creditors
 - A gauge of the depth of the company's debt.
- Careful! Debt is a powerful tool, but, like dynamite, you must handle it carefully!



Twelve Key Ratios

Leverage Ratios - Measure the financing provided by a firm's owners against that supplied by its creditors; it is a gauge of the depth of the company's debt.

3. Debt Ratio - Measures the percentage of total assets financed by creditors rather than owners.

$$\text{Debt Ratio} = \frac{\text{Total Debt}}{\text{Total Assets}} = \frac{\text{€}367,850 + 212,150}{\text{€}847,655} = 0.68:1$$

Twelve Key Ratios

Leverage Ratios - Measure the financing provided by a firm's owners against that supplied by its creditors; it is a gauge of the depth of the company's debt.

4. ***Debt to Net Worth Ratio*** - Compares what a business "owes" to "what it is worth."

$$\text{Debt to Net Worth Ratio} = \frac{\text{Total Debt}}{\text{Tangible Net Worth}} = \frac{\text{€580,000}}{\text{€264,155}} = 2.20:1$$

Twelve Key Ratios

Leverage Ratios - Measure the financing provided by a firm's owners against that supplied by its creditors; it is a gauge of the depth of the company's debt.

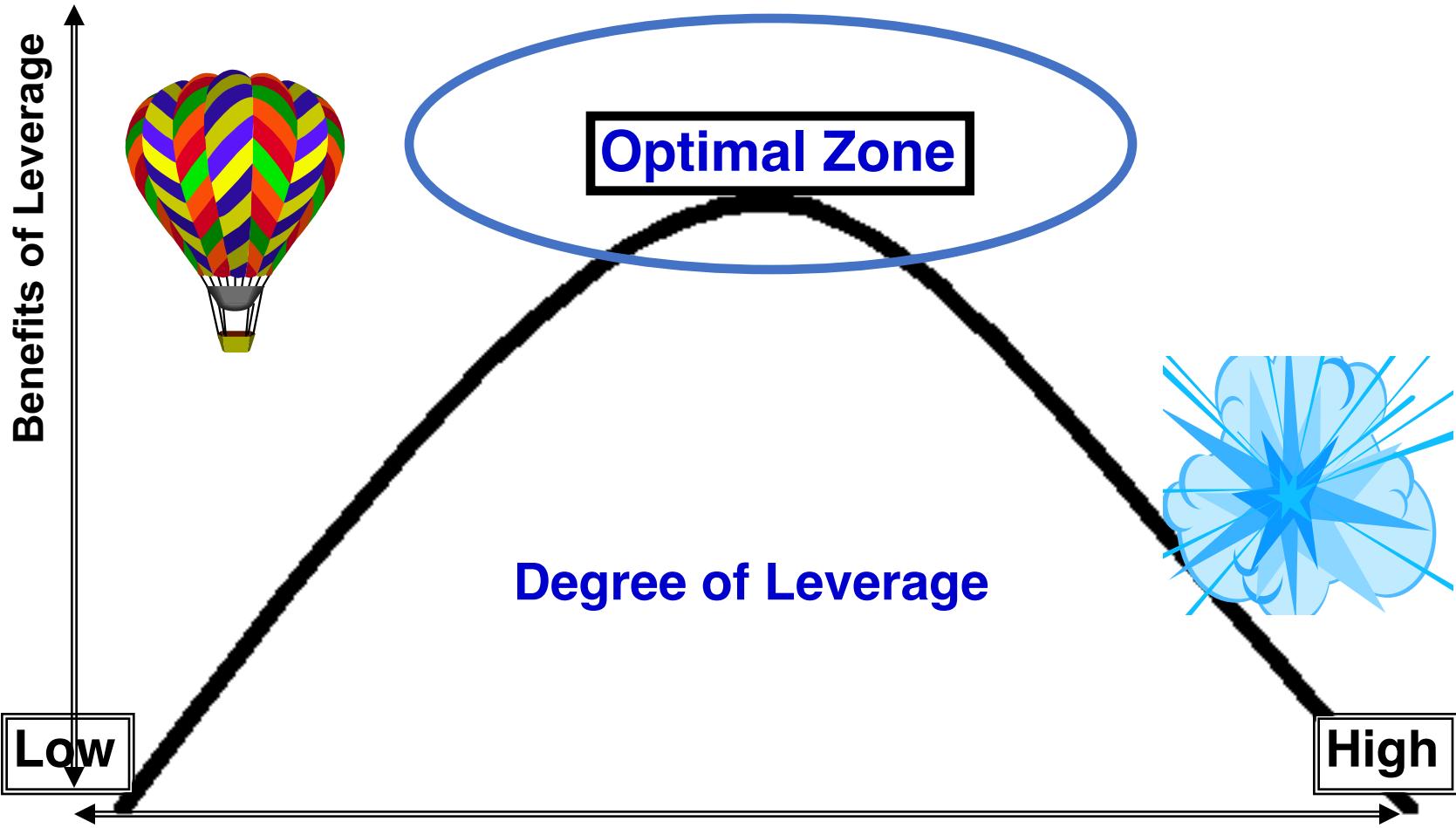
5. Times Interest Earned - Measures the firm's ability to make the interest payments on its debt.

$$\text{Times Interest Earned} = \frac{\text{EBIT}^*}{\text{Total Interest Expense}} = \frac{\text{€}60,629 + 39,850}{\text{€}39,850} =$$

$$= \frac{\text{€}100,479}{\text{€}39,850} = 2.52:1$$

*Earnings Before Interest and Taxes

The Right Amount of Debt is a Balancing Act



How Lenders View Liquidity and Leverage

	Liquidity	Leverage
Low	If chronic, this is often evidence of mismanagement. It is a sign that the owner has not planned for the company's working capital needs. In most businesses characterized by low liquidity, there is usually no financial plan. This situation is often associated with last minute or "Friday night" financing.	This is a very conservative position. With this kind of leverage, lenders are likely to lend money to satisfy a company's capital needs. Owners in this position should have no trouble borrowing money.
Average	This is an indication of good management. The company is using its current assets wisely and productively. Although they may not be impressed, lenders feel comfortable making loans to companies with adequate liquidity.	If a company's leverage is comparable to that of other businesses of similar size in the same industry, lenders are comfortable making loans. The company is not overburdened with debt and is demonstrating its ability to use its resources to grow.
High	Some lenders look for this because it indicates a most conservative company. However, companies that constantly operate this way usually are forgoing growth opportunities because they are not making the most of their assets.	Businesses that carry excessive levels of debt scare most lenders off. Companies in this position normally will have a difficult time borrowing money unless they can show lenders good reasons for making loans. Owners of these companies must be prepared to sell lenders on their ability to repay.

Twelve Key Ratios

Operating Ratios - Evaluate a firm's overall performance and show how effectively it is putting its resources to work.

6. **Average Inventory Turnover Ratio** - Tells the average number of times a firm's inventory is “turned over” or sold out during the accounting period.

$$\text{Average Inventory} = \frac{\text{Cost of Goods Sold}}{\text{Ratio}} = \frac{\text{€1,290,117}}{\text{Average Inventory}^*} = \frac{\text{€1,290,117}}{\text{€630,600}} = 2.05 \text{ times Turnover a year}$$

$$^* \text{Average Inventory} = \frac{\text{Beginning Inventory} + \text{Ending Inventory}}{2}$$

Twelve Key Ratios

Operating Ratios - Evaluate a firm's overall performance and show how effectively it is putting its resources to work.

7. Average Collection Period Ratio (days sales outstanding, DSO) - Tells the average number of days required to collect accounts receivable. Two Steps:

$$\text{Receivables Turnover} = \frac{\text{Credit Sales}}{\text{Accounts Receivable}} = \frac{\text{€1,309,589}}{\text{€179,225}} = 7.31 \text{ times Ratio a year}$$

$$\text{Average Collection} = \frac{\text{Days in Accounting Period}}{\text{Receivables Turnover Ratio}} = \frac{365}{7.31} = 50.0 \text{ Period Ratio days}$$

Twelve Key Ratios

Operating Ratios - Evaluate a firm's overall performance and show how effectively it is putting its resources to work.

8. **Average Payable Period Ratio** - Tells the average number of days required to pay accounts payable. Two Steps:

$$\text{Payables Turnover Ratio} = \frac{\text{Purchases}}{\text{Accounts Payable}} = \frac{\text{€939,827}}{\text{€152,580}} = 6.16 \text{ times a year}$$

$$\text{Average Payable Period Ratio} = \frac{\text{Days in Accounting Period}}{\text{Payables Turnover Ratio}} = \frac{365}{6.16} = 59.3 \text{ days}$$

Twelve Key Ratios

Operating Ratios - Evaluate a firm's overall performance and show how effectively it is putting its resources to work.

9. ***Net Sales to Total Assets Ratio*** - Measures a firm's ability to generate sales given its asset base.

$$\text{Net Sales to Total Assets} = \frac{\text{Net Sales}}{\text{Total Assets}} = \frac{\text{€1,870,841}}{\text{€847,655}} = 2.21:1$$

Twelve Key Ratios

Profitability Ratios - Measure how efficiently a firm is operating; offer information about a firm's "bottom line."

10. ***Net Profit on Sales Ratio*** - Measures a firm's profit per dollar of sales revenue.

$$\text{Net Profit on Sales} = \frac{\text{Net Income}}{\text{Net Sales}} = \frac{\text{€}60,629}{\text{€}1,870,841} = 3.24\%$$

Twelve Key Ratios

Profitability Ratios - Measure how efficiently a firm is operating; offer information about a firm's "bottom line."

11. ***Net Profit to Assets (Return on Assets) Ratio*** – tells how much profit a company generates for each dollar of assets that it owns.

$$\text{Net Profit to Assets} = \frac{\text{Net Income}}{\text{Total Assets}} = \frac{\text{€}60,629}{\text{€}847,655} = 7.15\%$$

Twelve Key Ratios

Profitability Ratios - Measure how efficiently a firm is operating; offer information about a firm's "bottom line."

12. Net Profit to Equity* Ratio - Measures an owner's rate of return on the investment (**ROI**) in the business.

$$\text{Net Profit to } = \frac{\text{Net Income}}{\text{Equity}} = \frac{\text{€}60,629}{\text{Owner's Equity}^*} = 22.65\%$$

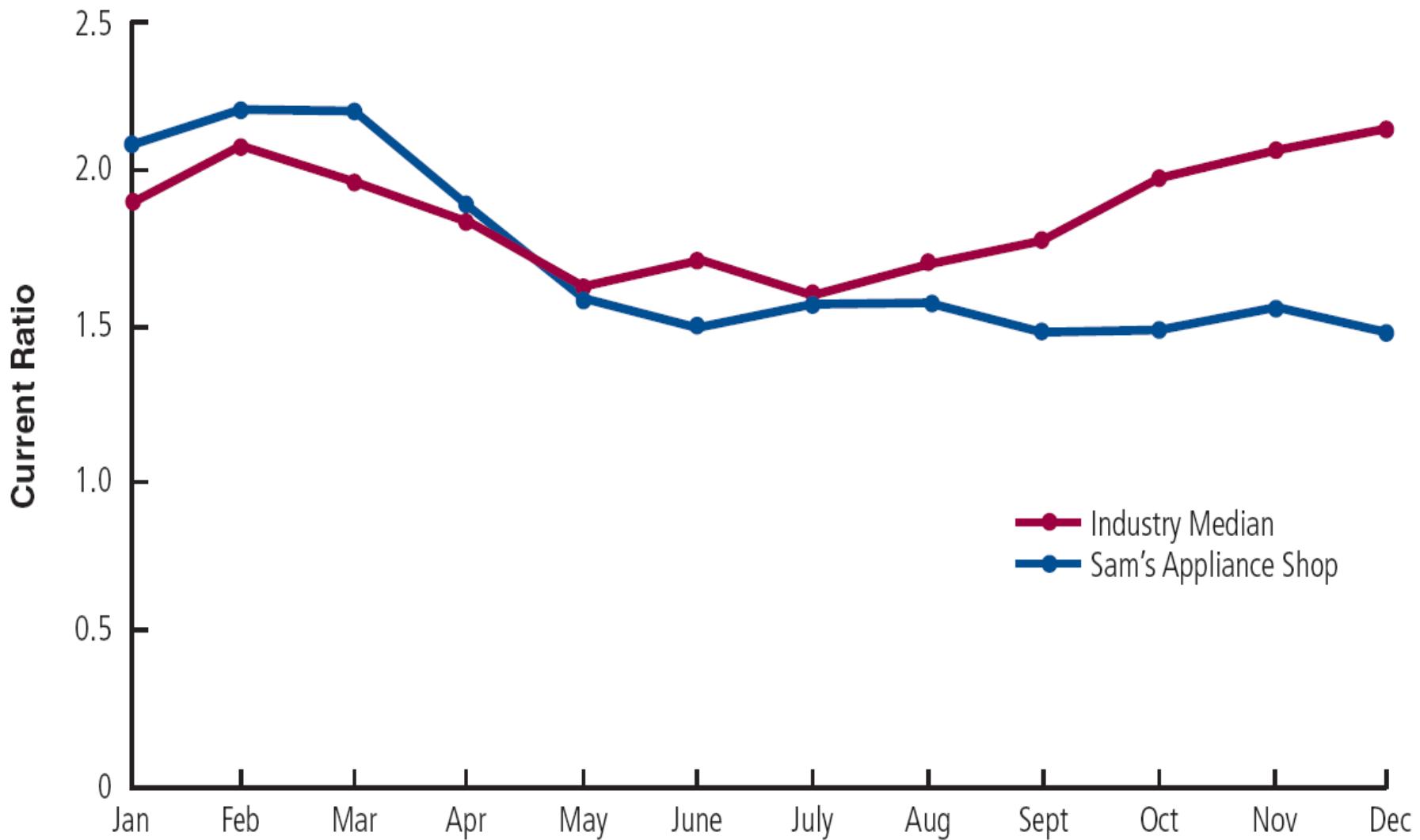
* Also called Net Worth

Interpreting Ratios

- Ratios – useful yardsticks of comparison.
- Standards vary from one industry to another; the key is to watch for “red flags.”
- *Critical numbers* – measure key financial and operational aspects of a company’s performance. Examples:
 - Sales per labor hour at a supermarket
 - Food costs as a percentage of sales at a restaurant.
 - Load factor (percentage of seats filled with passengers) at an airline.



Trend Analysis of Ratios



Interpreting Ratios

Sam's Appliance Shop

Current ratio = 1.87:1

Industry Median

Current ratio = 1.50:1

Although Sam's falls short of the rule of thumb of 2:1, its current ratio is above the industry median by a significant amount. Sam's should have no problem meeting short-term debts as they come due.

Interpreting Ratios

Sam's Appliance Shop

Quick ratio = 0.63:1

Industry Median

Quick ratio = 0.50:1

Again, Sam is below the rule of thumb of 1:1, but the company passes this test of liquidity when measured against industry standards.

Sam relies on selling inventory to satisfy short-term debt (as do most appliance shops). If sales slump, the result could be liquidity problems for Sam's. What steps should Sam take to deal with this threat?

Interpreting Ratios

Sam's Appliance Shop

Debt ratio = 0.68:1

Industry Median

Debt ratio = 0.64:1

Creditors provide 68% of Sam's total assets, very close to the industry median of 64%.

Although the company does not appear to be overburdened with debt, Sam's might have difficulty borrowing , especially from conservative lenders.

Interpreting Ratios

Sam's Appliance Shop

Debt to net worth
ratio = 2.20:1

Industry Median

Debt to net worth
ratio = 1.90:1

Sam's owes \$2.20 to creditors for every \$1.00 the owner has invested in the business (compared to \$1.90 to every \$1.00 in equity for the typical business). Many lenders will see Sam's as "borrowed up," having reached its borrowing capacity. Creditor's claims are more than twice those of the owners.

Interpreting Ratios

Sam's Appliance Shop

Times interest earned ratio = 2.52:1

Industry Median

Times interest earned ratio = 2.0:1

Sam's earnings are high enough to cover the interest payments on its debt by a factor of 2.52:1, slightly better than the typical firm in the industry. Sam's has a cushion (although a small one) in meeting its interest payments.

Interpreting Ratios

Sam's Appliance Shop

Average inventory turnover ratio =
2.05 times per year

Industry Median

Average inventory turnover ratio =
4.0 times per year

Inventory is moving through Sam's at a very slow pace. What could be causing this low inventory turnover in Sam's business?



Interpreting Ratios

Sam's Appliance Shop

Average collection period ratio = 50.0 days

Industry Median

Average collection period ratio = 19.3 days

Sam's collects the average account receivable after 50 days compared to the industry median of 19 days - more than 2.5 times longer. What is a more meaningful comparison for this ratio? What steps can Sam take to improve this ratio?

Interpreting Ratios

Sam's Appliance Shop

Average payable period ratio = 59.3
days

Industry Median

Average payable period ratio = 43
days

Sam's payables are nearly 40 percent slower than those of the typical firm in the industry. Stretching payables too far could seriously damage the company's credit rating.

What are the possible causes of this discrepancy?

Interpreting Ratios

Sam's Appliance Shop

Net sales to total assets ratio = 2.21:1

Industry Median

Net Sales to total assets ratio = 2.7:1

Sam's Appliance Shop is not generating enough sales, given the size of its asset base. What factors could cause this?

Interpreting Ratios

Sam's Appliance Shop

Net profit on sales
ratio = 3.24%

Industry Median

Net profit on sale
ratio = 7.6%

After deducting all expenses, Sam's has just 3.24 cents of every sales dollar left as profit - less than half the industry average. Sam may discover that some of his operating expenses are out of balance.

Interpreting Ratios

Sam's Appliance Shop

Net profit to assets
ratio = 7.15%

Industry Median

Net Sales to working capital ratio =
5.5%

Sam's generates a return of 7.15% for every \$1 in assets, which is 30% above the industry average. Given his asset base, Sam is squeezing an above-average return out of his company. Is this likely to be the result of exceptional profitability, or is there another explanation?

Interpreting Ratios

Sam's Appliance Shop

Net profit on equity ratio = 22.65%

Industry Median

Net profit on equity ratio = 12.6%

Sam's return on his investment in the business is an impressive 22.65%, compared to an industry median of just 12.6% Is this the result of high profitability, or is there another explanation?

Breakeven Analysis

- Breakeven point - the level of operation at which a business neither earns a profit nor incurs a loss.
- A useful planning tool because it shows entrepreneurs minimum level of activity required to stay in business.
- With one change in the breakeven calculation, an entrepreneur can also determine the sales volume required to reach a particular profit target.

Calculating the Breakeven Point

- Step 1.** Determine the expenses the business can expect to incur.
- Step 2.** Categorize the expenses in step 1 into fixed expenses and variable expenses.
- Step 3.** Calculate the ratio of variable expenses to net sales. Then compute the contribution margin:

$$\text{Contribution Margin} = 1 - \frac{\text{Variable Expenses}}{\text{Net Sales Estimate}}$$

- Step 4. Compute the breakeven point:**

$$\text{Breakeven Point (\$)} = \frac{\text{Total Fixed Costs}}{\text{Contribution Margin}}$$

Calculating the Breakeven Point: The Magic Shop

Step 1. Net Sales estimate is \$950,000 with Cost of Goods Sold of \$646,000 and total expenses of \$236,500.

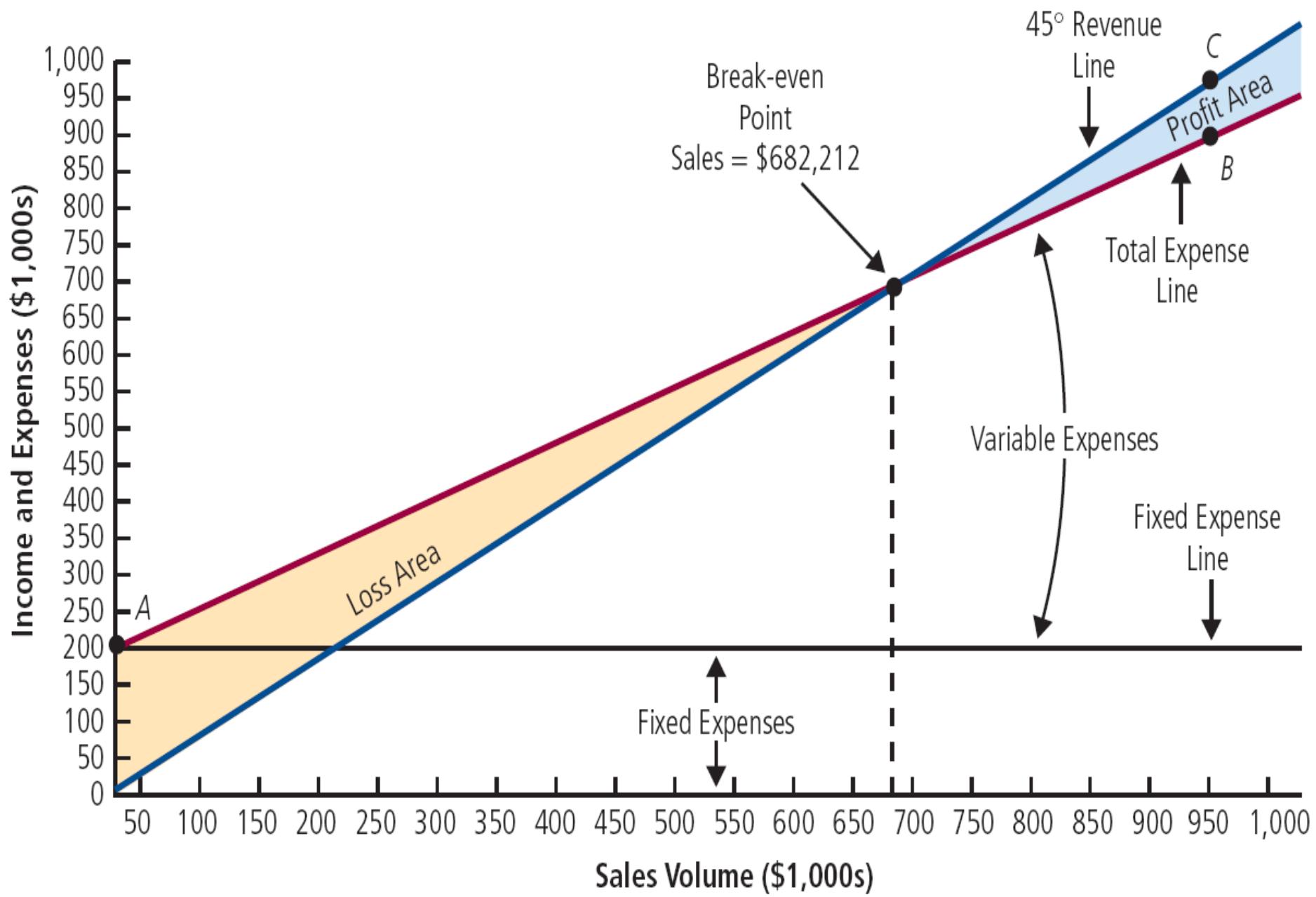
Step 2. Variable Expenses: \$705,125
Fixed Expenses: \$177,375

Step 3. Contribution margin:

$$\text{Contribution Margin} = 1 - \frac{\$705,125}{\$950,000} = .26$$

Step 4. Breakeven Point:

$$\text{Breakeven Point} = \frac{\$177,375}{.26} = \$682,212$$



Thank you