

FINANCIAL MANAGEMENT

CH III

Financial Analysis



Learning Goals

Review the *contents of financial statements*.

Understand *who uses financial ratios* and *how*.

Use ratios to analyze a firm's *liquidity* and *activity*.

Discuss the relationship between *debt and financial leverage* and the ratios used to analyze a firm's *debt*.

Use ratios to analyze a firm's *profitability* and its *market value*.

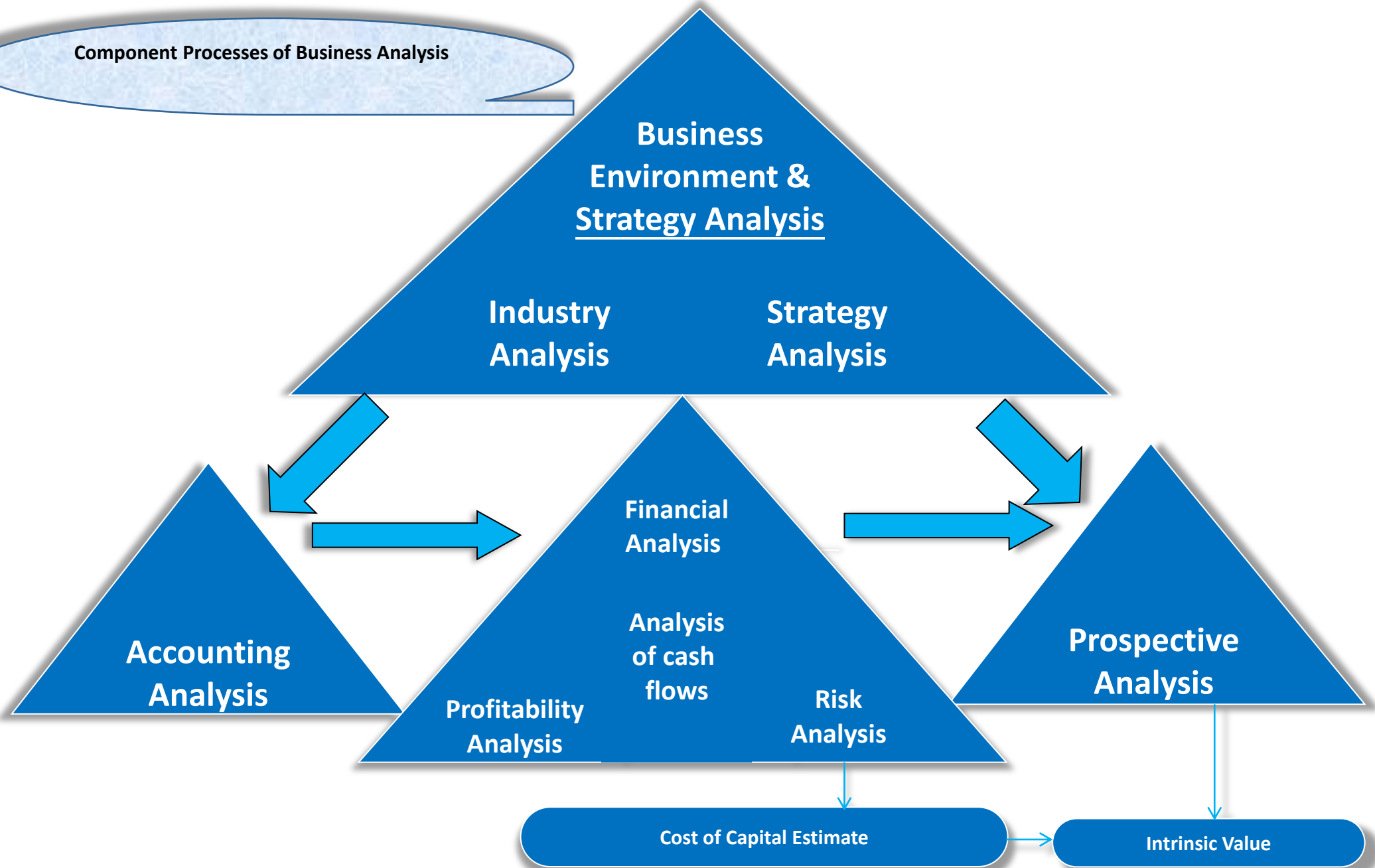
Use a summary of financial ratios and the *DuPont system* of analysis to perform a *complete ratio analysis*.

Why Study Financial Statements?

Analyzing a firm's financial statement can help managers carry out three important tasks:

1. Assess current performance,
2. Monitor and control operations, and
3. Plan and forecast future performance.

Component Processes of Business Analysis



Information Sources



Interrelationship

Income Statement

	Year 2	Year 1	Change
Sales	\$1,000	\$900	\$100
Gross Margin	500	425	75
Operating Expenses	200	190	10
Operating Profit	300	235	65
Net Income	\$200	\$157	\$ 43

Balance Sheet

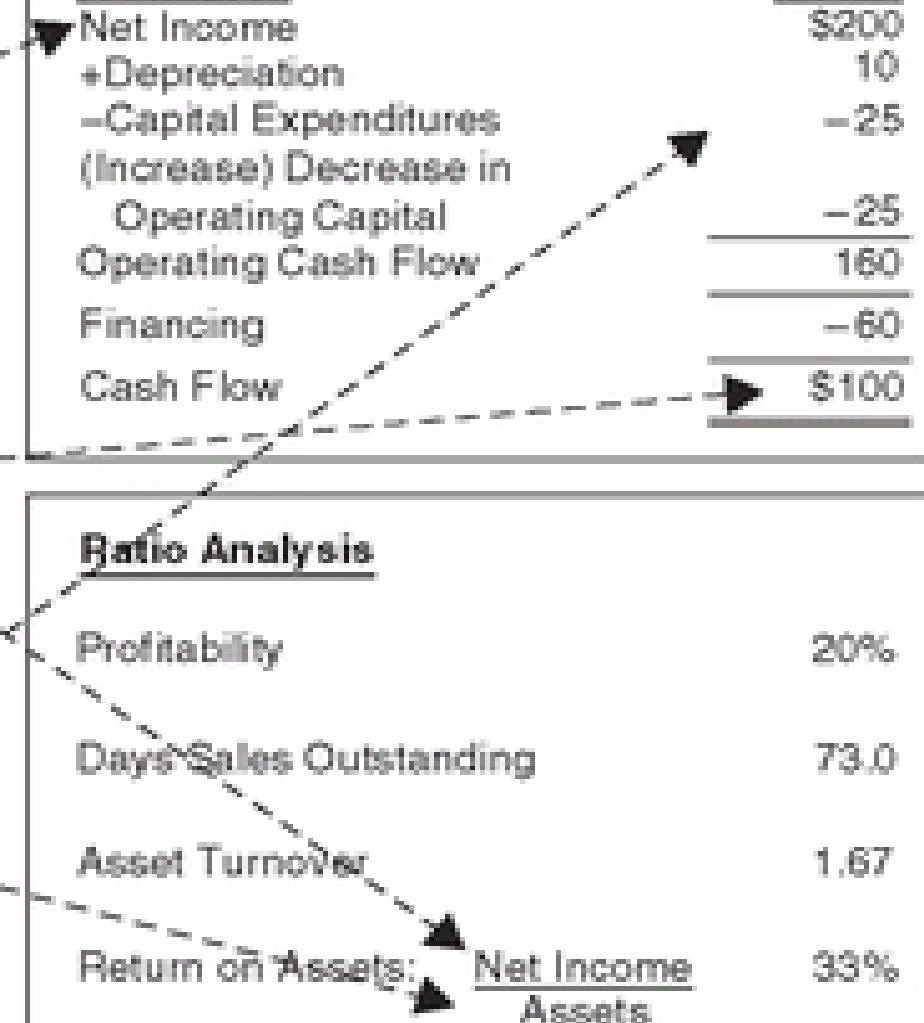
Cash	\$150	\$50	\$100
Receivables 200		150	50
Inventories 200		150	50
PP&E: Cost	100	75	25
PP&E: Accumulated Depreciation	-50	-40	-10
Total Assets	\$600	\$385	\$215
Accounts Payable	100	75	25
Accrued Liabilities	100	50	50
Debt 200		260	-60
Equity 200		0	200
Liabilities and Equity	\$600	\$385	\$215

Cash Flow

	Year 2
Net Income	\$200
+Depreciation	10
-Capital Expenditures	-25
(Increase) Decrease in Operating Capital	-25
Operating Cash Flow	160
Financing	-60
Cash Flow	\$100

Ratio Analysis

Profitability	20%
Days Sales Outstanding	73.0
Asset Turnover	1.67
Return on Assets:	$\frac{\text{Net Income}}{\text{Assets}}$ 33%



Why do We Analyze Financial Statements?

An *internal financial analysis* might be done:

To evaluate the *performance of employees*

To compare the *performance of different divisions*

To prepare *financial projections*

To evaluate the firm's financial performance in light of *its competitors' performance*

Why do We Analyze Financial Statements? (Cont'd)

- *External financial analysis* is done by:
 - Banks and other lenders
 - Suppliers
 - Credit-rating agencies
 - Professional analysts
 - Individual investors

Financial Statements reflect Business Activities

Planning

Investing

Current:

- Cash
- Accounts Receivable
- Inventories
- Marketable Securities

Noncurrent:

- Land, Buildings, & Equipment
- Patents
- Investments

Operating

- Sales
- Cost of Goods Sold
- Selling Expense
- Administrative Expense
- Interest Expense
- Income Tax Expense

Financing

Current:

- Notes Payable
- Accounts Payable
- Salaries Payable
- Income Tax Payable

Noncurrent:

- Bonds Payable
- Common Stock
- Retained Earnings

Net Income

Income statement

Cash Flow

Statement of
Cash Flows

Liabilities & Equity

Balance Sheet

Statement of Shareholders'
Equity

Assets

Balance Sheet

COMMON SIZE STATEMENTS: STANDARDIZING FINANCIAL INFORMATION

Standardizing Financial Information

A common size financial statement is a standardized version of a financial statement in which all entries are presented in percentages.

It helps to compare a firm's financial statements with those of other firms.

Common Size Statements

- ◎ For a common size *balance sheet*, divide *each entry in the balance sheet by total assets*.

Expresses each item on the balance sheet as a percentage of total assets

Reveals the composition of assets

Form of vertical ratio analysis

Useful for evaluating trends within a firm

Allows for making industry comparisons

- ◎ For a common size *income statement*, divide *each entry in the income statement by net sales*.

Expresses each income statement item as a percentage of net sales

Shows the relative magnitude of various expenses relative to sales, the profit percentages, and the relative importance of “other” revenues and expenses

The Balance Sheet

- ◎ The balance sheet presents a summary of a firm's financial position at a given point in time.
- ◎ The statement balances the firm's assets (what it owns) against its financing, which can be either debt (what it owes) or equity (what was provided by owners).

BS Assets Part (\$000), Barlett Company

Assets	December 31	
	2015	2014
Cash	\$ 363	\$ 288
Marketable securities	68	51
Accounts receivable	503	365
Inventories	<u>289</u>	<u>300</u>
Total current assets	<u>\$1,223</u>	<u>\$1,004</u>
Land and buildings	\$2,072	\$1,903
Machinery and equipment	1,866	1,693
Furniture and fixtures	358	316
Vehicles	275	314
Other (includes financial leases)	<u>98</u>	<u>96</u>
Total gross fixed assets (at cost)	<u>\$4,669</u>	<u>\$4,322</u>
Less: Accumulated depreciation	<u>2,295</u>	<u>2,056</u>
Net fixed assets	<u>\$2,374</u>	<u>\$2,266</u>
Total assets	<u>\$3,597</u>	<u>\$3,270</u>

Common Size BS, Barlett Company

	2015	2014	Change
Cash	10%	8.8%	1.2%
Marketable Securities	1.8%	1.1%	0.6%
Accounts receivable	13.9%	11.1	2.8%
Inventories	8.0%	9.1%	-1.1%
Total current assets	33.7%	30.7%	3.0%
Land and buildings	-		
Machinery and equipment	-		
Furniture and fixtures	-		
Vehicles	-		
Other	-		
Acc Depreciation	-		
Net fixed assets	66.3%	69.3%	-3.0%
TOTAL ASSETS	100%	100%	0.0%

BS Liabilities & Equity Part (\$000), Barlett Company

Liabilities and Stockholders' Equity

Accounts payable	\$ 382	\$ 270
Notes payable	79	99
Accruals	<u>159</u>	<u>114</u>
Total current liabilities	\$ 620	\$ 483
Long-term debt (includes financial leases)	<u>1,023</u>	<u>967</u>
Total liabilities	<u>\$1,643</u>	<u>\$1,450</u>
Preferred stock: cumulative 5%, \$100 par, 2,000 shares authorized and issued	\$ 200	\$ 200
Common stock: \$2.50 par, 100,000 shares authorized, shares issued and outstanding in 2015: 76,262; in 2014: 76,244	191	190
Paid-in capital in excess of par on common stock	428	418
Retained earnings	<u>1,135</u>	<u>1,012</u>
Total stockholders' equity	<u>\$1,954</u>	<u>\$1,820</u>
Total liabilities and stockholders' equity	<u>\$3,597</u>	<u>\$3,270</u>

Common Size BS, Barlett Company

	2015	2014	Change
Accounts payable	10.6%	8.2%	2.4%
Notes payable	2.1%	3.0%	-0.9%
Accruals	4.4%	3.4%	1.0%
Total current liabilities	17.1%	14.6%	2.5%
Long term debt	28.4%	29.5%	-1.1%
<i>Total liabilities</i>	<i>45.5%</i>	<i>44.1%</i>	<i>1.4%</i>
Preferred Stock	-		
Common Stock	-		
Paid in capital	-		
Retained earnings	-		
<i>Total Stockholder's Equity</i>	<i>54.5%</i>	<i>55.9</i>	<i>-1.4%</i>
TOTAL LIABILITIES & STOCKHOLDER'S EQUITY	100%	100%	0.0%

Observation, Barlett Company

Total current assets increased by 3.0% in 2015 while noncurrent liabilities declined by 1.1%.

Long-term debt accounts for 28.4% of firm's assets, showing a decline of 1.1%.

Accounts receivable increased by 2.8% .

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The Income Statement

- The income statement provides a financial summary of a *company's operating results during a specified period*.
- Although they are prepared quarterly for reporting purposes, they are generally computed monthly by management and quarterly for tax purposes.

Income Statement, Barlett Company

	For the years ended December 31	
	2015	2014
Sales revenue	\$3,074	\$2,567
Less: Cost of goods sold	<u>2,088</u>	<u>1,711</u>
Gross profits	\$ 986	\$ 856
Less: Operating expenses		
Selling expense	\$ 100	\$ 108
General and administrative expenses	194	187
Lease expense ^d	35	35
Depreciation expense	<u>239</u>	<u>223</u>
Total operating expense	\$ 568	\$ 553
Operating profits	\$ 418	\$ 303
Less: Interest expense	<u>93</u>	<u>91</u>
Net profits before taxes	\$ 325	\$ 212
Less: Taxes	<u>94</u>	<u>64</u>
Net profits after taxes	\$ 231	\$ 148
Less: Preferred stock dividends	<u>10</u>	<u>10</u>
Earnings available for common stockholders	\$ 221	\$ 138
Earnings per share (EPS) ^b	\$2.90	\$1.81
Dividend per share (DPS) ^c	\$1.29	\$0.75

^dLease expense is shown here as a separate item rather than being included as part of interest expense as specified by the FASB for financial reporting purposes. The approach used here is consistent with tax reporting rather than financial reporting procedures.

^bCalculated by dividing the earnings available for common stockholders by the number of shares of common stock outstanding: 76,262 in 2015 and 76,244 in 2014. Earnings per share in 2015: $\$221,000 \div 76,262 = \2.90 ; in 2014: $\$138,000 \div 76,244 = \1.81 .

^cCalculated by dividing the dollar amount of dividends paid to common stockholders by the number of shares of common stock outstanding. Dividends per share in 2015: $\$98,000 \div 76,262 = \1.29 ; in 2014: $\$57,183 \div 76,244 = \0.75 .

Common Size IS, Barlett Company

	For the years ended December 31		Evaluation ^a 2014–2015
	2015	2014	
Sales revenue	100.0%	100.0%	Same
Less: Cost of goods sold	<u>67.9</u>	<u>66.7</u>	Worse
(1) Gross profit margin	<u>32.1%</u>	<u>33.3%</u>	Worse
Less: Operating expenses			
Selling expense	3.3%	4.2%	Better
General and administrative ex- penses	6.8	6.7	Worse
Lease expense	1.1	1.3	Better
Depreciation expense	<u>7.3</u>	<u>9.3</u>	Better
Total operating expense	<u>18.5%</u>	<u>21.5%</u>	Better
(2) Operating profit margin	13.6%	11.8%	Better
Less: Interest expense	<u>3.0</u>	<u>3.5</u>	Better
Net profits before taxes	10.6%	8.3%	Better
Less: Taxes	<u>3.1</u>	<u>2.5</u>	Worse ^b
Net profits after taxes	7.5%	5.8%	Better
Less: Preferred stock dividends	<u>0.3</u>	<u>0.4</u>	Better
(3) Net profit margin	<u>7.2%</u>	<u>5.4%</u>	Better

^aSubjective assessments based on data provided.

^bTaxes as a percentage of sales increased noticeably between 2014 and 2015 because of differing costs and expenses, whereas the average tax rates (taxes ÷ net profits before taxes) for 2014 and 2015 remained about the same: 30% and 29%, respectively.

Observation IS, Barlett Company

- Cost of goods sold make up 67.9% of the firm's sales resulting in a gross profit of 32.1%.
- Selling expenses account for about 3.3% of sales.
- Income taxes account for 3.1% of the firm's sales.
- After all expenses, the firm generates net income of 7.2% of firm's sales.