

## 7. Common-Size Analysis

### 7.1 Financial ratios

Financial ratios can be calculated as a percent or as times per period.

Two types of analyses can be done:

- an intra-firm (trend) analysis
- an inter-firm (industry) analysis

In an intra-firm financial ratios are compared to prior ratios. Trend analysis studies the financial history of a company. Usually rising ratios prove the good quality of management.

In an inter-firm analysis financial ratios are compared to ratios of competitors. These ratios can be also compared to industry ratios or determined standard ratios. The analysis of a company's financial statements is more meaningful if the ratios are compared with results of competitors or with industry averages. Sometimes it is difficult to find a peer company, because companies do not fit into any one industry.

Financial ratios vary by type of industry. Many of ratios calculated for a company can be compared only with ratios with companies in the same industry.

A manufacturing firm will usually have large inventories of raw materials, work in progress and finished goods.

A retail or wholesale companies sell products purchased from other companies. Inventories are usually huge and consist mostly of finished products.

A service company usually has very low inventories which mostly consist of finished goods.

It is necessary to understand that all income statement and cash flow statement items are flow variables and cover the reporting period. All balance sheet items are stock variables and apply to a single date, the end of the reporting period. Sometimes, average of the beginning and the ending balance item is calculated. Sometimes this approach may be misleading.

### 7.2 Common-Size Analysis

Common-size analysis shows ratios in percentages (for example current assets / total assets, long-term assets / total assets).

Vertical analysis compares each item with a base item. In an income statement analysis net operating income is the base item. In a common-size balance sheet analysis total assets is the base item. In a statement of cash flow analysis net cash flows from investing activities should be a base item as usually net cash outflows from investing activities are financed with positive net cash flows from operating activities and positive net cash flows from financing activities.<sup>2</sup>

Horizontal analysis compares each item with an item for a selected base year.

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<sup>2</sup> This is my proposal. I'm not sure whether companies use such an approach.

## Task 7

1. Prepare a vertical and common size analysis of Income Statement
2. Prepare a vertical and common size analysis of Balance Sheet
3. Prepare a vertical and common size analysis of Cash Flow Statement

## Problem 15. Common Size Analysis of Income Statement

<b>Required:</b>			
(a) Prepare a vertical Common Size of Income Statement			
(b) Prepare a horizontal Common Size of Income Statement			
<b>Solution</b>			
(a)			
<b>Vertical Common Size of Income Statement</b>			
	<i>Dec. 31, 2014</i>	<i>Dec. 31, 2013</i>	<i>Dec. 31, 2012</i>
NET OPERATING REVENUES	100,0%	100,0%	100,0%
Cost of goods sold	38,9%	39,3%	39,7%
GROSS PROFIT	61,1%	60,7%	60,3%
Selling, general and administrative expenses	37,4%	36,9%	36,9%
Other operating charges	2,6%	1,9%	0,9%
OPERATING INCOME	21,1%	21,8%	22,4%
Interest income	1,3%	1,1%	1,0%
Interest expense	1,1%	1,0%	0,8%
Equity income (loss) - net	1,7%	1,3%	1,7%
Other income (loss) - net	-2,7%	1,2%	0,3%
INCOME BEFORE INCOME TAXES	20,3%	24,5%	24,6%
Income taxes	4,8%	6,1%	5,7%
CONSOLIDATED NET INCOME	15,5%	18,4%	18,9%
(b)			
<b>Horizontal Common Size of Income Statement</b>			
	<i>Dec. 31, 2014</i>	<i>Dec. 31, 2013</i>	<i>Dec. 31, 2012</i>
NET OPERATING REVENUES	98,8%	100,7%	103,2%
Cost of goods sold	98,2%	101,1%	104,6%
GROSS PROFIT	99,2%	100,4%	102,2%
Selling, general and administrative expenses	98,8%	99,4%	101,8%
Other operating charges	161,6%	122,3%	61,1%
OPERATING INCOME	95,4%	100,5%	106,0%
Interest income	123,0%	110,6%	97,5%
Interest expense	115,8%	111,0%	95,2%
Equity income (loss) - net	111,4%	87,2%	118,7%
Other income (loss) - net	-238,8%	108,9%	25,9%
INCOME BEFORE INCOME TAXES	81,4%	100,2%	103,1%
Income taxes	78,3%	101,4%	96,8%
CONSOLIDATED NET INCOME	82,4%	99,8%	105,1%

## Problem 16. Common Size Analysis of Balance Sheet

<b>Required:</b>			
(a) Prepare a vertical Common Size of Balance Sheet			
(b) Prepare a horizontal Common Size of Balance Sheet			
<b>Solution</b>			
(a)			
<b>Vertical Common Size of Balance Sheet</b>			
	<i>Dec. 31, 2014</i>	<i>Dec. 31, 2013</i>	<i>Dec. 31, 2012</i>
<b>CURRENT ASSETS</b>			
Cash and cash equivalents	9,7%	11,6%	9,8%
Short-term investments	9,8%	7,4%	5,8%
<b>TOTAL CASH, CASH EQUIVALENTS AND SHORT-TERM INVESTMENTS</b>	<b>19,6%</b>	<b>19,0%</b>	<b>15,6%</b>
Marketable securities	4,0%	3,5%	3,6%
Trade accounts receivable, less allowances of \$61 and \$53, respectively	4,9%	5,4%	5,5%
Inventories	3,4%	3,6%	3,8%
Prepaid expenses and other assets	3,3%	3,2%	3,2%
Assets held for sale	0,7%	0,0%	3,4%
<b>TOTAL CURRENT ASSETS</b>	<b>35,8%</b>	<b>34,8%</b>	<b>35,2%</b>
<b>EQUITY METHOD INVESTMENTS</b>	<b>10,8%</b>	<b>11,5%</b>	<b>10,7%</b>
<b>OTHER INVESTMENTS, PRINCIPALLY BOTTLING COMPANIES</b>	<b>4,0%</b>	<b>1,2%</b>	<b>1,4%</b>
<b>OTHER ASSETS</b>	<b>4,8%</b>	<b>5,2%</b>	<b>4,2%</b>
<b>PROPERTY, PLANT AND EQUIPMENT - net</b>	<b>15,9%</b>	<b>16,6%</b>	<b>16,8%</b>
<b>TRADEMARKS WITH INDEFINITE LIVES</b>	<b>7,1%</b>	<b>7,5%</b>	<b>7,6%</b>
<b>BOTTLERS' FRANCHISE RIGHTS WITH INDEFINITE LIVES</b>	<b>7,3%</b>	<b>8,2%</b>	<b>8,6%</b>
<b>GOODWILL</b>	<b>13,1%</b>	<b>13,7%</b>	<b>14,2%</b>
<b>OTHER INTANGIBLE ASSETS</b>	<b>1,1%</b>	<b>1,3%</b>	<b>1,3%</b>
<b>TOTAL ASSETS</b>	<b>100,0%</b>	<b>100,0%</b>	<b>100,0%</b>
	<i>Dec. 31, 2014</i>	<i>Dec. 31, 2013</i>	<i>Dec. 31, 2012</i>
<b>CURRENT LIABILITIES</b>			
Accounts payable and accrued expenses	10,0%	10,6%	10,1%
Loans and notes payable	20,8%	18,8%	18,9%
Current maturities of long-term debt	3,9%	1,1%	1,8%
Accrued income taxes	0,4%	0,3%	0,5%
Liabilities held for sale	0,1%	0,0%	0,9%
<b>TOTAL CURRENT LIABILITIES</b>	<b>35,2%</b>	<b>30,9%</b>	<b>32,3%</b>
<b>LONG-TERM DEBT</b>	<b>20,7%</b>	<b>21,3%</b>	<b>17,1%</b>
<b>OTHER LIABILITIES</b>	<b>4,8%</b>	<b>3,9%</b>	<b>6,3%</b>
<b>DEFERRED INCOME TAXES</b>	<b>6,1%</b>	<b>6,8%</b>	<b>5,8%</b>
<b>THE COCA-COLA COMPANY SHAREOWNERS' EQUITY</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>
Common stock, \$0.25 par value; Authorized - 11,200 shares; Issued - 7,040 and 7,040 shares, respectively			
Capital surplus	14,3%	13,6%	13,2%
Reinvested earnings	68,9%	68,5%	67,4%
Accumulated other comprehensive income (loss)	-6,3%	-3,8%	-3,9%
Treasury stock, at cost - 2,638 and 2,571 shares, respectively	-45,9%	-43,4%	-40,6%
<b>EQUITY ATTRIBUTABLE TO SHAREOWNERS OF THE COCA-COLA COMPANY</b>	<b>32,9%</b>	<b>36,8%</b>	<b>38,1%</b>
<b>EQUITY ATTRIBUTABLE TO NONCONTROLLING INTERESTS</b>	<b>0,3%</b>	<b>0,3%</b>	<b>0,4%</b>
<b>TOTAL EQUITY</b>	<b>33,2%</b>	<b>37,1%</b>	<b>38,5%</b>
<b>TOTAL LIABILITIES AND EQUITY</b>	<b>100,0%</b>	<b>100,0%</b>	<b>100,0%</b>

Horizontal Common Size of Balance Sheet			
	Dec. 31, 2014	Dec. 31, 2013	Dec. 31, 2012
<b>CURRENT ASSETS</b>			
Cash and cash equivalents	70%	81%	66%
Short-term investments	832%	616%	461%
<b>TOTAL CASH, CASH EQUIVALENTS AND SHORT-TERM INVESTMENTS</b>	<b>130%</b>	<b>123%</b>	<b>97%</b>
Marketable securities	2545%	2185%	2147%
Trade accounts receivable, less allowances of \$61 and \$53, respectively	91%	99%	97%
Inventories	100%	106%	106%
Prepaid expenses and other assets	89%	84%	81%
Assets held for sale			
<b>TOTAL CURRENT ASSETS</b>	<b>129%</b>	<b>123%</b>	<b>119%</b>
<b>EQUITY METHOD INVESTMENTS</b>	<b>138%</b>	<b>144%</b>	<b>127%</b>
<b>OTHER INVESTMENTS, PRINCIPALLY BOTTLING COMPANIES</b>	<b>322%</b>	<b>98%</b>	<b>108%</b>
<b>OTHER ASSETS</b>	<b>126%</b>	<b>133%</b>	<b>103%</b>
PROPERTY, PLANT AND EQUIPMENT - net	98%	100%	97%
TRADEMARKS WITH INDEFINITE LIVES	102%	105%	102%
BOTTLERS' FRANCHISE RIGHTS WITH INDEFINITE LIVES	86%	95%	95%
GOODWILL	99%	101%	100%
OTHER INTANGIBLE ASSETS	84%	91%	92%
<b>TOTAL ASSETS</b>	<b>115%</b>	<b>113%</b>	<b>108%</b>
	Dec. 31, 2014	Dec. 31, 2013	Dec. 31, 2012
<b>CURRENT LIABILITIES</b>	<b>102%</b>	<b>106%</b>	<b>96%</b>
Accounts payable and accrued expenses	149%	131%	127%
Loans and notes payable	174%	50%	77%
Current maturities of long-term debt	110%	85%	130%
Accrued income taxes			
Liabilities held for sale	133%	115%	115%
<b>TOTAL CURRENT LIABILITIES</b>	<b>140%</b>	<b>140%</b>	<b>108%</b>
<b>LONG-TERM DEBT</b>	<b>81%</b>	<b>65%</b>	<b>101%</b>
<b>OTHER LIABILITIES</b>	<b>120%</b>	<b>131%</b>	<b>106%</b>
DEFERRED INCOME TAXES			
<b>THE COCA-COLA COMPANY SHAREOWNERS' EQUITY</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
Common stock, \$0.25 par value; Authorized - 11,200 shares; Issued - 7,040 and 7,040 shares, respectively	127%	119%	110%
Capital surplus	118%	115%	108%
Reinvested earnings	208%	124%	122%
Accumulated other comprehensive income (loss)	135%	125%	112%
Treasury stock, at cost - 2,638 and 2,571 shares, respectively	96%	105%	104%
<b>EQUITY ATTRIBUTABLE TO SHAREOWNERS OF THE COCA-COLA COMPANY</b>	<b>84%</b>	<b>93%</b>	<b>132%</b>
<b>EQUITY ATTRIBUTABLE TO NONCONTROLLING INTERESTS</b>	<b>96%</b>	<b>105%</b>	<b>104%</b>
<b>TOTAL EQUITY</b>	<b>115%</b>	<b>113%</b>	<b>108%</b>

## Problem 17. Common Size Analysis of Cash Flow Statement

<b>Required:</b>			
(a) Prepare a vertical Common Size of Cash Flow Statement			
(b) Prepare a horizontal Common Size of Cash Flow Statement			
<b>Solution</b>			
(a)			
<b>Vertical Common Size of Cash Flow Statement</b>			
	<i>Dec. 31, 2014</i>	<i>Dec. 31, 2013</i>	<i>Dec. 31, 2012</i>
CONSOLIDATED NET INCOME	95%	205%	80%
Depreciation and amortization	26%	47%	17%
Stock-based compensation expense	3%	5%	2%
Deferred income taxes	-1%	15%	6%
Equity (income) loss - net of dividends	-5%	-5%	-4%
Foreign currency adjustments	6%	4%	-1%
Significant (gains) losses on sales of assets - net	11%	-16%	-1%
Other operating charges	10%	11%	1%
Other items	2%	6%	2%
Net change in operating assets and liabilities	-6%	-22%	-9%
<b>Net cash provided by operating activities</b>	<b>141%</b>	<b>250%</b>	<b>93%</b>
INVESTING ACTIVITIES			
Purchases of investments	-237%	-351%	-130%
Proceeds from disposals of investments	173%	304%	68%
Acquisitions of businesses, equity method investments and nonmarketable securities	-5%	-8%	-13%
Proceeds from disposals of businesses, equity method investments and nonmarketable securities	2%	21%	0%
Purchases of property, plant and equipment	-32%	-61%	-24%
Proceeds from disposals of property, plant and equipment	3%	3%	1%
Other investing activities	-4%	-7%	-2%
<b>Net cash provided by (used in) investing activities</b>	<b>-100%</b>	<b>-100%</b>	<b>-100%</b>
FINANCING ACTIVITIES			
Issuances of debt	555%	1030%	375%
Payments of debt	-492%	-919%	-338%
Issuances of stock	20%	32%	13%
Purchases of stock for treasury	-55%	-115%	-40%
Dividends	-71%	-118%	-40%
Other financing activities	-5%	0%	1%
<b>Net cash provided by (used in) financing activities</b>	<b>-48%</b>	<b>-89%</b>	<b>-29%</b>
EFFECT OF EXCHANGE RATE CHANGES ON CASH AND CASH EQUIVALENTS	-12%	-14%	-2%
CASH AND CASH EQUIVALENTS			
<b>Net increase (decrease) during the year</b>	<b>-19%</b>	<b>47%</b>	<b>-38%</b>
Balance at beginning of year	139%	200%	112%
Balance at end of year	119%	247%	74%
Net increase (decrease) during the year	-19%	47%	-38%

(b)				
<b>Horizontal Size of Cash Flow Statement</b>				
	<i>Dec. 31, 2014</i>	<i>Dec. 31, 2013</i>	<i>Dec. 31, 2012</i>	<i>Dec. 31, 2011</i>
CONSOLIDATED NET INCOME	82%	100%	105%	100%
Depreciation and amortization	101%	101%	101%	100%
Stock-based compensation expense	59%	64%	73%	100%
Deferred income taxes	-4%	63%	61%	100%
Equity (income) loss - net of dividends	138%	75%	158%	100%
Foreign currency adjustments	5929%	2400%	-1857%	100%
Significant (gains) losses on sales of assets - net	-378%	305%	45%	100%
Other operating charges	356%	217%	78%	100%
Other items	-42%	-66%	-72%	100%
Net change in operating assets and liabilities	23%	49%	57%	100%
Net cash provided by operating activities	112%	111%	112%	100%
INVESTING ACTIVITIES				
Purchases of investments	371%	308%	309%	100%
Proceeds from disposals of investments	223%	220%	134%	100%
Acquisitions of businesses, equity method investments and nonmarketable securities	40%	36%	153%	100%
Proceeds from disposals of businesses, equity method investments and nonmarketable securities	37%	219%	5%	100%
Purchases of property, plant and equipment	82%	87%	95%	100%
Proceeds from disposals of property, plant and equipment	221%	110%	142%	100%
Other investing activities	185%	209%	185%	100%
Net cash provided by (used in) investing activities	297%	167%	452%	100%
FINANCING ACTIVITIES				
Issuances of debt	152%	158%	156%	100%
Payments of debt	164%	172%	171%	100%
Issuances of stock	98%	85%	95%	100%
Purchases of stock for treasury	92%	107%	101%	100%
Dividends	124%	116%	107%	100%
Other financing activities	-807%	38%	222%	100%
Net cash provided by (used in) financing activities	163%	168%	150%	100%
EFFECT OF EXCHANGE RATE CHANGES ON CASH AND CASH EQUIVALENTS	217%	142%	59%	100%
CASH AND CASH EQUIVALENTS				
Net increase (decrease) during the year	-34%	46%	-102%	100%
Balance at beginning of year	122%	99%	150%	100%
Balance at end of year	70%	81%	66%	100%