June 17, 2019

The Principles of Financial Management - Shin, Seungho

1. Barry Corporation has taxable income of $1,000. Calculate its total tax liability.

Income Bracket	Marginal Tax Rate
$ 0 - 200	0%
$ 201 - 500	10%
$ 501 - 1000	50%
$ 1001 and higher	30%

Solution? $[(500-200)\times 10\%] + [(1000-500)\times 50\%]$

$= 30 + 250$

$= 280$ (total tax liability)

2. Kristen Corporation's financial information is stolen from Shin and Shea, industrial spies.

2018 EBIT	$ 283.8 million
2018 Depreciation & Amortization	$ 100 million
2018 Capital Expenditures	$ 230 million
2017 NOWC	$ 650 million
2018 NOWC	$ 800 million
2018 Tax Rate	40%

Calculate 2018 FCF.

$$FCF = \left[EBIT(1-Tax) + \begin{matrix}\text{Depreciation \&}\\ \text{Amortization}\end{matrix}\right] - \left[\begin{matrix}\text{capital}\\ \text{expenditure}\end{matrix} + \Delta NOWC\right]$$

$$= [283.8(1-0.4) + 100] - [230 + (800-650)]$$

$$= (170.28 + 100) - (380)$$

$$= -109.72 \text{ million}$$

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Negative FCF is not always bad! Why?

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Key Financial Ratios for Selected Industries[a]

Industry Name	Current Ratio	Inventory Turnover[b]	Total Assets Turnover	Debt Ratio[c]	Days Sales Outstanding[d]	Profit Margin	Return on Assets	Return on Equity
Aerospace/defense	1.2	3.7	1.1	97.3%	6.38	7.4%	5.5%	202.2%
Apparel stores	2.7	5.4	1.7	34.6%	5.94	5.8%	10.2%	15.6%
Auto manufacturing—major	1.1	8.0	0.7	76.9%	51.41	* -1.9%	* -1.5%	* -6.5%
Beverage (soft drink)	1.4	6.7	0.8	66.8%	35.78	17.8%	12.8%	38.6%
Communications equipment	2.2	13.8	0.9	67.4%	56.15	4.4%	1.4%	4.3%
Education and training services	1.8	16.2	1.4	57.5%	10.61	13.3%	19.5%	45.9%
Electronics—diversified	3.3	6.3	0.7	0.0%	41.01	1.8%	1.3%	1.3%
Food wholesalers	1.5	14.2	3.1	62.2%	9.86	2.6%	8.2%	21.7%
Lodging	1.5	45.7	0.6	90.6%	19.31	4.3%	1.6%	17.1%
Newspapers	1.2	44.0	0.8	82.0%	48.03	3.9%	2.2%	12.2%
Paper and paper products	1.8	6.4	0.8	80.9%	45.63	2.6%	0.9%	4.7%
Railroad	1.3	16.1	0.3	61.2%	28.74	15.1%	4.7%	12.1%
Restaurant	1.0	98.2	1.1	77.3%	7.56	13.7%	12.5%	55.0%
Retail—department stores	1.4	8.2	1.5	54.7%	6.98	6.1%	7.8%	17.2%
Scientific and technical instruments	3.0	4.6	0.7	42.0%	62.93	6.4%	5.1%	8.8%
Sporting goods	2.4	4.3	1.7	20.0%	33.18	1.5%	4.0%	5.0%
Steel and iron	2.2	3.1	0.5	53.6%	42.94	13.3%	5.2%	11.2%
Tobacco (cigarettes)	1.2	5.1	1.2	80.8%	3.45	14.4%	15.0%	78.1%

[a] The ratios presented are averages for each industry. Ratios for the individual companies are also available.
[b] The inventory turnover ratio in this table is calculated as the company's latest 12 months of cost of sales divided by the average of its inventory for the last quarter and the comparable year earlier quarter.
[c] The debt ratio in this table is calculated as 1 – (ROA/ROE).
[d] The days sales outstanding ratio in this table was calculated as 365/Receivable turnover. The receivable turnover is calculated as the company's latest 12 months of sales divided by the average of its receivables for the last quarter and the comparable year earlier quarter.
Source: Data obtained from MSN Money, Key Ratios (moneycentral.msn.com), April 1, 2010.

① Current ratio = CA/CL

② Inventory turnover = Sales/inventory

③ Total Assets turnover = Sales / total assets

④ Debt ratio = total debt / total assets

⑤ Days Sales Outstanding = Receivable / Average sales per day

⑥ Profit margin = Net income / Sales

⑦ Return on Assets = Net income / total assets

⑧ Return on Equity = Net income / Shareholders equity

How to read these ratios? * Negative profit margin, ROA and ROE?

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- Is it possible to get positive cash flow and negative net income?

  ① Back in 2018 (May 5, 2018), JC Penny reported a negative net income for the period of $78 million, and a positive cash flow of $181 million. Really? Yes, it is possible.

  ② A firm can post a loss in its daily operations, but have cash available/inflows from various circumstances.

  ③ Important lesson?

  * ✓ "Depreciation and Amortization" → This is not actually an outlay of cash (D/A hereafter) is an accounting method to allocate fixed asset cost(s) over its useful life.

  ✓ Net income is calculated by subtracting several expenses such as COGS, SG&A, D/A, and so on. In other words, D/A could be a reason why a firm has a negative net income.

  ✓ Because a firm adds its D/A expense back into the statement of cash flows, a firm could maintain a positive cash flow.

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- Some issues, problems, and limitations of (financial) ratio analysis?

  ① Comparison with industry averages is difficult for a conglomerate firm that operates in multiple segments.

  ② "Ambiguous interpretations" from inflation, seasonal events, and different operating and accounting practices.

  ③ "Window dressing techniques" improve the appearance of a firm's financial statements and ratios as well.

-※ earnings management vs. cooking the books? (legal or illegal)