Module 1: Case Study

1. **What effect did the expansion have on sales and net income? What effect did the expansion have on the asset side of the balance sheet? What effect did it have on liabilities and equity?**

The sales increased by $2.4 million in 2013 over 2012. The net income decreased by $183,096. The assets increased by $1,417,792. Liabilities increased by $1,523,928 and equity decreased by $10,136.

1. **What do you conclude from the statement of cash flows?**

Based on the statement of cash flows, we trust that there was an increase in current and fixed assets to support the increase in sales. The build up of accounts receivables and inventories resulted in a negative cash flow of $503,936 from operating activities. The fixed assets required $711,850. The requirement for cash was met through sale of short-term investments and an increase in borrowing. The change in cash balance was only -$1,718.

1. **What is free cash flow? Why is it important? What are the five uses of FCF?**

Free cash flow is cash flow from operating activities – capital expenditure. This is the cash left after meeting the requirements of investments in working capital and fixed assets. This cash is available for distribution to the capital providers of the firm.

FCF is important since the value of a firm is the present value of all free cash flows generated by the firm.

The five uses of Free Cash Flow are:

1. Payment of interest on debt

2. Payment of dividends

3. Repayment of borrowings

4. Repurchase of stock

5. Investment in marketable securities

1. **What is Computron’s net operating profit after taxes (NOPAT)? What are operating current assets? What are operating current liabilities? How much net operating working capital and total net operating capital does Computron have?**

Operating current assets are the current assets, which are required for the operations of the firm such as cash, receivables and inventories. These do not include short-term investments since they are not used in the operations of the firm.

Operating current liabilities and spontaneous current liabilities, which support the operations of the firm such as accounts payable and accrued expenses. Short-term borrowing is a form of financing and not operating current liabilities.

Net operating working capital = Operating current assets – operating current liabilities

For 2013:

Operating current assets = $7,282 + $632,160 + $1,287,360 = 1,926,802

Operating current liabilities = $324,000 + $284,960 = 608,960

Net operating working capital = 1,926,802-608,960 = $1,317,842

Total net operating capital = Net operating working capital + net fixed assets

 = $1,317,842 + $939,790 = $2,257,632

For 2012:

Net operating working capital = $793,800

And Net operating capital = $1,138,600.

1. **What is Computron’s free cash flow (FCF)? What are Computron’s “net uses” of its FCF?**

NOPAT = EBIT X (1-tax rate) = 17,440 X (1-0.4) = $10,464

Free Cash Flow = NOPAT + depreciation – capital expenditure – changes in working capital

Capital expenditure is 711,950

Change in working capital is (793,800-1,317,842) = -524,042

FCF = 10,464 +116,960 – 711,950 – 524,042 = -1,108,568

1. **Calculate Computron’s return on invested capital. Computron has a cost of capital (WACC). Do you think Computron’s growth added value?**

Return on invested capital = NOPAT/Net operating Capital

ROIC = 10,464/2,257,632= 0.46%

The growth has not added value, as the ROIC is less than the cost of capital of 10%

1. **Cochran also has asked you to estimate Computron’s EVA. She estimates that the after-tax cost of capital was in both years.**

EVA = NOPAT – Net operating Capital X After tax cost of capital

Net Operating Capital = 2,257,632

EVA = 10,464 – 2,257,632X 10% = $-215,299

For 2012

EVA =$125,460 - (0.10)($1,138,600)

 = $125,460 - $113,860

 =$11,600

1. **What happened to Computron’s Market Value Added (MVA)?**

Market Value Added = Market value - Book value.

Market value = 8.50X100,000 = $850,000

Book Value = Shareholders equity = 663,678

MVA =850,000-663,678 = 186,322.

In 2013:

Market value - 6X100,000=600,000

Book Value = Shareholders equity = 557,532.

MVA = 600,000-557,532 42,368.

During the year MVA decreased by $143,954.

1. **Assume that a corporation has of taxable income from operations plus of interest income and of dividend income. What is the company’s federal tax liability?**

The taxable income is:

Income from operation 100,000

Interest income 5,000

Taxable dividend income 3,000

Total taxable income 108,000

Taxable income = $22,250 + ($108,000 - $100,000)0.39 = $25,370.

70% of dividends are excluded from tax

1. **Assume that you are in the marginal tax bracket and that you have to invest. You have narrowed your investment choices down to California bonds with a yield of or equally risky ExxonMobil bonds with a yield of. Which one should you choose and why? At what marginal tax rate would you be indifferent to the choice between California and ExxonMobil bonds?**

We should choose which ever offers a higher after tax yield.

The California bond is tax exempt and so the after tax yield is 7%.

ExxonMobil - After tax yield = 10% X (1-0.25) = 7.25%

We should choose ExxonMobil

We would be indifferent when the after tax yields are the same.

7% = 10% X (1-tax rate)

Tax rate = 30%

1. **Why are ratios useful? What three groups use ratio analysis and for what reasons?**

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| Financial ratios are useful in that they can be used as a means of measuring a firm's performance |  |
| against peer companies in their industry and as a means of measuring progress against their own |  |
| stated goals.  |  |  |
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| There are three business groups that use ratio analysis: management, as a means improving their |  |
| firm's performance; lenders, as a means of determining a firm's creditworthiness; and stockholders, |
| as a means of forecasting future earnings and dividend payouts. |  |  |  |  |

1. **Calculate the 2014 current and quick ratios based on the projected balance sheet and income statement data. What can you say about the company’s liquidity position in 2012, 2013, and as projected for 2014? We often think of ratios as being useful**
	1. (1) to managers to help run the business,
	2. (2) to bankers for credit analysis, and
	3. (3) to stockholders for stock valuation.

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| Current ratio = current assets / current liabilities |  |  |  |  |  |  |
| Current ratio = $2,680,112 / $3,516,952 = 2.6 |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| Quick ratio = (current assets - inventory) / current liabilities |  |  |  |  |  |
| Quick ratio = ($2,680,112 - $1,716,480) / $3,516,952 = 0.3 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| Computron's 2014 current ratio is the highest relative to its 2013 and 2012 current ratios, which |  |  |
| although still below the industry average, is a marked improvement in the company's  |  |  |
| performance over its 2013 and 2012 figures. |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| Conversely, the company's quick ratio for 2014 is the lowest compared to its 2013 and |  |  |
| 2012 quick ratios, with the company's quick ratios for all three years being lower than the |  |  |
| industry average. The low 2011 quick ratio serves as an indication that the company might |  |  |
| experience difficulty quickly repaying its debts if the need arose. |  |  |  |  |

1. **Would these different types of analysts have an equal interest in the liquidity ratios?**

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| Liquidity ratios, which are used to means to measure how effectively a company can pay off its |
| short-term obligations would be of great importance to all three types of analysis, as a  |
| company's survivability as an ongoing operation is highly dependent on its ability to satisfy |
| its debt obligations. |  |

1. **Calculate the 2014 inventory turnover, days sales outstanding (DSO), fixed assets turnover, and total assets turnover. How does Computron’s utilization of assets stack up against that of other firms in its industry?**

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| --- | --- | --- | --- | --- | --- | --- |
| Inventory turnover ratio = sales / inventory |  |  |  |  |  |  |
| Inventory turnover ratio = $7,035,600 / $1,716,480 = 4.1 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| DSO = Accounts Receivables / (Sales / 360) |  |  |  |  |  |  |
| DSO = $878,000 / ($7,035,600 / 360) = 44.9 Days |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| Fixed assets turnover = Sales / Net fixed assets |  |  |  |  |  |  |
| Fixed assets turnover = $7,035,600 / $836,840 = 8.4 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| Total assets turnover = Sales / Total assets |  |  |  |  |  |  |  |
| Total assets turnover = $7,035,600 / $3,516,952 = 2.0 |  |  |  |  |  |  |
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| Computron's inventory ratio has steadily declined over the past three years, now well below |  |  |
| the industry average. This indicates the company's inability to effectively move its older inventory |
| items out of stock. The company's days sales outstanding conversely, has steadily increased to a  |
| point well above the industry average, in indication that the company is not very successful in  |  |
| its collection efforts. Turning over the fixed assets of the company, while improving, is still well |  |
| above industry standards, which combined with the company's still below average total assets |
| turnover ratio, is indicative of the company's ongoing inability to effectively manage its assets. |  |

1. **Calculate the 2014 debt ratio, liabilities-to-assets ratio, times-interest-earned, and EBITDA coverage ratios. How does Computron compare with the industry with respect to financial leverage? What can you conclude from these ratios?**

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| Debt ratio = Total debt / Total assets |  |  |  |  |  |  |  |
| Debt ratio = ($1,039,800 + $500,000) / $3,516,952 = 43.8% |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| TIE = EBIT / Interest expense |  |  |  |  |  |  |  |  |
| TIE = $502,640 / $80,000 = 6.3 |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| EBITDA Coverage = (EBITDA + Lease Payments) / (Interest + Loan Repayments + Lease Payments) |
| EBITDA Coverage = ($502,640 + $120,000 + $40,000) / ($80,000 + $40,000) = 5.5 |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| Computron's debt and EBITDA coverage ratios for 2014, while forecasted to improve over 2013 |  |
| results are still below industry standards. This is an indication that the firm while having improved |  |
| in its debt management efforts, still has a way to go before it reaches industry standards. |  |  |
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| The firm's projected TIE or times-interest-earned ratio is forecasted to place the firm's figure slightly |
| above industry standards, which means that the firm will effectively be managing the interest |  |  |

 on its debt obligations.

1. **Calculate the 2014 profit margin, basic earning power (BEP), return on assets (ROA), and return on equity (ROE). What can you say about these ratios?**

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|  | Profit margin = Net income / sales |  |  |  |  |  |  |
|  | Profit margin = $253,584 / $7,035,600 = 3.6% |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  | Basic earning power = EBIT / Total assets |  |  |  |  |  |  |
|  | Basic earning power = $502,640 / $3,516,952 = 14.3% |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  | ROA = Net income / Total assets |  |  |  |  |  |  |
|  | ROA = $253,584 / $3,516,952 = 7.2% |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  | ROE = Net income / Common equity |  |  |  |  |  |  |
|  | ROE = $253,584 / $1,977,152 = 12.8% |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| Computron's forecast for its 2014 profit margin will match industry standards. While its forecasted |  |
| results for its basic earning power, ROA, and ROE will having improved, will still result in the firm |  |  |
| being below industry standards for the year. Another indication that the firm has a way to go |  |  |
| before it can be said that it is effectively utilizing its assets to generate higher returns. |  |  |

1. **Calculate the 2014 price/earnings ratio, price/cash flow ratio, and market/book ratio. Do these ratios indicate that investors are expected to have a high or low opinion of the company?**

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|  | EPS = Net income / Shares Outstanding |  |  |  |  |  |  |
|  | EPS = $253,584 / 250,000 = $1.01 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  | Price / Earnings = Price Per Share / Earnings Per Share |  |  |
|  |  | Price / Earnings = $12.17 / $1.01 = 12.0 |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  | Cash flow / Share = (Net income + Depreciation expense) / Shares |  |  |
|  | Cash flow / Share = ($253.584 + $120,000) / 250,000 = $1.49 |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  | Price / Cash flow = $12.17 / $1.49 = 8.1 |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  | Book value per share = Common equity / Shares outstanding |  |  |  |  |
|  | Book value per share = $1,977,152 / 250,000 =  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  | Market / Book = Market Price Per Share / Book Value Per Share |  |  |
|  |  | Market / Book = $12.17 / $7.91 = 1.5 |  |  |  |  |
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| In looking at Computron's price/earnings, price/cash flow, and market/book ratios, it can be |  |  |
| seen that the forecasted 2001 figures will be a substantial improvement over prior year results, with |
| the company's forecasted price/cash flow ratio exceeding the industry average. |  |  |
| However, the forecasted price/earnings and market/book ratios will still be below industry |  |  |
| standards, another indication that the company will still have to make an improvement on its ability |
| to generate profit from its available assets. |  |  |  |  |  |  |
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1. **Perform a common size analysis and percentage change analysis. What do these analyses tell you about Computron?**

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| From the common size analysis performed on Computron's balance sheet, it can clearly be seen that |
| for 2014, that the company plans to increase its total current assets over its 2013 results, while at the  |
| same time reducing its fixed asset base a corresponding amount for the upcoming year. The firm |  |
| also plans to reduce its current and long-term debt obligations in 2014, primarily through the issuance |
| of common stock which is expected to increase from 15.9% of total liabilities and owners' equity in |
| 2010 to 47.8% of total liabilities and owners' equity in 2014. |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| The company's common size income statement is projecting a reduction in Computron's cost of goods  |
| sold for 2014, which will result in a similar increase in the company's EBIT, EBT and Net income for |
| the upcoming year. |  |  |  |  |  |  |  |  |

1. **Use the extended DuPont equation to provide a summary and overview of Computron’s financial condition as projected for 2014. What are the firm’s major strengths and weaknesses?**

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| Du Pont Equation = Profit margin ratio x Total assets turnover x Equity Multiplier  |  |  |
| Du Pont Equation = Profit margin ratio x Total assets turnover x (Total Assets / Total Stockholders' Equity) |
|  |  |  |  |  |  |  |  |  |
| 2014 Du Pont Equation = 3.6% x 2.0 x (3,516,952 / 1,977,152) = 12.8% |  |  |  |
| 2013 Du Pont Equation = -1.6% x 2.0 x (2,886,592 / 557,632) = -16.6% |  |  |  |
| 2012 Du Pont Equation = 2.6% x 2.3 x ( 1,468,800 / 663,768 ) = 13.2% |  |  |  |
|  |  |  |  |  |  |  |  |  |
| In viewing the resulting Du Pont equations for the years 2014, 2013 and 2012, it can readily be |  |
| seen that the company while experiencing severe problems in utilizing its assets to generate |  |
| a profit in 2013, did manage to basically return to its 2012 level of efficiency in 2014, which in |  |
| turn increased the financial leverage of the firm to a more respectable level. |  |  |
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| Company Strengths: |  |  |  |  |  |  |  |
| Some of Computron's the most notable strengths are its ongoing effort to reduce its debts, which can be  |
| seen in the company's steadily decreasing quick and debt ratios. As the company plans to reduce both |
| its short and long-term debt in 2014, its quick and debt ratios will ultimately be lower than the industry  |
| standards in the upcoming year. |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| The company has also been very effective at managing its expenses, bringing expenses from a high of  |
| an 111.8% increase over 2012 results, to an all-time low of 80.3% over 2012 results in 2014. A substantial |
| savings that will add greatly to the company's 2014 bottom line. |  |  |  |
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| Company Weaknesses: |  |  |  |  |  |  |
| While effective at minimizing its debt, Computron has not been very effective at utilizing its assets,  |
| short term and fixed to generate increased profitability for the firm. The firm's basic earning power  |
| ratio, along with its ROA, and ROE ratios are down in comparison to industry standards, which means |
| that the company is not as profitable as it could be. The firm's extremely high days sales outstanding,  |
| along with its relatively low total assets turnover ratio, are also indicative of operational inefficiencies,  |
| another operational problem that could be rectified with more effective management. |  |
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| Rebounding from 2013, a forgettable year in which the company was hit by an 80% increase in its Cost of |
| Goods Sold, and a staggering 182% increase in Interest Expense, Computron is looking forward to a return |
| to profitability in 2014. With an estimated 21% increase in Sales Revenue forecasted for 2014, combined |
| with an anticipated decrease in its Total Operating Costs to 2012 year levels (93% of Sales Revenue),  |
| primarily due to effective management of its assets, Computron expects to generate a Net Income of |
| $253,584, which would be a vast improvement over the firm's $95,136 Net Income loss in 2013.1. **T. What are some potential problems and limitations of financial ratio analysis?**

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| Financial ratio analysis is a form of financial statement analysis that can be used to obtain a relatively |  |
| quick indication of a firm's financial performance in several key areas, making the practice one of the |  |
| most powerful tools of financial management. |  |  |  |  |
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| However, because financial ratios are based on accounting information (data), it is subject to errors,  |  |
| both human and mechanical.  |  |
| The limitation of financial statements - Ratios are based only on the information which has been  |  |
| recorded in financial statements. Financial statements are subject to several limitations. Thus ratios  |  |
| derived there from, are also subject to those limitations. |  |  |  |  |  |  |
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| Comparative study is required - Ratios are useful in judging the efficiency of a business only when |  |
| they are compared with past results of the business. Such a comparison only provides a glimpse |  |  |
| of past performance and forecasts for the future may not prove correct, since several other  |  |  |
| factors like market conditions, management policies, etc. may affect future operations |  |  |
|  |  |  |  |  |  |  |
| Ratios alone are not adequate - Ratios are only indicators, they cannot be taken as final regarding |  |  |  |  |  |  |
| good or bad financial position of a business. Other things have also to be seen. |  |  |  |  |  |  |
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| Problems of price level change - A change in price level can affect the validity of ratios |  |  |  |  |  |  |
| calculated for different time periods. In such a case a ratio analysis may not clearly indicate the |  |  |  |  |  |  |
| trend in solvency and profitability of a company. The financial statements should therefore be  |  |  |  |  |  |  |
| adjusted, if a meaningful comparison is to be made through accounting ratios. |  |  |  |  |  |  |
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| Lack of adequate standard - No fixed standard can be laid down for ideal ratios. There are no |  |  |  |  |  |  |
| well accepted standards or rule of thumb for all ratios which can be accepted as norm, making |  |  |  |  |  |  |
| the interpretation of ratios difficult. |  |  |  |  |  |  |
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| Limited use of single ratios - A single ratio, usually, does not convey much of a sense. To make a |  |  |  |  |  |  |
| better interpretation, a number of ratios have to be calculated, which is like to confuse an |  |  |  |  |  |  |
| analyst rather than help him or her to make a god decision. |  |  |  |  |  |  |
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| Personal bias - Ratios are only a means of financial analysis, and not an end in itself. Ratios have |  |  |  |  |  |  |
| to be interpreted and different people may interpret the same ratio in a different way. |  |  |  |  |  |  |
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| Incomparability - Not only do industries differ in their nature, but also the firms in a similar business |  |  |  |  |  |  |
| widely differ in their size and accounting procedures, etc., making the comparison of their  |  |  |  |  |  |  |
| respective ratios difficult and/or misleading.1. **What are some qualitative factors that analysts should consider when evaluating a company’s likely future financial performance?**

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| A thorough financial analysis involves much more than just calculating numbers. There are also |  |
| qualitative factors that should be considered when attempting to evaluate a company's past, present, |
| and most importantly - when forecasting future performance |  |  |  |
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| Some of the qualitative factors that an analyst should consider when attempting to evaluate a company's |
| likely future performance are: |  |  |  |  |  |  |

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| - What does the company do? |
| - Who are the company's senior officers and management team? |
| - What is the corporate culture? |
| - What is the company's corporate governance model? |
| - What is the company's business model? |
| - What are the company's goals and/or business objectives? |
| - To who is the company’s revenues tied to? |
| - How many products are the company's revenue dependent upon? |
| - What is company's competitive situation? |
| - Is there a mark for the company products? |
| - What is the company's legal and/or regulatory environment? |
| - What does the future hold in for the company and its industry? |
| - What is the relationship between the company and its suppliers? |
| - Does the company have overseas operations? |

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| These are but a few factors that should be examined when conducting an evaluation of company's |
| likely future performance, as each can, and does have an impact on the company's bottom line. |

**References:**

Brigham, Eugene F., and Michael C. Ehrhardt. *Financial Management: Theory and Practice*. Mason, OH: South-Western, 2014. Print.