Monsanto Financial Analysis

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Before making any critical financial investment, it is imperative for a firm to carry out a financial analysis to ascertain how it is performing in different areas. Alexander (2001) explains that financial analysis aids in the evaluation of budgets, projects and business performance to establish the profitability, liquidity, solvency, and stability of investments, and to determine whether they warrant a financial investment. In the case presented, before considering the acquisition by Bayer or the Alternative investment, it is critical for the organizations to evaluate past performance and predict future performance where possible. This can aid in establishing the investment that bears the greatest profitability potential to a firm.

**Weighted Average Cost of Capital (WACC)**

 The Weighted Cost of Capital is basically the rate at which a firm anticipates to pay the investors. As such, it can be perceived as the cost of capital, which is characterized by proportionate weighing of each of the capital categories. Alexander (2001) explains that to ensure the accuracy of the WACC value obtained, it is crucial to include the various sources of capital by a firm, including but not limited to long-term debt, bonds, and preferred stocks and common stocks among others. Below are the calculations for WACC and DCF for Monsanto

WACC = (E/V x Re) + ((D/V x Rd) x (1 – T))

Where:

* D = market value of the firm’s debt
* D/V = percentage of capital that is debt
* Rd = cost of debt
* Re = cost of equity
* E = market value of the firm’s equity
* T = tax rate
* V = total value of capital
* E/V = percentage of capital that is equity

|  |  |  |  |
| --- | --- | --- | --- |
| **Entry**  | **Calculated Figures** | **From Formula** | **Figures** |
| Debt | 12359333 | D | 12359333 |
| Equity Holdings | 9141333 | D/V | 0.574835 |
| Cost of Debt | 0.12 | E | 9141333 |
| Tax Rate | 0.35 | E/V | 0.425165 |
| Percentage of capital that is debt | 0.574834891 | Rd | 0.12 |
| Percentage of capital that is equity | 0.425165109 | Re | 0.1493 |
| Cost of Equity | 0.1493 | T | 0.35 |
| The total value of capital | 21500666 | V | 21500666 |
|  |  |  |  |
| WACC | 0.108314272 |  |  |
|  | 10.83% |  |  |



|  |  |
| --- | --- |
| (1+R)^1 | 1.108314272 |
| (1+R)^2 | 1.228360526 |
| (1+R)^3 | 1.361409503 |
| CF1  | 385,000 |
| CF2  | -1,301,000 |
| CF3  | 1,334,000 |
| DCF | 268,105.9106 |

DCF = 268,105.9106

From the above calculations, the WACC obtained is 10.83%. This literally implies that for every dollar that Monsanto will invest, it will be expected to pay approximately $0.01083 to the investors. A higher WACC is usually a signal that the organizational operations are more risky, as the firm must pay a higher percentage for every dollar invested. Essentially, a WACC of 10.83% is low and indicates a low financial risk by the firm. The low WACC indicates that the firm is doing well in terms of capital management; hence, it does not necessarily need to get acquired by Bayer, as it can successfully run its operations and new investments. On a different point of view, the DCF obtained of 268,105.91 is lower than the cost of the alternative investment of widening the existing Monsanto operations, which implies that the investment opportunity may be less attractive.

Nevertheless, with the low WACC obtained, the company cost of raising an additional dollar for the additional funding required would still be low. Hence, the alternative project still stands out. The WACC can aid the Monsanto shareholders in undertaking the financial risk of the firm’s operations as it is basically an opportunity cost of their capital. As such, returns to the investors that are less than the WACC may make the investors withdraw their investment from the company.

**Financial Ratio Analysis**

 Ratio analysis is one of the financial analysis methods used to summarize the information presented in an organization’s financial reports to evaluate the financial performance of the company during its operations (Nissim & Penman, 2001). The table below summarizes the ratios computed regarding the Monsanto, which include short-term solvency, asset utilization, long-term solvency, and profitability.

*Table 1:* Financial Ratios

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Type of Ratio** | **Ratio Name**  | **Formula** | **Ratio 2015** | **Ratio 2014** | **Ratio 2013** |
| Short term solvency ratios | Current ratio | Current Assets/Current Liabilities | 0.71 | 0.69 | 1.24 |
| Quick ratio | (Cash And Equivalents + Marketable Securities + Accounts Receivable) / Current Liabilities | 0.46 | 0.42 | 0.86 |
| Cash Ratio | (Cash And Equivalents + Cash)/Current Liabilities | 0.25 | 0.17 | 0.45 |
| Asset Utilization | Asset Turnover Ratio | Net Sales/Average Total Assets | 0.68 | 0.72 | 0.72 |
| Inventory Turnover Ratio | Cost Of Goods Sold/Average Inventory | 1.95 | 2.02 | 2.45 |
| Long-term solvency | Debt Ratio | Total Debt/Total Assets | 0.68 | 0.64 | 0.39 |
| Debt to Equity Ratio | Total Liabilities/ Shareholder Equity | 2.14 | 1.78 | 0.65 |
| Interest Coverage Ratio | EBIT/Interest Expense  | 8.30 | 16.43 | 20.94 |
| Profitability Ratios | Return on Equity | Net Income/Stakeholder Equity  | 0.33 | 0.35 | 0.20 |
| Return on Assets | Net Income/Total Assets | 0.11 | 0.13 | 0.12 |
| Profit margin ratio | Net Profit/Net Sales | 0.15 | 0.17 | 0.17 |

From *Table 1* above, it is clear that the company is currently unable to meet its short-term liabilities using its current assets. *Figure 1* below clearly shows that the current ratio of the company was 1.3 in 2013 but dropped to 0.69 in 2014 and 0.71 in 2015. A current ratio that is below 1 indicates an underperformance regarding the management of the current assets and current liabilities. The ratio shows that Monsanto may be forced to borrow some finances to meet its short-term financial obligations or rely on creditors to ensure continued operations. Further, the company’s quick ratio is significantly weak and currently stands at 0.46 compared to 0.86, which was recorded in 2013. This implies as it is, the company is only able to meet approximately 46% of its short-term liabilities with its most liquid assets. The ratio is quite low and shows that inventory and debts finance a significant part of the current liabilities.

*Figure 1:* Short-term solvency trends

 Regarding asset utilization, the asset turnover ratio stood at 0.68 and decreased from 0.72 recorded in both 2013 and 2014. Lin, Liang, and Chen (2011) posit that this ratio focuses on the efficiency of the firm to generate sales from its assets. In the case of Monsanto, it is seen that the company generates a sales revenue of $0.68 for every $1 invested in the assets. Because the company experienced a 5% decrease, asset utilization is still low and has declined from the previous years, an aspect that requires the company to take a deeper look at working on a strategic approach to improving the generation of more sales revenues from the invested assets. As seen in *figure 2* below, and the summary in *Table 1* above, there is a perpetual decrease in the inventory turnover ratio; as of 2015, the inventory turnover ratio stood at 1.95. The decreasing trend concerning this ratio shows decreased liquidity by the company; hence, Monsanto is experiencing increasing difficulties in its ability to convert its inventory into cash.

*Figure 2:* Asset utilization trends

 From a long term solvency perspective, the debt ratio (debt to asset ratio) shows an increasing trend (see *Figure 3* below), with the company recording a ratio of 0.68 in 2015 as compared to 0.39 in 2013. This indicates that approximately 68% of the company's total assets are financed through debts. Further, this debt seems to be growing at a high rate, from 39% in 2013 to 64% in 2014 and 68% in 2015. The trend depicts an increasing financial risk as a result of the increasing Degree of Leverage (DoL). On the other and, the debt to equity ratio has also increased at a very high rate, from 0.65 in 2013 to 1.78 in 2014 and finally 2.14 in 2015. White, Sondh and Fried (2005) explain that increasing ratio indicates increasing financial risk by the company as it shows that the company is using more and more debt to finance its operations. This finding from Monsanto financial reports is also supported by the decreasing interest coverage ratio, which from *Figure* *3* below, has decreased from 20.94 in 2013 to 8.3 in 2015. The decreasing coverage ratio indicates a reduced margin of safety that Monsanto has regarding the payment of interest within a specific period in case of financial upheaval.

*Figure 3:* Long-term solvency trends

From the profitability ratio perspective, the company profit margin ratio had also experienced a slight decline from 17.3% in 2014 to 15.4% in 2015. While such a decline may appear negligible, it is associated with millions of dollars and hence a significant loss to the shareholders. The return on assets of the company has also reduced from 0.13 in 2014 to 0.11 in 2015. This indicates that the net income being generated for every invested dollar is also declining.

*Figure 4:* Profitability trends

**Acquisition Decision**

Monsanto’s share price increased by 8.7% following the announcement that Bayer was considering a bid to acquire it. Sanju, Ramachandran, and Nirmala, (2011) argue that an increase in share price does not necessarily reflect increased profitability and better financial performance of a firm; this is because the latter is often subject to influence by other factors, including (but not limited to) market speculations and investors’ sentiments, attitudes, and expectations. Thus, the increase in share price following the announcements does not imply that the company should consider the $62 Billion offered by Bayer. Despite the rise in share capital, Monsanto sales also decreased by 5% to $15 billion. From the ratio analysis presented, the company’s performance is deteriorating, depicted by their substantial debts and reducing profitability. From the profitability perspective, the company profit margin ratio had also experienced a slight decline from 17.3% in 2014 to 15.4% in 2015.

Nevertheless, the rise in assets seems to indicate there is some investment going on so future performance may be better than past performance. However, owing to the fact that the firm has been experiencing declining performance, it is uncertain whether such investment will improve the profitability of the firm and whether it will revitalize the operations. Further, even with the increased assets, the current and quick ratios are still low, which implies that the firm may be incapable of servicing a substantial percentage of the short-term obligation in case of a financial upheaval; such a risk undermines the possibility of improved future performance.

Hence, it should consider the proposed $62 Billion acquisition by Bayer, as the time trends show no prospects of improved financial performance in the future. Bayer shows better prospects of increased performance, characterized by increased sales across Crop Science, Healthcare and Pharmaceuticals by 9%, 19%, and 12% respectively as shown in 2015 after the acquisition announcement.

**Limitations of Using the Financial Ratios**

First, the ratio analysis relies on the past financial performance of the organization and usually based on figures found in the financial statements (Lesakova, 2007). However, such reports are subject to various limitation and deficiencies, such as manipulation, diversity in different practices, approximations, and even falsification, unfortunately. Hence, in some instances, they may not form concrete evidence when making the investment decision.

Secondly, since accounting ratios are based on past data, uncertainties in the future such as inflation may render the financial ratio less useful, as the past data may not necessarily reflect the present value figures, more so when considering asset valuations, as they are not adjustable to match the future inflation index (Lesakova, 2007). Finally, accounting ratios do not factor in various factors that affect the financial performance of the firm, such as the diversity of the product, size of the firm, mode of operations, industry situation and general economic conditions; hence, they cannot be used to make a conclusive investment decision.

Alternative Proposal Financing

**The Extent to Which the Company Will Have to Take Additional Debt**

Essentially, there are various ways that a firm can adopt to finance its investments. Two main approaches are often used, which include debt financing and equity financing. Equity financing entails the sale of company’s stocks in the form of shares, which can either be preferential or ordinary shares (Hovakimian, Opler, & Titman, 2001). Through this approach, the company can easily solicit funds from the investors who purchase the stock. On the negative end, the company also gets to lose significant control over the operations of the organization management operations.

On the other hand, a firm may as well choose to use debt financing, which entails securing a long-term loan from a financial institution, as well as the use of commercial bonds (Hovakimian et al., 2011). In the presented case, the Monsanto management wishes to retain the existing dividends ratio and hence is not willing to sell any of its stocks. Hence, the company has only one option; utilizing debt financing to fund the new investment.

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| **Entry** | **Amount ($)** |
| Projected sales increase | 3,950,000 |
| Taxable income  | 3,160,000 |
| Taxes (35%) | 1,106,000 |
| Net Income | 2,054,000 |
| Dividends | 62,568 |
| Addition to Retained Earnings | 3,950,000  |
| Cost of sales | 1,991,432 |
| External Financing Needed (EFN). | 773,568 |

Based on the calculation, it is clear that Monsanto will need debt finance amounting to $773,568 for it to be able to finance the alternative project

**Sustainable growth and Internal Growth Rate**

 Analytically, the sustainable growth rate is the highest possible rate that a firm can maintain without looking for additional funds through either debt or equity to finance the operations and ensure compliance with the organizational policy (Amouzesh, Moeinfar, & Mousav, 2011). As such, the main goal of the sustainable growth rate is to maximize the sales revenues and the profit margins without compromising the firm’s financial leverage. This is because of the higher the debt to equity ratio, the higher the financial leverage and the higher the financial risk facing a firm. As such, the sustainable growth rate maximizes the shareholders’ interests as it depicts how fast a firm can grow without looking for additional funds (David, Arthur, & Michael, 2004). A higher growth rate indicates high financial resilience in case of a financial turmoil, as well as sound asset management.

 The sustainable growth rate is given by:

Sustainable Growth Rate = Return on equity x (1 – Dividend payout ratio)

Therefore, Sustainable Growth Rate = (0.1967\*0.9802)/(1-0.1967\*0.9802)

= 23.88%

 23.88% is relatively high and indicates that the firm can comfortably sustain such a growth rate. This indicates a high potential in the company’s operations. However, for the firm to surpass and increase the growth rate, it will need more investment, through either debt or equity. On a different note, the Internal Growth Rate focuses on the maximum growth rate that can be attained by a firm without securing finances from external sources. As such, it is a measure of the percentage increases in a firm's sales revenues and which must be in line with the organization's defined policy.

IGR=$\frac{ROA\*b}{1-(ROA\*b)}$

b is Retention Ratio

ROA is the return on asset

IGR = (0.1196\*0.9802)/(1-0.1196\*0.9802)

=13.28%

The internal growth gives the stakeholder a better understanding of how well the firm can increase its revenues without getting into debt financing or issuing more stock. A high rate indicates the ability of a startup or an established firm to easily grow its sales while a low rate indicates the need for more investment. The percentage obtained for Monsanto (13.57%) is relatively low and indicates that the firm requires additional financing, through either debt or equity.

**Questions and Challenges**

 This milestone was quite interesting and at the same time challenging. One of the key challenges was the determination of the EFN, which entailed putting into consideration all the information provided. Secondly, I also found myself stranded on whether to use the given 3% growth in sales or calculate the rate from the data given regarding the projected increase in the sales; this information was found to be a bit confusing. Finally, I found it challenging to decide on whether to use accounts payables amount (in 2015 balance sheet) for L0 when calculating the EFN or use the outlined debt of $12,359,333.

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