**Chapter One**

**Introduction and Methodology**

**Introduction of the company**

**We have selected bangas Limited as the company to analyze the financial condition. Here is a short overview of the company.**

**Type of Company:** Listed Public Limited (Dhaka & Chittagong Stock Exchange)

**Main Business:** Manufacture and Marketing of biscuits (sweet & salted), breads & excruded snacks. They not only have distributors all over the country for their products but also in the USA, Europe & Middle East.

**History:**The Company started its operations as bangas limited in 1979. It started its commercial production in November, 1981. The next two decades it continued as a highly successful subsidiary of Pfizer Corporation. However, by the early 1998s the focus of bangas was shifted to establishment of another production unit. In accordance with this transformation, bangas divested its interests in foreign countries, including USA, Europe & Middle East.

**No. of Employees:** 394 employees.

**No. of Distributors:** 50.

**International Presence:** USA, Europe & Middle East.

**Investment:** 100% Shareholding in bangas Limited.

**Bankers:** Agrani Bank, Mutual Trust Bank.

**Objective:**

Find out the difference between book value and market value of the share price and to identify the possible reasons behind this difference, and find if there is any specific hidden discrepancy in the existing financial statements of the company

Making a thorough analysis of the company’s financial statements over the last 5 years through ratio analysis, cash flow analysis and analysis of major components of the balance sheet and trying to identify the actual state of the company since its enlistment in Dhaka Stock Exchange (DSE).

To compare the firm’s financial status with one of its rival firm (Olympic Ltd) through ratio analysis with the justification of balancing between the market price and book value of the shares.

To concentrate on daily stock price and identify the points of significant fluctuations.To show how it is related to different corporate decisions like-Dividend declaration, account closing, EPS and Macro Economic factors like-Market Capitalization, Market Turnover and General Election of Bangladesh.

Find out the growth to make the Pro Forma Statements (The Income Statement and the Balance Sheet) and thus forecast the growth potentials of Bangas Ltd along with the stated out the results yielding out after the 5 year long term projection (long term cumulative process.

To make a perfect projection of share value in future by the help of current and past data.

**Identification of the problems:**

The book value shows us what the shareholders' stake is worth in the firm or it is the accounting value of the firm, i.e. the per-share value of a stock based on the figures shown on a firm's balance sheet. On the other hand, the market value of a company's share refers to the price that is quoted in a recognized stock exchange (such as DSE in Bangladesh) that deals with the shares of the company. The market value is determined on the principle of `outlook', whereas book value is the result of `historical' analysis. The corporation's bookkeeping or accounting records do not generally reflect the market value of assets and liabilities, and the trade value of the corporation's stock is subject to variations.The market price of a publicly traded company is a better measure of the company value or net worth than the book value. Market value is more accurate, scientific and reveals the current situation because it is determined by market supply and demand; thus depends upon the expectations of buyers and sellers. The expectations of the company's future and recent performance, including potential growth; perceived risk, including risk due to high leverage and prospects for companies of this type, the market sector and also certain other intangible factors broadly called the `market sentiment'. **The market value** or stock price per share of BANGAS Bangladesh Ltd. is **BDT 1669**, almost 10 times larger than the **book value** per share of **BDT** 164.8 as of June 30th, 2009.

**Market value > Book value**

So, Company is enjoying a healthy financial status. In our report we shall diagnose all the data and we shall established the reason behind the phenomenon.

We shall also look how Bangas Limited is managing the Liquidity, Asset, Debt, and observe the implications on Profitability and Market Value.

Figure 1: Market to Book Value per share

The trend of book value is almost a linear line, where as Market value shows an interesting trend.

In Year 2004 Market value is more than 6 times higher than book value, but as the time goes difference between market value & book value gradually becomes lower. It’s mainly due to lower confidence level among the investors, and the company lost its goodwill. But onward 2007 to 2009 market value has again in an increasing trend, mainly because of higher confidence among investor for its better financial performance. The better financial performance increases the goodwill of the company among the investors.

**Methodology:**

**a) Statistical Techniques:** For simplicity of understanding, we relied on column and line chart, as well as stretched chart to some extent. We have also done various regression analysis and covariance analysis to see various relations.

 **b)** **Nature of data:** We have used empirical data for our report. Those are secondary in nature.

**c)** **Sources of data:** The sources of data are mainly from the annual reports of the company, which are necessary secondary sources. The secondary sources mainly include the last 5 years “Annual Reports” of both “Bangas Ltd” and “Olympic Ltd” which have been collected from their respective websites have mainly taken data from annual reports.

**e) Nature of analysis:** Our analysis, especially with the ratio part considered both time series and cross section. As well as cash flow analysis also has been done. moreover various analysis were done to find the relation between the stock price movement of Bangas and other factors.

**f) Standard of comparison:** We have chosen Olympic Ltd as our standard of comparison, another listed biscuit manufacturing Company of Bangladesh, because, it has almost similar product, and target customer base, and which is the only stock market listed opponent of Bangas limited.

**Limitation**

Time was a very big constraint during the process of preparation of this report. As the report had been prepared over a time period of only two weeks, time had to be budgeted and scheduled very calculative. There was very little time that could be used as lagging, in case something fell behind schedule.

Adding up to that extent, the unavailability of all the annual financial reports of the company had been a bottle neck throughout the entire preparation of the report. Another matter of concern was that, the report considers data only from the last five financial years. This may not be sufficient to clearly show the reasons for the deviations in share prices along those years. A report with analysis of the last ten to fifteen year may have been more precise and accurate.

Moreover many companies practice ambiguous accounting practices to get rid of tax that dilute the actual scenario. Also sometimes, these companies try to make their performance much more lucrative to the Shareholders by means of unethical practice which are completely unnoticeable to general public. Such practice if had taken place might have diluted our findings which are based on the information available in the “Annual Reports”.

**Chapter 2**

**Analysis & Interpretation**

**Balance Sheet and Reconstructed Balance sheet**

When there is a difference between book value and market value, it indicates that there are some intangible assets and/or fair value of existing increase the equity. As a result market value differs from the book value considering these intangible issues.

Market Price/share of Bangas was BDT 1665 in 28th June’09; whereas the book value/share of the company was BDT 164.80. The market price was more than 10 times higher than their book value per share.

**Original & Reconstructed Balance Sheet: 2009**

Table 1: Original Balance sheet & Reconstructed

|  |  |  |  |
| --- | --- | --- | --- |
|  | Based on Book Value of Share | Based on Market Value of Share | Difference |
| Total Current Asset | 55890736 | 55890736 |  |
| Total Fixed Asset | 28281860 | 40481860 | 12200000 |
| Less: Depreciation | 689180 | 689180 |  |
| Total Fixed(Net) Asset | 27592680 | 39792680 | 12200000 |
| Goodwill | --- | 122817819 | 122817819 |
| Total Asset | 83483416 | 218501235 | 135017819 |
| Total Liabilities | 68651235 | 68651235 |  |
| Total Equity | 14832181 | 149850000 | 135017819 |
| Total Liabilities and Equity | 83483416 | 218501235 | 135017819 |

**Calculation Process Year: 2009**

|  |  |
| --- | --- |
| No. of shares outstanding | 90000 |
| Market Price | 2,499 |
| Reconstructed Equity 2,499\*90000 | 224910000 |
| Fixed Asset Net | 27592680 |
| Holding Land | 633395 |
| After Appreciation of Land in 19 years the Land Price | 12200000 |
| Reconstructed Net Fixed Asset | 40426075 |
| Goodwill Value | 184483925 |

The changes made in the reconstruction are, an increase value in tangible asset which is only of land (because no such other tangible assets were there to be appreciated) as well as introduction of ‘Goodwill’ as an intangible asset.

**Increase value of Tangible Assets (Land) in Reconstructed Balance Sheet:**

Bangas Ltd is in this business since year 1981, and the company owned some land for business operation. By the from the accounting method the financial reports are kept for historical value of this property and considered historical purchasing value as current asset value, which is obviously understated and the current resell value would be much higher than the reported one. Value of the tangible asset (Land) of the reconstructed balance sheet is increased by BDT 12200000 in the year 2009 considering the purchase at 1981.

Figure 2: Balance Sheet 2009 (Graphical)

**Introduction of Goodwill in Reconstructed Balance Sheet:**

The intangible asset of the reconstructed balance sheet is increased by BDT 184483925 in 2009 of goodwill. This is the main reason why book value per share of Bangas limited differs from Market Value. From the market price of the company considering years 2005 to 2009 we see that it fluctuates a lot as we see that the current asset decreases till 2007 and then again it increases. It seems the shareholders are happy with the

Company’s performance, The Company has some positive information that has created higher confidence among investor, which leads to increase goodwill & market price. Analyzing the Company’s all assets and liabilities we can say that the Company has instability though the goodwill increased as a whole.

Figure 3: Reconstructed Balance sheet for 2009

**Cash Flow Analysis**

|  |  |
| --- | --- |
| EBIT | 3213961 |
| Add: Depreciation | 1077073 |
| Less: Tax | 907736 |
| Operating Cash Flow (Source of Cash) | 3383298 |
| Capital Spending: |  |
| Ending Net Fixed Investment | 27592680 |
| Less : Beginning Fixed Investment | 28665213 |
| Add : Depreciation | 1077073 |
| Net Fixed Investment (Use of Cash) | 4540 |
| Changes in Net Working Capital: |  |
| Ending Net Working Capital | 2223046 |
| Less:Beginning Net Working Capital | 2728316 |
| Changes in Net Working Capital(Source of Cash) | -505270 |
|  |  |
| Free Cash flow from Assets |  |
| Operating Cash Flow(Sources of Cash) | 3213961 |
| Net Fixed Investment (Use of Cash) | 4540 |
| Other Income(source of cash) | 25700 |
| Changes in Net Working Capital(Source of Cash) | 505270 |
| Free Cash Flow (Source) | 3740391 |
|  |  |
| Cash flow from/to Creditors |  |
| Interest Paid(uses) | 630963 |
| Net Long Term Borrowing(Use) | 1759428 |
| Cash Flow To Creditors(Use) | 2390391 |
|  |  |
| Cash Flow From Investors |  |
| Dividend Paid  | 1350000 |
| New Equity |  |
| Cash Flow to investors(Use of Cash) | 1350000 |

Free cash flow is 3740391 which are lower because of the high investment during 2008-2009 in inventory.

Cash flow to investor is 1350000 that are financed by Free Cash Flow of 3740391. This indicates that Dividends paid not from borrowing and the company debt is used in investment.

Net working capital is not so much sufficient enough which show that the company may be face liquidity problems in upcoming years.**DuPont Analysis**

a. Profit Margin on Sales =Net income/sales

X

b. Total Asset Turnover=Sales /Total Asset

=

c. Return on Assets (ROA) = Net Income/Total Assets

X

d. Financial Leverage=Total Assets/Common Equity

=

e. Return on Equity (ROE) =Net income (available to common stockholders)/Common Equity

Table 2: DuPont Analysis

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **2009** | **2008** | **2007** | **2006** | **2005** | **Ind.** |
| **Profit Margin** | **1.36%** | **1.74%** | **2.01%** | **1.58%** | **0.78%** | **4.7%** |
| **Asset Turnover** | **1.35** | **1.49** | **1.46** | **1.19** | **1.15** | **2** |
| **ROA** | **1.83%** | **2.59%** | **2.95%** | **1.88%** | **0.90%** | **9.5%** |
| **Financial Leverage** | **5.63** | **5.35** | **4.75** | **5.43** | **5.47** | **1.8** |
| **ROE** | **10.33%** | **13.83%** | **10.22%** | **4.91%** | **4.83%** | **17.2%** |

A Major setback is that ROA has gone down from **2.59%**of the last year to **1.83%** of the current year, when industry average is as high as **9.5%**. The inefficiency is attributed to the decline in both profit margin and asset turnover ratios.

Increase in depreciation is related to increase in fixed assets. Fixed asset turnover increases from **4.08** to **4.06**. This is partially responsible for higher depreciation.

Asset turnover rate declined because of decrease in sales (3.3%) and higher growth in assets (6.1%).

The growth of current assets is 12% which by itself is high. Growth of cash is 2% and that of accounts receivable is 35% is noticeable. And the growth of inventories is 7%. This must have contributed to the inefficiency of asset management.

Increase in financial leverage suggests that growth of total debt is higher than that of equity. Total debt grew by 7% and equity grew by 2%.

**Ratio Analysis**

**Current Ratio:**

**Current Ratio = Current Assets / Current Liabilities**

The following Graph shows the current ratio data of the 2 companies-

Figure 4: Current Ratios of Bangas & Olympic for the years 2005-2009

**Bench mark analysis:**

Through all the time periods the current Ratio of Bangas remains lower than benchmark Ratio of 2.

**Time series analysis and Cross section analysis:**

Even current ratio is lower than the compared company Olympic ltd.

**Quick Ratio:**

**Quick Ratio= (Current Assets- Inventories)/ Current Liabilities**

The following Graph shows the quick ratio data of the two companies

Figure 5: Quick Ratios of Bangas & Olympic for the years 2005-2009

**Bench mark Ratio:**

Quick ratio of Bangas is lower than the bench mark, where as Bangas has a lower quick ratio than bench mark ratio 1

**Time series analysis and Cross section analysis:**

The firm has a steady liquidity level whereas the compared firm has a very fluctuating pattern.

**Overall comment on liquidity ratio:**

**The firm needs to increase its current assets and cash balance, in particular, which has significantly gone down in the current year. Reduction of credit purchase can also be suggested. A reason for low liquidity is that sales have decreased by 3.3% in the current year which must be responsible for poor cash balance and poor accounts receivables.**

**Inventory Turnover Ratio:**

**Inventory turnover ratio= Cost of goods sold /Inventories**

The following Graph shows the inventory turnover ratio data of the 2 companies-

Figure 6: Inventory turnover Ratios of Bangas & Olympic for the years 2005-2009

**Comments**

Bangas’s inventory is turned over 2.3 times per year, which is considerably lower than the comparing firm Olympic Ltd of 8.02times. As low as better it is. It indicates how many day inventories are kept, just to sell over the years the inventory turnover ratio is increasing as a result no of days inventory is outstanding is also reduce over the years.

It might be holding excessive stock of inventory which indeed is unproductive.

**Days Sales Outstanding (DSO):**

**Days Sales Outstanding (DSO) =Receivables/Average sales per day**

 **= Receivables/ [Annual sales/360]**

The following Graph shows the DSO data of the 2 companies-

Figure 7: DSO Ratios of Bangas & Olympic for the years 2005-2009

**Comments**

Bangas DSO is considerably higher than Olympic.

The firm may increase sales through Cash aggressively which may be a good sign to increase their market share

Credit sales should be discouraged. Cash discount may be increased to encourage cash sales. The firm needs to be more serious in collection of receivables**Fixed Asset Turnover Ratio**

**Fixed Asset Turnover Ratio=Sales/Net Fixed Asset**

The following Graph shows the fixed asset turnover ratio data of the 2 companies-

Figure 8: Fixed asset turnover Ratios of Bangas & Olympic for the years 2005-2009

**Comments**

Fixed asset turnover ratio for Bangas is up growing gradually but little poorer than Olympic.

This increases because the firm has no recent investment and thus it is steady.

**Total Asset Turnover Ratio:**

**Total Assets Turnover Ratio = Sales/ Total Assets**

The following Graph shows the Total Asset Turnover ratio data of the 2 companies

Figure 9: Total asset turnover Ratios of Bangas & Olympic for the years 2005-2009

**Comments**

Compared to Olympic the total asset turnover ratio of Bangas’ is little poor but it has a steady growth rate.

**Overall comment on Asset Turnover Ratio:**

**Poor performances in all the asset management ratios are due to sales decrease. To reduce the sales price, forceful market campaign may be a good option to promote sales. To improve the DSO, the firm should be more punctual in its collection of receivables. The reason for poor asset management ratio is the inefficient inventory management. Irregular increase in inventory in the current year about 7% does not go with sales decrease of 3.3%.**

**Long-term or debt Management Ratio**

**Debt Ratio:**

**Debt Ratio= Total Debt/ Total Assets**

The following Graph shows the debt ratio data of the 2 companies-

Figure 10: Debt Ratios of Bangas & Olympic for the years 2005-2009

**Time series analysis**

Throughout the period debt is steadily appearing. It’s because they are issuing new shares and increasing equity portion as well as higher production is occurring to have higher acc. payable.

**Cross section analysis:**

Compared to Olympic, Bangas have stable but high debt ratio and major portion of that debt is current liabilities which is a positive sign to operations.

**Comments:**

High debt Ratio of Bangas (83%) indicates that the company is gradually reducing its dependency on dept by increasing the equity amount. Total picture is that, though company is increasing equity more than debt, but they are also getting the amount of debt in high interest rate.

**Time Interest Earned (TIE) Ratio:**

**Time interest earned ratio = EBIT/ Interest charges**

The following Graph shows the TIE ratio data of the 2 companies-

Figure 11: Time Interest earned Ratios of Bangas & Olympic for the years 2005-2009

**Comments:**

The firm’s TIE ratio was relatively stable over the period than 2004-05.

It has a better TIE ratio than Olympic.

**Overall Comments on Debt Management**

**In respect of time series analysis debt ratio is strong & TIE ratio indicates that the firm was relatively stable over the period.**

**From cross section analysis it is found that the firms debt ratio is weak than Olympic.**

**Higher debt leads to a higher EPS which is a positive sign for the firm.Profitability ratios show the combined effect of liquidity, asset management, and debt management on operating results. It is the net result of a number of policies and decisions.**

**Profitability Ratio:**

**Profit Margin on Sales:**

**Profit margin on sales = Net Income/ Sales**

The following trend shows the Profit margin on sales data of the 2 companies-

Figure 12: Profit margin Ratios of Bangas & Olympic for the years 2005-2009

**Comments**

Bangas profit margin on sales decreasing than previous but it remains almost stable over the period.

Compared to Olympic which was very fluctuating, the profit margin of Bangas is considerably lower and Steady over the period.

**Return on Asset (ROA):**

**Return on Asset (ROA) = Net Income / Total Assets**

The following table shows the ROA data of the 2 companies

Figure 13: Return on Asset Ratios of Bangas & Olympic for the years 2005-2009

**Comments**

From 2007 to 09 the firm’s ROA is decreasing than previous but remains almost stable over the period. The ROA is also lower than Olympic

Stable level of sales leads to a stable income and thus the investor has no reason for over expectation which is also advantageous.

**Return on Equity (ROE):**

**Return on Equity (ROE) = Net income / Total Shareholders’ Equity**

The following table shows the ROE data of the 2 companies-

Figure 14: Return on Equity Ratios of Bangas & Olympic for the years 2005-2009

Comments:

The firm’s ROE goes down in 2008-09 but remains somewhat stable over the period.

Compared to Rival, the firm has a lower ROE but it hasn’t the ROE as fluctuating as Olympic.

**Overall Comments on Profitability Ratio**

**All the profitability ratios are poorer than those of the comparing Olympic Ltd. decline is also noticeable compared to those of previous year. Both Asset Turnover and Return on Assets ratios are significantly lower for the firm in 2009 than the previous year.**

 **On the other hand, Financial Leverage is higher than the rival industry. This confirms the earlier observation of excess of fixed assets and inventories, and debt. The firm should allocate to inventory and asset management. Thus, operating activities of the firm suffered from poor liquidity position, poor asset management, and above average debt**

**Market Value Ratio**

**Earnings per Share (EPS):**

**EPS = Net Income/ Number of Shares Outstanding**

The following table shows the earning per share data of the 2 companies-

**Figure 5 Earnings per Share (EPS)**

**Comments**

EPS is decreasing in 2008-09 than 2007-08.But the fluctuation was not high.

Compared to Olympic, EPS is lower but wasn’t as fluctuating which is a good sign.

**Price/Earning (P/E) Ratio:**

**P/E Ratio = Market Price per Share/ Earnings per Share**

The following table shows the price/earnings ratio data of the 2 companies-

Figure 16: PE Ratios of Bangas & Olympic for the years 2005-2009

**Comments**

P/E ratio shoots up in a high position in 2008-09 than 2007-08 also from previous year. The firm’s P/E ratio is also higher than Olympic.

P/E ratio is higher for firm with high growth potentials. It is evident that the firm has a stable level of liquidity, asset & profitability ratio which lead to increase the market price of share to a desirable level. Hence increases the trust of investors.

**Market/Book (M/B) Ratio:**

**Market /Book Ratio = Market Price per Share / Book Value per Share**

The following table shows the market/book value ratio data of the two companies-

Figure 17: M/B Ratios of Bangas & Olympic for the years 2005-2009

**Comments:**

In 2008-09 the Market value per share is 15 times than book value where as 3 times in 2007-08 and 1.5 times in 2006-07.

The Market to Book Ratio of Olympic is highly Fluctuating Compared Bangas Market/Book value ratio which almost stable and significant.

**Overall Comments on Market Ratios**

In terms of time series analysis, it shows that Bangas has a higher and increasing market ratio over the period.

One of the most important ratios to evaluate the performances of the firm is price-earnings ratio. The ratio is higher than previous and also higher from Olympic. It exposes that the firm gain trust of investors.

The market price of share also increased in response to higher price –earnings ratios. So, investors have incentive to hold or buy the share of Bangas.

**Ratios At a glance:**

**Ratios At a glance:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Initials** | **2,009** | **2,008** | **2,007** | **2,006** | **2,005** |
| **Liquidity Or Short Term Solvency** |
| Current Ratio | 1.0414 | 1.0581 | 1.0682 | 1.0311 | 1.1511 |
| Quick Ratio | 0.3263 | 0.2969 | 0.2862 | 0.2913 | 0.4557 |
| Cash Ratio | 0.0129 | 0.0347 | 0.0803 | 0.0863 | 0.0097 |
|  |  |  |  |  |  |
| **Long Term Solvency Or Debt Management Ratios** |
| Debt Ratio | 0.8223 | 0.8129 | 0.7896 | 0.8159 | 0.8173 |
| Time Interest Earned (TIE) Ratio | 2.2880 | 2.7520 | 4.2131 | 3.7210 | 18.0986 |
|  |  |  |  |  |  |
| **Asset Management Ratio** |
| Inventory Turnover Ratio | 2.2956 | 2.6190 | 2.8593 | 2.3676 | 2.5452 |
| Days Sales Outstanding (DSO) | 43.3244 | 25.0544 | 6.9996 | 9.1633 | 25.9234 |
| Total Asset Turnover Ratio | 1.3487 | 1.4876 | 1.4650 | 1.1916 | 1.1504 |
|  |  |  |  |  |  |
| **Profitability Ratios** |
| Profit Margin Ratio | 0.0136 | 0.0174 | 0.0201 | 0.0158 | 0.0078 |
| Return On Asset (ROA) | 0.0183 | 0.0259 | 0.0295 | 0.0188 | 0.0090 |
| Return On Equity (ROE) | 0.1033 | 0.1383 | 0.1022 | 0.0491 | 0.0483 |
| Earnings Per Share (EPS) | 17.0181 | 22.5053 | 21.7433 | 14.9712 | 7.0722 |
| financial leverage | 5.6285 | 5.3455 | 4.7522 | 5.4321 | 5.4749 |
|  |  |  |  |  |  |
| Other Ratios |
| Dividend Payout Ratio | 15.0000 | 15.0000 | 13.0000 | 12.5000 | 13.0000 |
| fixed asset ratio | 4.0806 | 4.0642 | 3.2583 | 2.7885 | 2.8785 |
|  |  |  |  |  |  |
| market value ratio |
| Price/Earning (P/E) Ratio | 146.8273 | 17.8920 | 10.4646 | 14.5625 | 46.1103 |
| Market/Book (M/B) Ratio | 15.1638 | 2.4742 | 1.4651 | 1.4876 | 2.2629 |

**Prediction of Distress and Turnaround**

Several models to predict distress have been developed over the years. One of the more popular and a robust model is the Altman’s Z-score model.

Z = 1.2\*(X1) +1.4\*(X2) +3.3\*(X3) +0.6\*(X4) +1.0\*(X5)

Where,

X1=Net working capital/ Total Assets (Measure of Liquidity)

X2=Retained Earnings/ Total Assets (measure of cumulative Proftablity)

X3=EBIT/ Total Assets (Measure of return on Asset)

X4=Market Value of Equity/ Book Value of the Total Liabilities (Measure of Market leverage)

X5=Sales/ Total Asset (measure of sales generating potential of assets)

Bankruptcy prediction when Z is less than 1.2,

Z within the range between 1.2 and 2.9 is gray area and

 Z above 3 is safe.

|  |  |
| --- | --- |
|  | **2009** |
| x1 | 0.026628594 |
| x2 | 0.038472 |
| x3 | 0.032591 |
| x4 | 3.212 |
| x5 | 1.3487 |
| Z | 3.469265413 |

We can easily understand that according to Z score (3.5) the company is in the safe place.

Chapter 3

Enquiry into Stock Price Movement

In this chapter we will consider the stock price movement of Bangas Limited during the time period 2004-2009 with special emphasis on the stock price movement between 2007 to 2009. Daily stock price is affected due to various factors that can be a macroeconomic variable as well as company specific variable.

 In this section we will consider the corporate decision factors like ***Declaration Date***and ***Record Date*** and Macroeconomics factors like ***General Election, Market Capitalization* and *Market Turnover***.

First we look at the stock price of Bangas Limited from 2004 to 2009.

We can see that the stock price was around Tk300 between the year 2004 to 2007. But during the end of 2008 the stock price bagan to rise and on 21st October 2009 it touched Tk.3199 which is the heighest value for this share so far.

From the above graph we can see that there was an unusual movement of the price in 2009. DSE inquiry tells us that there was no price sensitive information that was undisclosed for the price hike that we see.

We have made some regression analysis between the share price of Bangas and various macroeconomic and company specific factors to understand the relations between the share price movement of Bangas and the various factors.

The following table gives us the summary of the regression analysis where the stock price of Bangas limited was taken as dependable variable and various other macroeconomic and company specific factors were taken as independent variable.

Table: Summary of Regression Analysis where Stock Price movement of Bangas as dependent and other factors as independent variable

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Declaration Date** | **Record Date** | **Market Capitalization** | **Market Turnover** | **General Election** |
| **2009** | Not Significant | Not Significant | Significant | Significant | Significant |
| **2008** | Significant | Not Significant | Significant | Significant | ---- |
| **2007** | Significant | Not Significant | Significant | Significant | ---- |

Note: for detailed workings, please see the annexure.

From the above table we can see that the stock price movement of Bangas and its Dividend and EPS Declaration Date is significantly related for the year 2007 and 2008. But in 2009 the relation was not significant.

Next we see that the Stock price movement and the Record Date for the company have no significance at all for all the three years.

Next we have taken another independent variable “**market capitalization**” and here we see that the Market Capitalization and the stock price movement have significance for all the three years. That is, whenever the market capitalization increased, stock price of Bangas also increased and vice versa.

The result is same with the “**market turnover”** as well. The movement of market turnover is related to the movement of the stock price of Bangas.

So far we have found that the share price movement of Bangas was not related to the corporate decisions like Declaration Date and Record Date we may conclude that the unusual stock price movement is not due to the company specific news, rather it may be due to some external macroeconomic factor. The most important macroeconomic activity during that period was the General Election which took place on 29th December 2008.

We have run a regression test to see if there was any relation between the share price movement of Bangas Limited and general election of Bangladesh and we have some evidence that the share price movement and the general election of 2009 was related.

For this purpose we have taken the share price of Bangas 40 days before and after the election and we see that there is a significance between these two.

Therefore, from the above analysis we may conclude that the share price movement of Bangas is significantly related to the market capitalization, market turnover and the general election of Bangladesh.

The relation between the market capitalization and market turnover may be related to the fact that Bangas is a healthy company and has investors trust, with an increase in market capitalization and market turnover, the price of Bangas also increase and decrease.

And for the general election, we may say that the investors like stable political government and they believe that the company will be benefited by the present government. Therefore, as the new Government was elected the share price of Bangas limited also increased.

**Chapter 4**

**Capital Investment Decision**

The investment decision is one of the crucial decisions of modern business. Investments on assets can be many things like as buildings or machinery, patents, software and even in financial assets. Assets are used to perform and make sales for the company and earn profit. When deciding about investment decisions it’s important to calculate the NPV of the investment as well as the capital structure and also the cost of capital of the project.

Now we assume that the firm will undertake New Product Development Program. In this consequence, BANGAS may launch a new Biscuit with a different ingredient by using a new machine costing Tk.5, 000,000.The new biscuit will meet the demand of Peanut Butter biscuit of the market. It also assumed that the product will become successful in the market after analyzing the whole prospective.

The sales of the new product is based on hypothetically and it also follows a growth of sales in the following year at the company’s current sales growth rate. The variable costs of new production will be 60% of sales .The fixed costs of Tk.500, 000 which is assumed arbitrarily for the new product development.

The life of the project will be five years and the company follows a straight line depreciation method. At the end of the project the salvage value of the machine will become zero.

The cost of the capital for the project assumed to be 15% and the company needs to pay a corporate tax rate of 30% on income which was as before.

Table:-Pro-forma Income Statement of the Project:

|  |  |  |
| --- | --- | --- |
| **Particulars** | **Year** | **Remarks** |
|   | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |   |
|   | Assumption |   |   |   |   |   |   |
| Investment | 5,000,000 |   |   |   |   |   |   |
| Net Sales  |   | 10,000,000 | 10,750,000 | 11,556,250 | 12,422,969 | 13,354,691 | increases7.5% |
| Variables Cost |   | 6,000,000 | 6,450,000 | 6,933,750 | 7,453,781 | 8,012,815 | 60% of Sales |
| Fixed Cost |   | 500,000 | 500,000 | 500,000 | 500,000 | 500,000 |   |
| EBITDA |   | 3,500,000 | 3,800,000 | 4,122,500 | 4,469,188 | 4,841,877 |   |
| Less: Depreciation |   | 1,000,000 | 1,000,000 | 1,000,000 | 1,000,000 | 1,000,000 | 5000000/5 |
| EBIT |   | 2,500,000 | 2,800,000 | 3,122,500 | 3,469,188 | 3,841,877 |   |
| Tax@30% |   | 750,000 | 840,000 | 936,750 | 1,040,756 | 1,152,563 |   |
| Net Income |   | 1,750,000 | 1,960,000 | 2,185,750 | 2,428,431 | 2,689,314 |   |
| Add: Depreciation |   | 1,000,000 | 1,000,000 | 1,000,000 | 1,000,000 | 1,000,000 |   |
| Cash Flow |   | 2,750,000 | 2,960,000 | 3,185,750 | 3,428,431 | 3,689,314 |   |
| PV of Cash Flow | -5000000 | 2391304.35 | 2238185.255 | 2094682.337 | 1960216.694 | 1834240.888 |   |

NPV2010 =5,518,630

**So, the NPV of the project is 5,518,630 Tk.**

**New share price** = (Current Capitalization + NPV of the project) / shares outstanding

= (market price per share on the last day of 2009 \* shares outstanding +NPV) / shares outstanding

= (1669.75\*90,000 + 5,518,630) / 90,000

 = **1731.07 Tk. per share**

From the new share price we can see that the project will add value to the company slightly.

**Scenario Analysis**

For scenario analysis we took three cases

1. Pessimistic
2. Expected
3. Optimistic situation

Now we assume that the sales remain constant for the five year period rather than the company’s existing sales growth rate in each of the three scenarios and sales is considered as the only variable. We took the expected income statement as before, a pessimistic scenario where sales will go down by 15% and an optimistic scenario assuming that sales will increase by 15%.

The variable cost remain constant and the cost of the capital will also same, i.e.; 15%.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|   | 2009 | 2010 | 2010 | 2010 |  |
|   | Assumptions |   |   |   |  |
|   |   | Expected | Pessimistic(15%) | Optimistic(15%) | Remarks |
| Investment | 5,000,000 |   |   |   |  |
| Net Sales  |   | 10,000,000 | 8,500,000 | 11,500,000 |  |
| Variables Cost |   | 6,000,000 | 5,100,000 | 6,900,000 | 40% of Sales |
| Fixed Cost |   | 500,000 | 500,000 | 500,000 |  |
| EBITDA |   | 3,500,000 | 2,900,000 | 4,100,000 |  |
| Less: Depreciation |   | 1,000,000 | 1,000,000 | 1,000,000 | 5000000/5 |
| EBIT |   | 2,500,000 | 1,900,000 | 3,100,000 |  |
| Tax@30% |   | 750,000 | 570,000 | 930,000 |  |
| Net Income |   | 1,750,000 | 1,330,000 | 2,170,000 |  |
| Add: Depreciation |   | 1,000,000 | 1,000,000 | 1,000,000 |  |
| **Cash Flow** |  | **2,750,000** | **2,330,000** | **3,170,000** |  |

Now, if we calculate the NPV of these three scenarios we can see that,

NPVexpected= - 5,000,000 + 2,750,000\* ($\frac{1}{1.15^{1}}+ \frac{1}{1.15^{2}}+ \frac{1}{1.15^{3}}+ \frac{1}{1.15^{4}}+ \frac{1}{1.15^{5}}$)

 =4,218,426.5

NPVpessimistic = -5,000,000 + 2,330,000\* ($\frac{1}{1.15^{1}}+ \frac{1}{1.15^{2}}+ \frac{1}{1.15^{3}}+ \frac{1}{1.15^{4}}+ \frac{1}{1.15^{5}}$)

 =2,810,521

NPVoptimistic = -5,000,000 + 3,170,000\* ($\frac{1}{1.15^{1}}+ \frac{1}{1.15^{2}}+ \frac{1}{1.15^{3}}+ \frac{1}{1.15^{4}}+ \frac{1}{1.15^{5}}$)

 =5,626,332

It is evident that even in case of pessimistic situation the NPV of the project is positive which also provide support to the company to go for New Product Development.

Now we can calculate the future stock price for these three scenarios using the new share price finding process shown earlier in this chapter.

Expected Share Price = (1669.75\*90,000 +4,218,426.5) / 90,000 = 1716.62Tk

Pessimistic share price = (1669.75\*90,000 + 2,810,521) / 90,000 = 1700.98 Tk

Optimistic share price = (1669.75\*90,000 + 5,626,332) / 90,000 = 1732.26Tk.

Let’s look at the graph to understand the stock price movement in different scenario:-

Figure: Share price projection in Different Scenario

We can see that according to NPV the future market price of the company changes.

**Chapter 5**

**Prospective Analysis**

In this chapter, we made projection of the share price based on current and future projected growth rate. The future is uncertain; due to this we have to make a scenario analysis. We have used sustainable growth rate to compare a firm’s sustainable growth rate with their actual growth rate. The sustainable growth rate is equal for all the consecutive years. Sustainable growth rate is calculated by using the following formula:



 **=** $\frac{0.0146 x 0.1186 x (1+4.629)}{0.79957-\{0.0146 x 0.1186 x (1+4.629)\}}$

 =$\frac{0.009747}{0.7898}$

 =1.16%

Where,

Net Profit margin on sales (p) =1531625/104,409,785 =0.0146

Dividend Payout ratio (d) = 1350000/1531625=0.8814

Retention Ratio (1-d) =1-0.8814=0.1186

Ratio of Total Assets to Sales (T) = 83483416/104,409,785=0.79957

Debt Equity Ratio (D/E) = 68651235/14832181=4.629

So, the sustainable growth rate of the company is very low. As the economy has recovered from a recession period this sustainable growth rate is not suitable to explain the projected future.

* **Other growth rate=ROE\*Retention rate**

= 0.1033\*0.1186

=1.23%

As these two growth rates are very low, we move to analysis other situations in order to find another growth rate that best match the company’s optimum growth policy. For that purpose we have taken the following prospective analysis

* Sales growth rate
* Average economic GDP growth rate and
* The average of the above two growth rate

**Growth Rate : Scenario -1**

Assuming growth rate of 7.4% as average of last 5 years growth of Sales

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Normal Growth Rate : 7.4%** |  |  |  |  |  |  |
|   | Current | 5 Years Projection |   |   |   |   |
| Year | 2,009 | 2,010 | 2,011 | 2,012 | 2,013 | 2,014 |
| Growth Rate |   | 7.40 | 7.40 | 7.40 | 7.40 | 7.40 |
| Sales | 104,409,785 | 112,136,109 | 120,434,181 | 129,346,311 | 138,917,938 | 149,197,865 |
| Net Income | 1,531,625 | 1,644,965 | 1,766,693 | 1,897,428 | 2,037,838 | 2,188,638 |
| Dividend | 1,350,000 | 1,350,000 | 1,350,000 | 1,350,000 | 1,350,000 | 1,350,000 |
| Addition to retained Earnings | 1,396,625 | 1,499,975 | 1,610,973 | 1,730,185 | 1,858,219 | 1,995,727 |
| Total Assets | 83,483,416 | 89,661,189 | 96,296,117 | 103,422,029 | 111,075,260 | 119,294,829 |
| Total Debt | 68,651,235 | 73,731,426 | 79,187,552 | 85,047,431 | 91,340,941 | 98,100,170 |
| Common Stock | 9,000,000 | 9,000,000 | 9,000,000 | 9,000,000 | 9,000,000 | 9,000,000 |
| Retained Earnings | 5,832,181 | 7,332,156 | 8,943,130 | 10,673,315 | 12,531,534 | 14,527,262 |
| Total Financing | 83,483,416 | 90,063,583 | 97,130,682 | 104,720,746 | 112,872,475 | 121,627,432 |
| Fund Needed | 0 | -402,394 | -834,565 | -1,298,717 | -1,797,215 | -2,332,603 |
| Sustainable Growth Rate | 0.012400 | 0.012400 | 0.012400 | 0.012400 | 0.012400 | 0.012400 |
| EPS | 17.0181 | 18.2774 | 19.6299 | 21.0825 | 22.6426 | 24.3182 |
| Price |  1,669.75  | 1,793 | 1,926 | 2,069 | 2,222 | 2,386 |

**Growth Rate : Scenario -2**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Year | 2009 | 2008 | 2007 | 2006 | 2005 |
| GDP | 5.88 | 6.19 | 6.43 | 6.63 | 5.96 |
| Average of GDP |  6.2% |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **GDP Growth Rate : 6.2%** |  |  |  |  |  |  |
|   | Current | 5 Years Projection |   |   |   |   |
| Year | 2,009 | 2,010 | 2,011 | 2,012 | 2,013 | 2,014 |
| Growth Rate |   | 6.20 | 6.20 | 6.20 | 6.20 | 6.20 |
| Sales | 104,409,785 | 110,883,192 | 117,757,950 | 125,058,942 | 132,812,597 | 141,046,978 |
| Net Income | 1,531,625 | 1,626,586 | 1,727,434 | 1,834,535 | 1,948,276 | 2,069,069 |
| Dividend | 1,350,000 | 1,350,000 | 1,350,000 | 1,350,000 | 1,350,000 | 1,350,000 |
| Addition to retained Earnings | 1,396,625 | 1,483,216 | 1,575,175 | 1,672,836 | 1,776,552 | 1,886,698 |
| Total Assets | 83,483,416 | 88,659,388 | 94,156,270 | 99,993,959 | 106,193,584 | 112,777,586 |
| Total Debt | 68,651,235 | 72,907,612 | 77,427,883 | 82,228,412 | 87,326,574 | 92,740,821 |
| Common Stock | 9,000,000 | 9,000,000 | 9,000,000 | 9,000,000 | 9,000,000 | 9,000,000 |
| Retained Earnings | 5,832,181 | 7,315,397 | 8,890,572 | 10,563,408 | 12,339,960 | 14,226,658 |
| Total Financing | 83,483,416 | 89,223,008 | 95,318,455 | 101,791,820 | 108,666,534 | 115,967,479 |
| Fund Needed | 0 | -563,621 | -1,162,186 | -1,797,862 | -2,472,950 | -3,189,893 |
| Sustainable Growth Rate | 0.012400 | 0.012400 | 0.012400 | 0.012400 | 0.012400 | 0.012400 |
| EPS | 17.0181 | 18.0732 | 19.1937 | 20.3837 | 21.6475 | 22.9897 |
| Price |  1,669.75  | 1,773 | 1,883 | 2,000 | 2,124 | 2,256 |

**Growth Rate : Scenario -3**

|  |  |
| --- | --- |
| Particulars | Growth Rate |
| Average Growth Rate of Sales | 7.42 |
| Average of GDP | 6.2% |
| Average of GDP and Average Sales Growth Rate | **6.82** |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Average Growth Rate : 6.8%** |  |  |  |  |  |  |
|   | Current | 5 Years Projection |   |   |   |   |
| Year | 2,009 | 2,010 | 2,011 | 2,012 | 2,013 | 2,014 |
| Growth Rate |   | 6.80 | 6.80 | 6.80 | 6.80 | 6.80 |
| Sales | 104,409,785 | 111,509,650 | 119,092,307 | 127,190,583 | 135,839,543 | 145,076,632 |
| Net Income | 1,531,625 | 1,635,776 | 1,747,008 | 1,865,805 | 1,992,680 | 2,128,182 |
| Dividend | 1,350,000 | 1,350,000 | 1,350,000 | 1,350,000 | 1,350,000 | 1,350,000 |
| Addition to retained Earnings | 1,396,625 | 1,491,596 | 1,593,024 | 1,701,350 | 1,817,041 | 1,940,600 |
| Total Assets | 83,483,416 | 89,160,288 | 95,223,188 | 101,698,365 | 108,613,853 | 115,999,596 |
| Total Debt | 68,651,235 | 73,319,519 | 78,305,246 | 83,630,003 | 89,316,843 | 95,390,389 |
| Common Stock | 9,000,000 | 9,000,000 | 9,000,000 | 9,000,000 | 9,000,000 | 9,000,000 |
| Retained Earnings | 5,832,181 | 7,323,777 | 8,916,800 | 10,618,150 | 12,435,192 | 14,375,792 |
| Total Financing | 83,483,416 | 89,643,295 | 96,222,047 | 103,248,153 | 110,752,035 | 118,766,180 |
| Fund Needed | 0 | -483,007 | -998,859 | -1,549,788 | -2,138,181 | -2,766,585 |
| Sustainable Growth Rate | 0.012400 | 0.012400 | 0.012400 | 0.012400 | 0.012400 | 0.012400 |
| EPS | 17.0181 | 18.1753 | 19.4112 | 20.7312 | 22.1409 | 23.6465 |
| Price |  1,669.75  | 1,783 | 1,905 | 2,034 | 2,172 | 2,320 |

Now we can construct a table that shows us different prices of stock price for 5 years past data and five years future projection that can help us to better understand the stock price movement of BANGAS.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Particulars** | **2005** | **2006** | **2007** | **2008** | **2009** | **2010 Projected** | **2011 Projected** | **2012 Projected** | **2013 Projected** | **2014 Projected** |
| **Average Growth of GDP (6.2%)** | 326.00 | 218.00 | 227.50 | 486.00 | 1669.75 | 2653.94 | 2818.48 | 2993.23 | 3178.81 | 3375.89 |
|  **Sales Growth Rate (7.4%)** | 326.00 | 218.00 | 227.50 | 486.00 | 1669.75 | 2683.93 | 2882.54 | 3095.84 | 3324.94 | 3570.98 |
| **Average Growth Rate (6.8%)** | 326.00 | 218.00 | 227.50 | 486.00 | 1669.75 | 2668.93 | 2850.42 | 3044.25 | 3251.26 | 3472.34 |
| **Optimistic Growth Rate : 15%** | 326.00 | 218.00 | 227.50 | 486.00 | 1669.75 | 2873.85 | 3304.93 | 3800.67 | 4370.77 | 5026.38 |
| **Pessimistic Growth Rate : 3%** | 326.00 | 218.00 | 227.50 | 486.00 | 1669.75 | 2573.97 | 2651.19 | 2730.72 | 2812.65 | 2897.03 |

Figure: Future share projection with different growth rate

In the above graph we have plotted the future share price of Bangas Limited considering Different sales growth rate. We can see that except for Optimistic Growth Rate , the future share price of Bangas remains close by for other growth rate.