

Analysis of Profitability of Seshasayee Paper & Boards Limited (SPBL): A Case Study

* V. Selvaraj

** P. Rajangam

Abstract

This paper aims to access the profitability position of SPBL from the year 2001-02 to 2010-11. To evaluate the profitability of the company, relevant ratios were used and statistical tools like mean, standard deviation, coefficient of variation, minimum, and maximum were applied, and to test the significant relationship between the relevant variables, the variables were tested with the help of correlation and regression analysis (t- test). In hypotheses testing, most of the hypothesis showed a statistically significant relationship between two variables. Hence, it was concluded that the overall performance of Seshasayee Paper & Boards Limited regarding profitability was sound during the study period, the company's market is growing, and it was earning an acceptable return on invested capital, and it has good future opportunities for growth.

Keywords: profitability, paper companies, profit margin, operational performance, correlation analysis, regression analysis

JEL Classification: C12, C14, C16, G32

Profitability is an indication of the efficiency with which the operations of the business are carried on. Poor operational performance may indicate poor sales and hence, poor profits. A lower profitability may arise due to a lack of control over expenses. Bankers, financial institutions, and other creditors look at the profitability ratios as an indicator of whether or not a firm earns substantially more than it pays interest for the use of borrowed funds and whether the ultimate repayment of their debt appears reasonably certain. Owners are interested to know the profitability as it indicates the return which they can get on their investments. The profitability ratio measures the profitability or the operational efficiency of a firm. There are two groups of persons who may be especially interested in the analysis of the profitability of a firm. These are :

- i) the management which is interested in the overall profitability and operational efficiency of the firm; and
- ii) the equity shareholders who are interested in the ultimate returns available to them.

Both of these parties and any other party such as creditors can measure the profitability of the firm in terms of the profitability ratios. Different profitability ratios have been suggested to access the profitability of the firm from different angles. The performance of the firm can be evaluated in terms of its earnings with reference to a given level of assets or sales or owner interest, etc. Broadly, the profitability ratios are calculated by relating the returns with the i) sales of the firm ; ii) assets of the firm ; and iii) the owners' contribution.

Objectives of the Study

- 1) To analyze the profile of Seshasayee Paper & Boards Limited (SPBL).
- 2) To evaluate the profit margins in relation to sales.
- 3) To examine the profitability in relation to investment.

Scope of the Study

For the present study, one of the leading large size private paper mills was considered for analysis. The scope covered under the present study is ten years, beginning from 2001-02 to 2010-11. The study unit is situated in Pallipalayam at Erode District of Tamil Nadu.

* Associate Professor and Head, Department of Commerce and Research Centre, Nehru Memorial College (Autonomous), Puthanampatti - 621 007, Tiruchirappalli Dt., Tamil Nadu. E-mail : selva_velva@yahoo.co.in

** Assistant Professor and Head, PG Department of Commerce, Government Arts College, Ariyalur - 621 713, Tamil Nadu.
Email : raja_72cbe@yahoo.co.in

Review of Literature

Almazai (2009) in his study entitled "Analyzing Profitability Ratios of Jordanian Phosphate Mines Company (2001-2007)" evaluated the profitability ratios by using time series analysis over the period from 2001-2007. The study constructed a theoretical model consisting of independent variables (gross profit margin, operating profit margin, net profit margin, earning per share, return on total assets, and return on equity) and dependent variable (performance of the company) to examine the relationship between the variables. The study found that there was a positive relationship between independent variables (gross profit margin, operating profit margin, net profit margin, and return on equity) and dependent variable (performance). The authors suggested that financial statement analysis must be used to reduce risk and uncertainty by using tools and techniques to evaluate and project the future performance of a firm.

Chandra, Chouhan, and Goswami (2012) investigated the relationship between profitability and working capital analysis of information technology companies. In their study, they found a statistically significant relationship between working capital and profitability of all the selected companies. The positive direction of the relationship in all significant cases connotes that growth in working capital will result in increased profitability.

Abuzar (2004) empirically investigated the relationship between profitability and liquidity for sample firms in Saudi Arabia. The researcher took cash gap and current ratio as a measure of liquidity. Using correlation and regression analysis, a negative relationship was investigated between liquidity and profitability, where current ratio was taken as a measure of liquidity. At the company level, it was observed that the cash gap (cash conversion cycle) is more important as a measure of liquidity than the current ratio as a measure of liquidity that affects profitability. At the industry level, it was observed that size had a significant effect on profitability.

Haslem (1968) used operating profit ratios to measure the effect of management, size, location, and time on profitability and found that all variables significantly related to profitability.

Lazaridis and Dimitrios (2006) investigated the relationship between corporate profitability and working capital management using listed companies on the Athens stock exchange. They discovered that a statistically significant relationship existed between profitability and the cash conversion cycle. They concluded that the business can create profits for their companies by correctly handling the cash conversion cycle and keeping each component of the cash conversion cycle to an optimum level.

Mohamed and Abdul (2007) also investigated the relationship between cash conversion cycle and its components by taking a sample of 94 firms listed on the Karachi Stock Exchange for a period of six years from 1999-2004. In this study, they investigated that the cash conversion cycle is negatively related to net operating profit, which is a measure of profitability. A similar relationship was observed for the collection period, inventory turnover in days, and average payment period.

Rajangam and Selvaraj (2012) investigated the relationship between liquidity and profitability and risk and profitability. In this study, the researchers applied Spearman's Rank correlations to test the significant relationships. The study revealed that the Tamil Nadu Newsprint And Papers Limited (TNPL) maintained an overall control over the liquidity position of current assets, and all the techniques of liquidity management were satisfied during the study period. In testing of the hypotheses, the researchers observed that there was no significant relationship between liquidity and profitability and also, there was an insignificant relationship between risk and profitability.

Pandey (2012) examined the relationship between capital structure and profitability of IFCI Ltd. During the study period from 2005 to 2011, profitability was measured on the basis of EPS and return on assets had declined, which showed that the financial structure of the company failed to increase the profitability. For the testing of the hypotheses, correlation and multiple regressions were used. There was a negative correlation between loan fund and EPS, which meant that funds had failed to enhance the profitability of the company. Due to inefficient capital mix and lack of favorable impact of working capital on IFCI's profitability, negative correlation results were observed. In this study, insignificant regression results were obtained, and it made clear that the working capital was not favorably influencing the profitability of the company.

Singh (2012) made an investigation for the relationship between working capital and profitability in the information technology and telecom industry in India. He used the correlation and regression analysis. He investigated that the working capital turnover is positively related with ROCE (return on capital employed), it means that we accept that more working capital returns will result in higher return on capital employed, which is a measure of profitability. The results of the regression analysis showed that the coefficient of working capital turnover is positive, which means that working capital turnover affects the profitability of the firm positively. However, day's inventory were negatively

related to profitability.

Zabiulla (2011) in his study entitled "Analysis of Profitability Ratios of Selected FMCG Companies in India" used profitability variables like gross profit margin, net profit margin, operating profit margin, return on total assets, return on capital employed, and return on net worth, and earnings per share. In his study, he applied statistical tools like average and f-test and one-way ANOVA to test the significant relationship between selected profitability variables, and the present study was conducted to examine the profitability ratios of selected FMCG companies in India. The study found that ITC Ltd. recorded the highest values of GPM, OPM, and NPM against its peer companies. Britannia Industries Ltd. showed the highest EPS. An upward movement in ROTA was found in Colgate Palmolive (India) Ltd. over the sample period, while Godrej Consumer Products Ltd. and Colgate Palmolive (India) Ltd., generated significantly higher returns on the capital employed by the investors.

Research Methodology

❖ **Method of Data Collection :** The research is fully based upon secondary data and the data was collected from the official directory of the Bombay Stock Exchange, and Capitaline Plus corporate database.

❖ **Time Period of the Study :** The selected study unit focuses on a number of profitability variables during the period from 2001-02 to 2010-11, covering a time period of ten years.

❖ **Selection of the Sample :** The sample was drawn from the list of companies coming under the paper industry listed on the Bombay Stock Exchange. For the present study, one out of the nineteen large size paper mills listed at the Bombay Stock Exchange, which is Seshasayee Paper & Boards Limited (SPBL) situated in Erode District of Tamil Nadu was considered for analysis in the present study.

❖ **Statistical Tools :** For the purpose of statistical analysis, SPSS 16.0 was used, and applied mean, standard deviation, coefficient of variations, minimum, maximum, Pearson's, Kendall's, and Spearman's correlations and linear regression for 't' test were used.

❖ **Limitations of the Study :** This study had the following limitations:

- 1) The selected unit, SPBL is a private sector paper mill based in Tamil Nadu.
- 2) The study used the secondary data from the published annual reports of SPBL and the study is limited to ten years from 2001-02 to 2010-2011.
- 3) The study covered only one out of the nineteen large size paper mills in India.

Hypotheses

The following hypotheses were framed to conduct the analysis and evaluate the profitability results of Seshasayee Paper & Boards Limited:

- ❖ **H01: There is no significant relationship between gross profit margin and net sales.**
- ❖ **H02: There is no significant relationship between operating profit margin and net sales.**
- ❖ **H03: There is no significant relationship between net profit margin and net sales.**
- ❖ **H04: There is no significant relationship between net profit and total assets.**
- ❖ **H05: There is no significant relationship between net profit and net worth.**
- ❖ **H06: There is no significant relationship between ROCE and net sales.**

Profile of Seshasayee Paper & Boards Limited (SPBL)

Seshasayee Paper & Boards Limited (SPBL), the flagship company belonging to 'Esvin Group', operates an integrated pulp, paper, and paper board mill at Pallipalayam, Erode, Tamil Nadu. SPB, incorporated in June 1960, was promoted by Seshasayee Brothers Pvt. Limited in association with a foreign collaborator M/s Parsons and Whittemore, South East Asia Inc., USA. After the commencement of commercial production, having fulfilled their performance guarantee obligations, the foreign collaborators withdrew in 1969. The main promoters of the company, as on date, are

a group of companies belonging to the Esvin Group headed by Mr. N. Gopalaratnam. SPBL commenced commercial production in December 1962, on commissioning a 20000 tpa integrated facility, comprising a pulp mill and two paper machines (PM-1 and PM-2), capable of producing, writing, printing kraft and poster varieties of paper (<http://www.spbltd.com/profile.htm>).

❖ **Expansion/Modernization Project :** The company embarked on an expansion / modernization project to enhance its production capacity from 60000 tonnes per annum, to 1,15,000 tonnes per annum and to upgrade some of the existing facilities at an estimated cost of ₹ 1890 million. The said expansion / modernization project were completed in December 2000. After successful trials, the commercial production out of the new paper machine commenced on July 1, 2000. The current installed capacity of the company stands at 1,15,000 tonnes per annum (<http://www.spbltd.com/profile.htm>).

❖ **Exports Performance :** SPBL's export is nearly 20% of its production and is a significant exporter in the Indian paper industry. Due to its excellent export performance, SPBL has been awarded 'Golden Export House' status (<http://www.spbltd.com/profile.htm>).

Operational Definitions

❖ **Gross Profit Margin (GPR) :** Gross profit margin indicates the relationship between gross profit and net sales. It measures the efficiency of the company's operations. Higher the ratio, the better it is. A low ratio indicates unfavorable trend in the form of reduction in selling prices not accompanied by proportionate decrease in cost of goods sold or increase in cost of production. The gross profit margin is defined as :

$$\text{Gross profit margin} = (\text{Gross Profits} / \text{Sales}) * 100$$

❖ **Operating Profit Margin (OPM) :** Operating profit margin indicates the operational efficiency or otherwise of a business enterprise. It indicates an average operating profit margin earned on sales of ₹ 100 and what portion of profit is left to cover non-operating expenses, to pay dividends, and to create reserves. The higher the ratio, the better is the operational efficiency of the management and vice-versa. It is calculated as:

$$\text{Operating profit margin} = (\text{Operating Profits} / \text{Sales}) * 100$$

❖ **Net Profit Margin (NPM) :** Net profit margin is determined by relating net income after taxes to net sales. This ratio indicates net margin earned on a sale of ₹ 100. This ratio is widely used as a measure of overall profitability. A higher ratio indicates better position. This ratio is defined as follows:

$$\text{Net profit margin} = (\text{Earnings after Taxes (EAT)} / \text{Sales}) * 100$$

❖ **Earnings Per Share (EPS) :** Earnings per share represent the amount earned during the period on behalf of each outstanding share of common stock. A firm's earnings per share (EPS) are generally of interest to present or prospective stockholders and the management. EPS is closely watched by the investing public and is considered an important indicator of corporate success. Earnings per share is defined as follows:

$$\text{Earnings per share} = \text{Net Profit after Tax and Preference Dividend} / \text{Total No of Equity Shares Outstanding}$$

❖ **Return on Total Assets :** The return on total assets (ROTA) is often called the return on investment (ROI). It measures the overall effectiveness of the management in generating profits with its available assets. The higher a firm's return on total assets, the better it is and vice - versa. Return on total assets is defined as follows:

$$\text{Return on total assets} = (\text{Reported Net Profit} / \text{Total Assets}) * 100$$

❖ **Return on Equity (ROE or RONW) :** Return on net worth indicates how well the firm has used the resources of its owners. It indicates the relative performance and strength of the company in attracting future investments. It acts as a pointer to the management, showing the progress or deterioration in the earning capacity and efficiency of the business. It is calculated as:

$$\text{Return on net worth} = (\text{Reported Net Profit} / \text{Net Worth}) * 100$$

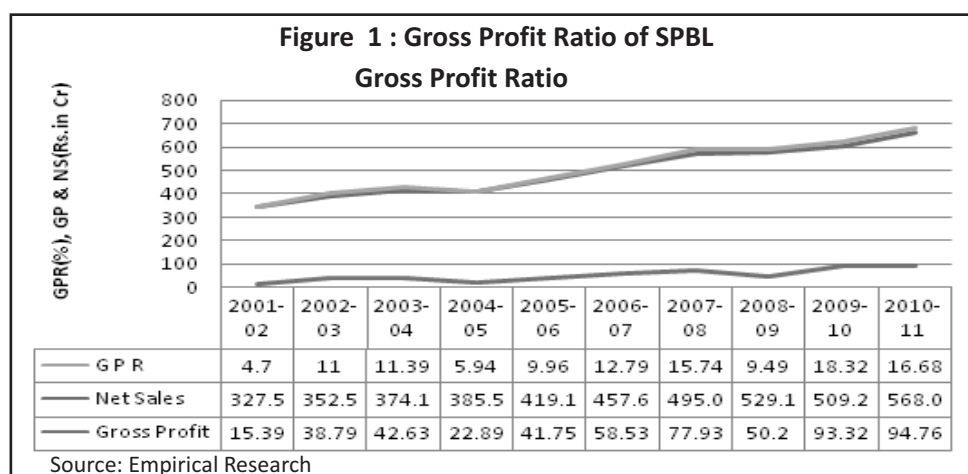
Data Analysis and Interpretation

This section presents the results of the profitability ratios and discussion based on them. The financial ratios like gross profit margin, net profit margin, operating profit margin, earning per share, ROCE, ROTA, and RONW were used and the significant relationship between them were tested by using the t - test.

Table 1: Gross Profit Margin Ratio of SPBL			
Year	Gross Profit Margin (₹ in Cr)	Net Sales (₹ in Cr)	GPR (in %)
2001-02	15.39	327.57	4.70
2002-03	38.79	352.56	11.00
2003-04	42.63	374.15	11.39
2004-05	22.89	385.56	05.94
2005-06	41.75	419.17	9.96
2006-07	58.53	457.60	12.79
2007-08	77.93	495.04	15.74
2008-09	50.20	529.11	09.49
2009-10	93.32	509.26	18.32
2010-11	94.76	568.07	16.68
Mean	53.62	441.81	11.60
S D	26.04	77.76	04.21
CV	48.57	17.60	36.25
Minimum	15.39	327.57	04.70
Maximum	94.76	568.07	18.32

Source: Compiled from Annual Report

❖ **Gross Profit Margin :** The Table 1 presents the results of the profitability ratios and discussions based on that. It depicts the ratio's fluctuating trend. The Table 1 highlights that the highest GPR was observed for the year 2009-10 (18.32 percent), and the lowest GPR percent was observed for the year 2001-02 (4.70). The average GPR of SBPL was 11.60 percent with the value between 4.70 and 18.32, and a standard deviation of 4.21 was observed. The highest ratio indicates an increase in the selling price of the goods sold without any corresponding increase in the cost of the goods sold. A lower ratio may be a result of unfavorable purchasing policies. From the Table 1, it can be inferred that the ratio



fluctuated over a period of time. It shows the poor progress of the company. The Figure 1 shows the trend values of net sales and gross profits of SPBL. The GPR increased gradually year by year during the study period, except in the year 2008-09, and the net sales increased by ₹ 529.11 cr, whereas the gross profit decreased by about ₹ 50.20 cr. It is observed from the Figure 1 that the net sales showed a positive trend over the study period.

Testing of the Hypotheses

Hypotheses 1 :

- ❖ **Ho:** There is no significant relationship between gross profit margin and net sales.
- ❖ **Ha:** There is a significant relationship between gross profit margin and net sales.

Table 2 : Correlation Results	
Correlations	Results
Pearson's Correlation	0.858**
Kendall's Correlation	0.733**
Spearman's Correlation	0.867 **
** Correlation is significant at the 0.01 level (2-tailed)	
Source: Secondary - Computed	

The Table 2 exhibits the correlation analysis results of gross profit margin and net sales. Pearson's correlation, Kendall's correlation, and Spearman's correlation were used to test the first hypotheses at 0.01 level between the significant relationship between gross profit margin and net sales with $r = 0.858$, 0.733 , and 0.867 respectively, which is high and positive. Therefore, there was a significant relationship between gross profit margin and net sales during different business cycles of SPBL.

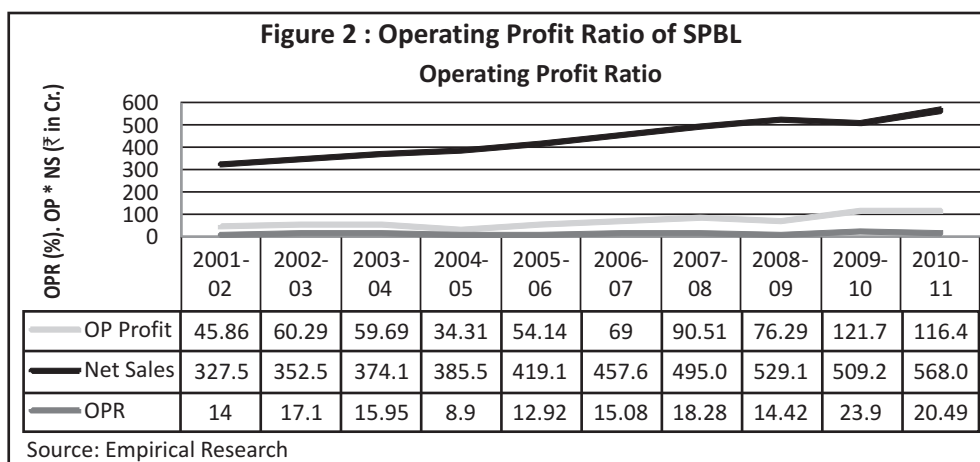
Degrees of freedom $(n-2)$; $10-2=8$;

$n = 10$;

Table value 't' value = 2.306;

Calculated 't' value = 9.421.

Table 3: Operating Profit Margin Ratio of SPBL			
Year	Operating Profit Margin (₹ in Cr)	Net Sales (₹ in Cr)	GPR (in %)
2001-02	45.86	327.57	14.00
2002-03	60.29	352.56	17.10
2003-04	59.69	374.15	15.95
2004-05	34.31	385.56	08.90
2005-06	54.14	419.17	12.92
2006-07	69.00	457.60	15.08
2007-08	90.51	495.04	18.28
2008-09	76.29	529.11	14.42
2009-10	121.72	509.26	23.90
2010-11	116.41	568.07	20.49
Mean	72.82	441.81	16.10
S D	27.42	77.76	03.95
CV	37.65	17.60	24.54
Minimum	34.31	327.57	08.90
Maximum	121.72	568.07	23.90
Source: Compiled from the Annual Report			



The calculated value (9.421) is higher than the table value (2.306). Hence, the null hypothesis is rejected and the alternative hypothesis is accepted; therefore, there was a significant relationship between gross profit margin and net sales.

Table 4 : Correlation Results	
Correlations	Results
Pearson's Correlation	0.828 **
Kendall's Correlation	0.600*
Spearman's Correlation	0.794 **
** Correlation is significant at 0.01 levels (2-tailed)	
* Correlation is significant at 0.05 levels (2-tailed)	
Source: Secondary - Computed	

❖ **Operating Profit Margin :** The operating profit margin of SPBL is exhibited in the Table 3. The operating profit ratio of SBPL showed average progress. For the period from 2007-08 and 2010-11, the lowest ratio (8.90) was observed in the year 2003-04, and the highest ratio (about 23.90) was evidenced in the year 2009-10. The coefficient of variance was 24.54 percent. The average operating profit was 16.10 percent during the study period. The Figure 2 shows the operating profit ratio of SPBL, and it can be seen that it fluctuated from the year 2001-02 to 2010-11. The net sales increased gradually year by year except in the year 2009-10, when the sales fell from the figure of the pervious year to reach ₹ 509.20 cr.

Hypotheses 2

- ❖ **Ho: There is no significant relationship between operating profit margin and net sales.**
- ❖ **Ha: There is a significant relationship between operating profit margin and net sales.**

The Table 4 exhibits the correlation results of the operating profit margin and net sales of SPBL. The Pearson correlation, Kendall's and Spearman's correlations were used to test the second hypothesis at 0.01 level and 0.05 level between operating profit margin and net sales with $r = 0.828, 0.600$, and 0.794 , which is high and positive. Therefore, there was a relationship between operating profit and net sales during different business cycles of SPBL. From above results, it can be seen that the calculated value (6.195) is higher than the table value of 't' (2.306). Hence, the null hypothesis is rejected and the alternative hypothesis is accepted. Therefore, there was a relationship between operating profit and net sales.

❖ **Net Profit Margin :** It can be observed from the Table 5 that the net profit ratio of the company was volatile during

Table 5: Net Profit Margin Ratio of SPBL			
Year	Net Profit Margin (₹ in Cr)	Net Sales (₹ in Cr)	NPR (in %)
2001-02	2.69	327.57	0.82
2002-03	16.89	352.56	4.79
2003-04	19.66	374.15	5.25
2004-05	6.59	385.56	1.71
2005-06	17.91	419.17	4.27
2006-07	41.40	457.60	9.05
2007-08	45.79	495.04	9.25
2008-09	15.03	529.11	2.84
2009-10	39.93	509.26	7.84
2010-11	65.00	568.07	11.44
Mean	27.09	441.81	5.73
SD	18.87	77.76	3.35
CV	69.66	17.60	58.52
Minimum	02.69	327.57	0.82
Maximum	65.00	568.07	11.44

Source: Compiled from the Annual Report

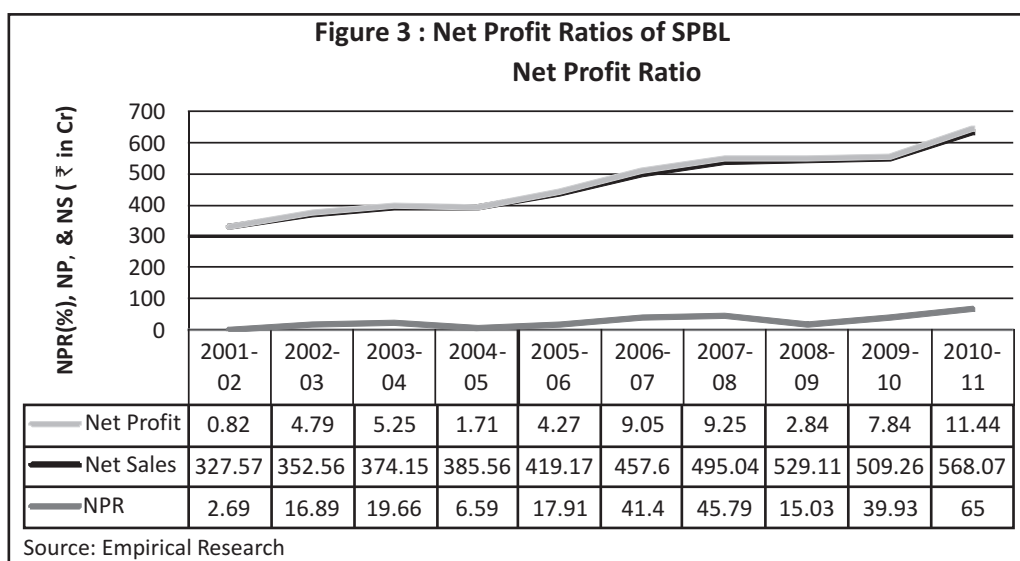
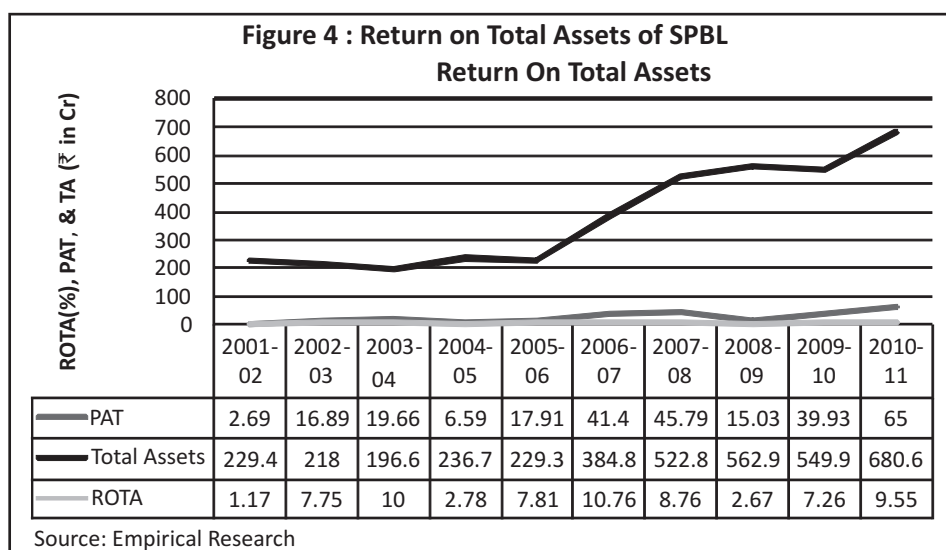


Table 6 : Correlation Results	
Correlations	Results
Pearson's Correlation	0.776 **
Kendall's Correlation	0.511**
Spearman's Correlation	0.624**
** Correlation is significant at 0.01 levels (2-tailed)	
Source: Secondary - Computed	

the study period. This ratio was below the standard norms of 12 %. The lowest NPR percent was observed in the year 2001-02, where it was 0.82 percent, and the highest value was observed during the year 2010-11, when it was 11.44 percent. With the exception of 2001-02, 2002-03, and 2003-04, for all other years of the study period, the average NPR stood at 5.73 percent. The coefficient of variation was 58.52 percent. It showed a fluctuating trend during the

Table 7: Return on Total Assets of SPBL			
Year	Profit After Tax (₹ in Cr)	Total Assets (₹ in Cr)	ROTA (%)
2001-02	2.69	229.46	1.17
2002-03	16.89	218.00	7.75
2003-04	19.66	196.61	10.00
2004-05	6.59	236.78	2.78
2005-06	17.91	229.38	7.81
2006-07	41.4	384.86	10.76
2007-08	45.79	522.87	8.76
2008-09	15.03	562.95	2.67
2009-10	39.93	549.98	7.26
2010-11	65.00	680.60	9.55
Mean	27.09	381.15	6.85
S D	18.87	172.88	3.23
CV	69.66	045.36	47.13
Minimum	2.69	196.61	1.17
Maximum	65.00	680.60	10.76

Source: Compiled from the Annual Report



study period and a poor performance was observed for only a few years in the beginning of the study period. The Figure 3 represents the net profit ratios of SPBL, which fluctuated during the study period at a minimum NPM of ₹ 2.69 cr to a maximum of ₹ 65 cr, whereas the net sales showed an increasing trend during the study period from ₹ 327.57 cr to ₹ 568.07 cr.

Hypotheses 3

- ❖ **Ho: There is no significant relationship between net profit margin and sales.**
- ❖ **Ha: There is a significant relationship between net profit margin and sales.**

The Table 6 indicates the correlation results of net profit margin and sales. The Pearson's correlation, Kendall's and Spearman's correlations were used to test the third hypotheses at 0.01 level of significance between net profit margin and sales with $r = 0.776$, 0.511 , and 0.624 respectively, which is high and positive. Therefore, there was a significant

Table 8 : Correlation Results	
Correlations	Results
Pearson's Correlation	0.770**
Kendall's Correlation	0.289**
Spearman's Correlation	0.418**
** Correlation is significant at 0.01 levels (2-tailed)	
Source: Secondary - Computed	

Table 9: EPS, RONW, and ROCE of SPBL			
Year	EPS(Rs.)	RONW(%)	ROCE(%)
2001-02	2.39	4.22	14.66
2002-03	14.78	27.86	22.05
2003-04	17.24	25.26	23.43
2004-05	5.61	7.54	10.63
2005-06	15.57	18.48	17.00
2006-07	36.20	33.74	17.64
2007-08	40.03	28.34	16.10
2008-09	12.76	8.02	9.21
2009-10	34.50	19.15	15.83
2010-11	56.97	25.61	13.40
Mean	23.605	19.822	15.995
S D	16.54	9.64	4.23
CV	70.06	48.64	26.45
Minimum	2.39	4.22	9.21
Maximum	56.97	33.74	23.43
Source: Compiled from the Annual Report			

relationship between net profit margin and net sales during different business cycles of SPBL. From the above results, it is inferred that the calculated value (11.703) is higher than the table value of 't' (2.306). Hence, the null hypothesis is rejected and the alternative hypothesis is accepted. Therefore, there was a significant relationship between net profit margin and net sales.

❖ **Return on Total Assets:** The Table 7 provides the results of return on total assets. The highest value of ROTA was 10.76 percent, and the least value was about 1.17, and the mean value was observed at about 6.85 percent and the coefficient of variation was 69.66 percent. Hence, the ROTA showed a fluctuating trend over the study period. The Figure 4 depicts the return on total assets of SPBL. The total assets gradually increased and fluctuated during the study period from a minimum of ₹196.61 cr to a maximum of ₹ 680.60 cr, whereas the PAT fluctuated at a minimum value of ₹ 2.69 cr and a maximum value of ₹ 65 cr.

Hypotheses 4

- ❖ **Ho: There is no significant relationship between net profit margin and total assets.**
- ❖ **Ha: There is a significant relationship between net profit margin and total assets.**

The Table 8 demonstrates the correlation results of net profit margin and total assets. The Pearson correlation, Kendall's, and Spearman's correlations were used to test the fourth hypotheses at the 0.01 level of significance between net profit margin and total assets with $r = 0.770$, 0.289 , and 0.418 respectively, which is high and positive in case of Pearson's correlation and low and positive in Kendall's and Spearman's correlation. Therefore, there was a significant

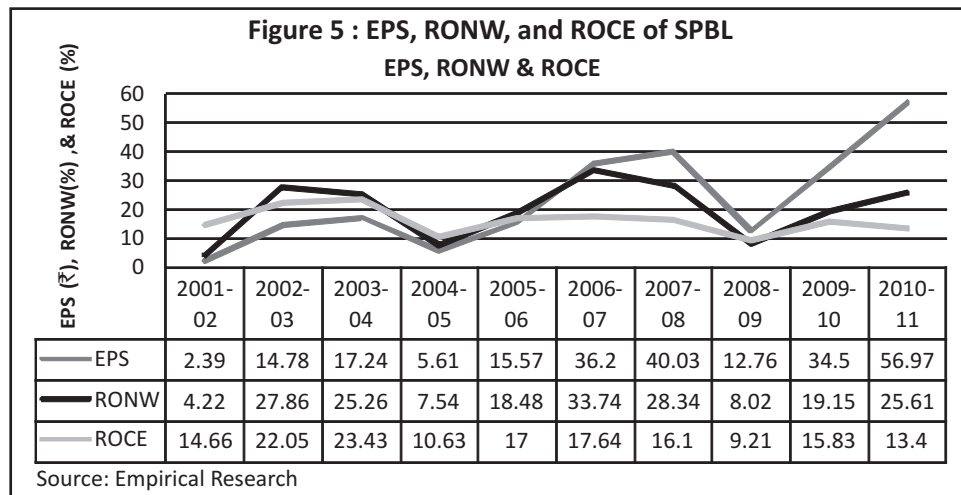


Table 10 : Correlation Results	
Correlations	Results
Pearson's Correlation	0.833**
Kendall's Correlation	0.556*
Spearman's Correlation	0.673**
** Correlation is significant at 0.01 levels (2-tailed)	
*Correlation is significant at 0.05 levels (2-tailed)	
Source: Secondary - Computed	

relationship between net profit margin and total assets during different business cycles of SPBL. From the above results, the calculated value (2.786) is higher than the table value of 't' (2.306). Hence, the null hypothesis is rejected and the alternative hypothesis is accepted, therefore, it is evident that there was a statistically significant relationship between net profit margin and total assets.

The Table 9 shows the profitability ratios of SPBL during the study period. It could be observed that the value of EPS fluctuated during the study period. The mean value of EPS was 23.61, and the coefficient of variation was 70.06 percent, which shows that the highest variation was observed in the study period. The minimum value of EPS was 2.39 percent, observed in the year 2001-02, and the maximum value of EPS (56.97 percent) was attained in the year 2010-11. RONW could be observed from the Table 9 that the return on net worth ratio fluctuated (4.22) in the year 2001-02 and (33.74) in the year 2007-08. The average RONW was evidenced to be 19.82, and the years 2002-03, 2003-04, 2007-08, and 2008-09 attained the above average. A low coefficient of variation was observed during the study period. The Table 9 also shows that the overall profitability of SPBL fluctuated from 9.21 in the year 2009-10 to 23.43 in the year 2003-04. Only a few years - 2001-02, 2004-05, and 2009-10 did not attain the average value of ROCE during the study period. The Figure 5 exhibits the EPS, RONW, and ROCE of SPBL during the study period. The minimum value of EPS was ₹ 2.39 in 2001-02, and the maximum value was ₹ 56.97 in 2010-11. The RONW was observed to fluctuate once in every two years from 2001-02 to 2010-11. The minimum ROCE, the overall profitability of the SPBL was 9.21 times in the year 2008-09, which means that a lower level of profitability was evidenced, and the maximum level of profitability was observed to be 33.74 times in the year 2006-07.

Hypotheses 5

- ❖ **Ho: There is no significant relationship between net profit margin and return on net worth.**
- ❖ **Ha: There is a significant relationship between net profit margin and return on net worth.**

The Table 10 explains the correlation results of net profit margin and return on net worth. The Pearson's correlation,

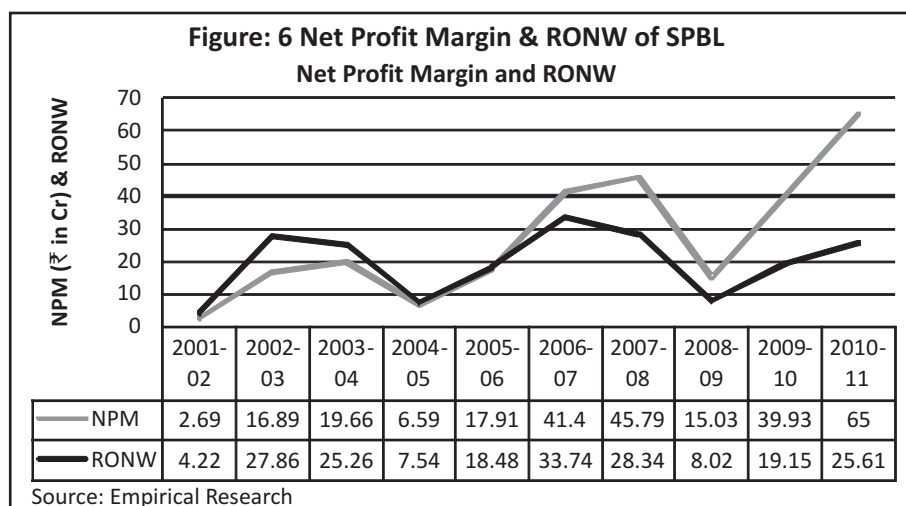


Table 11 : Correlation Results	
Correlations	Results
Pearson's Correlation	- 0.459**
Kendall's Correlation	- 0.378**
Spearman's Correlation	- 0.467**
** Correlation is significant at 0.01 levels (2-tailed)	
Source: Secondary - Computed	

Kendall's, and Spearman's correlations were used to test the fifth hypotheses (Table 10 and Figure 6) at the 0.01 level and 0.05 level of significance between net profit margin and net worth with $r = 0.833$ (0.01 level), 0.556 (0.05 level), and 0.673 (0.01 level), which is high and positive. Therefore, there was a significant relationship between net profit margin and net worth during different business cycles of SPBL. From the above results, it is clear that the calculated value is (4.263) more than the value of 't' (2.306), Hence, the null hypothesis is rejected and the alternative hypothesis is accepted. Therefore, it is clear that there was a significant relationship between NPM and net worth. The Figure 6 shows the relationship between net profit margin & RONW of SPBL. The NPM was minimum in the year 2001-02 (₹ 2.69) and was maximum in the year 2010-11 (₹ 65), whereas the RONW was minimum in the year 2001-02 (4.22 times), and was maximum in the year 2006-07 (33.74 times). The NPM and RONW fluctuated during the study period.

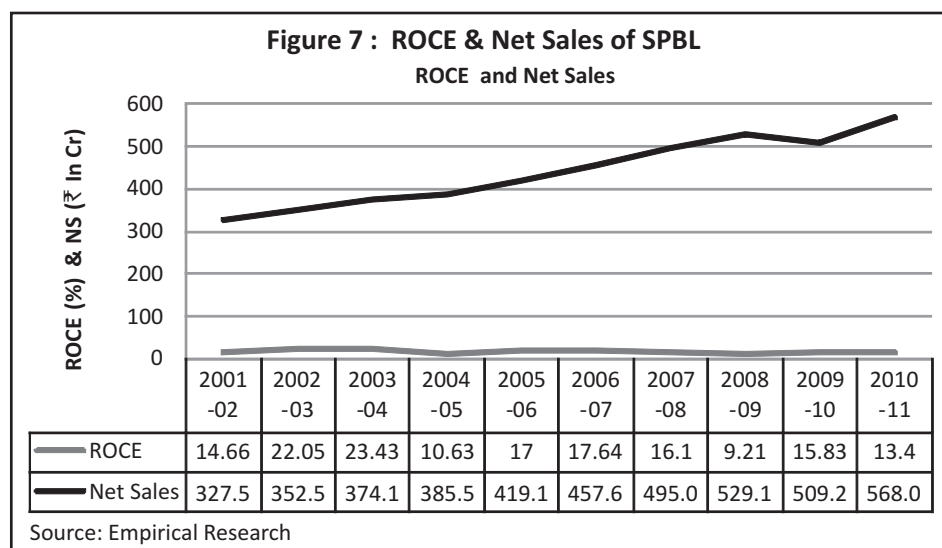
The Figure 7 shows the relationship between ROCE and net sales, and it is observed that the net sales showed a positive and increasing trend during the study period from ₹ 327.57 cr to ₹ 568.07 cr. The ROCE decreased in the year 2004-05 (10.63 times) and 2008-09 (9.21 times), which means that the overall profitability of the paper mill was very low during the said period.

Hypotheses 6

Ho : There is no significant relationship between ROCE and net sales.

Ha : There is a significant relationship between ROCE and net sales.

The Table 11 indicates the correlation results of ROCE and net sales. The Pearson's correlation, Kendall's, and Spearman's correlations were used to test the sixth hypotheses at 0.01 level of significance between ROCE and Net sales with $r = -0.459$, -0.378 , and -0.467 respectively, which is negative and low. Therefore, there was no relationship between ROCE and net sales during different business cycles of SPBL. From the above results, it is clear that the calculated value (-) 1.463 is less than the table value (2.306). Hence, the null hypothesis is accepted. Therefore, there was no relationship between ROCE and net sales.



Findings and Suggestions

Ratio analysis enables stockholders, lenders, and the firm's managers to evaluate the firm's performance. It can be performed on a cross-sectional or a time-series basis. To achieve the main purpose of this study, a time-series analysis was used to find the profitability ratios of the Seshasayee Paper & Boards Limited (SPBL). The results are as follows:

- 1) The sales of SPBL were found to be growing over the years considered for the study. Consequently, the gross profit margin ratio increased from 4.70% and 18.32%. Both percentages reflect the good performance of the management's overall effectiveness on sales and gross profit.
- 2) Operating profit margin ratio represents the pure profit of the company. It increased positively from 8.90 % to 23.90 % for the given period, which is a good indication of the company's performance.
- 3) Net profit margin ratio, which measures how profitable a company's sales are after deducting all expenses, interests, taxes, and preferred stock dividends grew from 0.82 % to 11.44% during the given period, which implies a higher level of profitability of SPBL. Earnings per share are closely watched by the investing public and are considered an important indicator of corporate success. The company's earnings per share increased from 2.39% to 56.97% during the given period, which is a good indicator for both - the company management and prospective stock holders.
- 4) Return on net worth - which measures the returns earned on the common stockholders' investment in the firm - increased drastically from 5.04% to 29.35% within the given period. This indication reflects the good performance of the management on the invested financial resources.
- 5) ROCE measured the overall profitability of SPBL, and it ranged between 9.21% to 23.43%.
- 6) The overall performance of SPBL regarding profitability was good , the company's customer base has been growing, and it has been earning an acceptable return on invested capital. Hence, it has good future opportunities.

Conclusion and Recommendations

- 1) The sales revenue of Seshasayee Paper & Boards Limited (SPBL) was high, but it was observed that the gross profit margin, which represents the amount remaining to satisfy operating, financial, and tax costs was low as compared to sales revenue due to the large amounts spent on the cost of goods sold. Therefore, the company should use consistent techniques and financial policies to reduce the cost of goods sold, which will help in satisfying operating, financial, and tax costs and in return, would lead to earning more returns on earnings after taxes.

- 2) Operating profit, which represents the profits earned from producing and selling products, was also low as compared to the sales volume of the company. Therefore, the company needs to reduce its expenses to be able to pay its debts and gain more earnings after taxes.
- 3) Earnings taxes, which are available for common stockholders, were also low as compared to the sales volume of the company. This is due to the effect of high expenses on the cost of goods sold and other expenses. These factors need to be controlled by following accounting and financial policies.
- 4) Earnings per share (which measure how the price of a share in the stock market compares to key financial market performance indicators) were not encouraging.
- 5) Finally, though the company is a profitable one and has good future opportunities, it has to look carefully at controlling the costs of goods sold and reduce its expenses to avoid facing difficult financial conditions in the future.

Scope for Future Research

Future studies can investigate the relationship among profitability variables in the small, medium, and large size companies of the paper industry in India and other countries. Furthermore, the studies can be extended to a model which will explain how : i) sales of the firm ; ii) assets of the firm ; and iii) the owners' contribution influences the profitability of a firm.

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