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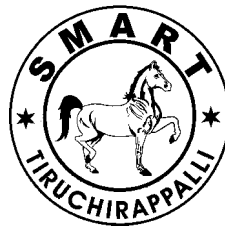
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## FINANCIAL PERFORMANCE OF SELECT STEEL UNITS

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### ***Abstract***

*Financial analysts often assess firm's performance, in terms of productivity, profitability, liquidity and working capital. The objective of this paper was to examine the financial performance of selected steel units and to provide suitable suggestions, to strengthen the financial performance of the steel units. The four companies selected for this study were Rashtriya Ispat Nigam Ltd, Steel Authority of India Ltd, Tata Steel Ltd and JSW Steel Ltd. The data were collected from 2005-06 to 2013-14. The technique of One Way ANOVA, was applied to test the hypotheses. The study found that there was no significant difference between the various ratios of profitability, financial structure, working capital and activity between the selected units. The selected units should maintain adequate amount of working capital and strengthen the financial efficiency. Cost accounting and cost audit should be made mandatory for these units, to create the responsibility centre and adopt proper techniques for planning and control of cash.*

**Keywords :** Profitability Ratios, Financial Structure Ratios, Working Capital Ratios and Activity Ratios

**JEL :** M41, G3

### **1. Introduction**

The financial performance analysis identifies the financial strengths and weaknesses of the firm, by properly establishing relationships between the items of the balance sheet and profit and loss account. The first task is to select the information, relevant to the decision under consideration, from the total information contained in the financial statements. The

second is to arrange the information in such a way to highlight significant relationships. The final stage is interpretation and drawing of inferences and conclusion. Financial analysts often assess firm's performance of production and productivity, profitability, liquidity, working capital, fixed assets and funds flow. A well designed and implemented financial aspects, create a positive firm value (Padachi, 2006)

and achieve the desired financial performance. There should be a tradeoff between solvency, liquidity and profitability (**Lazaridis, I., 2007**). Management of working capital is essential to enhance the financial performance of the company and its impact on the profitability of an organization (**Rajesh and Rama Reddy, 2011**). The better financial performance leads to maximization of shareholders' wealth (**Panwala, 2009**). The firm's financial performance can be measured through the stock price (**Jensen and Murphy 1990 and Miiboum, 1996**). The Economic Value Added (EVA) was proposed by Stern Stewart Management Services as a technique of financial performance. The shareholders' expected abnormal returns refers to excess of actual return to expected return and it must be correlated with the good financial performance measure. However, in the present study, financial health of steel industries in India was measured from the following perspective: working capital analysis, financial structure analysis, activity ratio analysis and profitability ratio analysis.

## 2. Review of Literature

There is a wide range of literature available, on financial performance analysis, reflecting its dynamic value and significance of intuitive nature. A good deal of analytical part of literature exists at broad levels like size and technology, problems associated with productivity, financial performance, and capacity utilization.

**Rammohan Rao and Misra (1975)** examined the decisions about internal and external finance and the earnings pattern of different types of funds and the relationship between corporate social reporting and company size, age, profitability and industrial grouping. **Khandelwal (1985)** asserted that entrepreneurs had to be educated on the concept of working capital management. **Pandey (1995)** showed how these financial statements and

ratios were necessary in accounting, related to planning and control and decision- making system. **Sankar.T.L et.al (1995)** maintained that financial performance of state level public enterprises suffers from staggering investment, poor profitability, and unnecessary investment, poor project planning and inadequate financial control. **Kim and Kunchul (1996)** attempted to understand the profitability differentials in terms of growth and risk and the various reasons for higher cost, low profitability, and inefficient use of internal resources. **Mohammed Rafiqul Islam (2000)** found that none of the selected units was consistent and all the units were plagued with declining profits in Bangladesh. **Karthikeyan (2000)** concluded that the sales as well as total assets were consistent in all the four years of study. **Sahu (2002)** asserted that effective liquidity management was observed in paper companies. **Padmaja Manoharan (2002)** identified that quality of earning depends on management and leverage management. **Santany Kumar Ghosh, et al (2003)** concluded that the degree of current assets was positively associated with the operating profitability of the firm. **Hamsalakshmi and Manickam (2004)** found companies to rely more on internal financing and the overall profitability to be increasing at a moderate rate. **Bardia (2004)** concluded that the liquidity and profitability were in the same direction. **Narware and Vivek Sharma (2004)** concluded that there was inadequacy of funds due to high contribution of inventory in current assets. **Shanmugam (2006)** concluded that the inter-relationship between sales and working capital accounts was found to be significant for the industry. **Santany and Ghosh (2003)** observed that the degree of operating leverage was positively associated with operating profitability. **Ramachandra Reddy and Yuvarasa Reddy (2007)** identified that net sales and net profit recorded the same relationship and working capital management was a highly influencing factor to the incidence of profitability of selected textile companies in

Coimbatore District. **Dharmendra S. Mistry (2010)** revealed that economic value also recorded positive correlation with firm size, funds of proprietors and funds of money lenders. **Gurbuz Osman, et al. (2010)** identified the positive influence of corporate governance and institutional ownership on the financial performance. Additionally, the impact of institutional investors was found to be more strongly pronounced in firms listed on the corporate governance index. **Aerts Walter and Iarca Ann (2010)** found a higher expected regulatory and litigation costs to induce a more elaborative but risk-averse explanatory stance, that may well reduce the overall incremental value of the overall financial performance offered. **Truetf Lila and Truetf Dale (2010)** used a cost function to investigate the presence of scale economies and the nature of input interrelationships. **Prasanta Paul (2011)** concluded that the selected companies differed significantly in terms of their financial performance indicators. **Kirca Ahmet (2011)** found that multi-nationality provided an efficient organizational form that enabled firms to transfer their firm-specific assets to generate higher returns in international markets. **Neha Mittal (2011)** opined that the main variables, determining the capital structure of industries in India, are agency cost, assets structure, non-debt tax shield and size.

### 3. Statement of the Problem

Many researchers focused on the profitability, liquidity and working capital management but no research is available on overall financial performance, especially on comparative analysis of major steel units regarding financial position. The current study proposes to focus on comparative analysis of financial performance of Rashtriya Ispat Nigam Ltd, Steel Authority of India Ltd, Tata Steel Ltd and JSW steel Ltd.

### 4. Need of the Study

The terms, profitability ratios, financial structure ratios, working capital ratios and activity ratios, achieved popularity over the past

decades, to measure the financial performance of organizations. These techniques are useful to enhance the financial performance of organizations through the effective rectifications of occurred deviations. Although there is much research about financial performance of various organizations, only a few researchers concentrated on the financial performance of steel industry, particularly at micro level. Hence the current study will be relevant towards the comparative analysis of financial performance of the Rashtriya Ispat Nigam Ltd, Steel Authority of India Ltd, Tata Steel Ltd and JSW Steel Limited.

### 5. Research Objectives

1. To examine the financial performance of the selected steel units.
2. To test whether there is any significant difference from one ratio to another ratio of profitability, financial structure, working capital and activity ratios of selected units.
3. To offer suitable suggestions to strengthen the financial performance of selected units.

### 6. Hypotheses

NH<sub>1</sub>: There is no significant difference between the gross profit and gross sales ratio of selected steel companies.

NH<sub>2</sub>: There is no significant difference between the operating and gross sales ratio of selected steel companies.

NH<sub>3</sub>: There is no significant difference between the net profits and sales ratio of selected steel companies.

NH<sub>4</sub>: There is no significant difference between the return on capital employed to sales ratio of selected steel companies.

NH<sub>5</sub>: There is no significant difference between the Total Debt Equity Ratio of selected steel companies.

NH<sub>6</sub>: There is no significant difference between the Capital Gearing Ratio of selected steel companies.

NH<sub>7</sub>: There is no significant difference between the Financial Leverage ratio of selected steel companies.

NH<sub>8</sub>: There is no significant difference between the Current Ratio of selected steel companies.

NH<sub>9</sub>: There is no significant difference between the Quick Ratio of selected steel companies.

NH<sub>10</sub>: There is no significant difference between the Gross Working Capital Cycle of selected steel companies.

NH<sub>11</sub>: There is no significant difference between the ratio of Net working capital cycle of selected steel companies.

NH<sub>12</sub>: There is no significant difference between the total assets turnover ratio of selected companies.

## 7. Research Methodology

### 7.1 Sample Selection

In India, 168 steel companies have been listed in the stock exchanges, out of which seven

companies are in 'A' group. Among them, four companies were selected for this study, namely, Rashtriya Ispat Nigam Ltd, Steel Authority of India Ltd, Tata Steel Ltd and JSW Steel Ltd.

### 7.2 Data Collection and Period of Study

The data, used in the financial appraisal of the selected steel units in India, during the period under study, were obtained from the annual reports of the selected steel companies and CMIE prowess database and supplemented with the secondary data wherever needed and found useful. The period of study was nine years starting, from 2005-06 to 2013-14.

### 7.3 Tools Used for the Study

One Way ANOVA was applied, to test whether there was significant difference amongst the selected units, regarding the ratios of profitability, financial structure, working capital and activity. In addition, mean and standard deviation were applied at the appropriate places. The of ratios applied were:

$$\text{Gross profit ratio} = \frac{\text{Gross profit}}{\text{sales}} \times 100,$$

$$\text{Operating profit ratio} = \frac{\text{Operating profit}}{\text{Sales}} \times 100$$

$$\text{Operation profit} = \text{Sales} - (\text{Cost of goods sold} + \text{operational expenditure})$$

$$\text{Net profit ratio} = \frac{\text{net profit}}{\text{sales}} \times 100$$

$$\text{Return on Capital Employed} = \frac{\text{net profit(EBIT)}}{\text{capital employed}} \times 100$$

$$\text{Total Debt- Equity ratio} = \frac{\text{total debts}}{\text{owners funds}} \times 100$$

$$\text{Capital Gearing Ratio} = \frac{\text{loan capital} + \text{preference capital}}{\text{equity capital}}$$

$$\text{Financial Leverage Ratio} = \frac{\text{Earning before interest and taxes (EBIT)}}{\text{Earning before taxes (EBT)}} \times 100$$

$$\text{Current Ratio} = \frac{\text{current assets}}{\text{current liabilities}}$$

$$\text{Quick Ratio} = \frac{\text{current assets} - \text{inventories}}{\text{current liabilities}}$$

$$\text{Net Working Capital Ratio} = \frac{\text{net working capital}}{\text{net assets}}$$

$$\text{Total Assets Turnover} = \frac{\text{net sales}}{\text{total assets}}$$

## 8. Analysis of Results

According to the **Table-1**, the sum of the squares within the samples was much higher than that of the sum of the squares between samples, with the calculated value of F at 0.47, which was lesser than its critical value of table value 2.886, at  $\alpha = 5$  percent, with df at  $df_1 = V_1 = 3$  and  $df_2 = V_2 = 36$ . Hence it can be concluded that the proposed null hypothesis was accepted and the alternative hypothesis was rejected. In other words, there was no significant difference regarding the gross profit ratio of selected steel units.

As per the **Table-2**, the sum of the squares within the samples was much higher than that of the sum of the squares between the samples, with F-value at 0.45, which was lesser than that of the table value (2.89), at  $\alpha = 5$  percent, with df at  $df_1 = V_1 = 3$  and  $df_2 = V_2 = 36$ . Hence the proposed null hypothesis was accepted and alternative hypothesis was rejected. In other words, there was no significant difference in the operating profit ratio of selected steel units.

According to **Table-3**, the sum of squares within samples was not greater than the sum of squares between samples, at  $df_1 = V_1 = 3$  and  $df_2 = V_2 = 36$  and the value of test statistic (F value) was 0.10, which was lesser than the table value of 2.89. Hence it can be concluded that

the proposed null hypothesis could be accepted and alternative hypothesis could be rejected. In other words, there was no significant difference in the net profit ratio of selected steel units.

As per the **Table-4**, the sum of squares within samples was much more than that of the sum of the squares between samples at  $df_1 = V_1 = 3$  and  $df_2 = V_2 = 36$  and the value of F was 0.26. Since its value was lesser than that of the table value (2.89), the null hypothesis was accepted and the alternative hypothesis was rejected. It is concluded that there was no significant difference regarding the return on the capital employed by selected steel units.

According to the **Table-5**, the sum of squares within samples was higher than that of the sum of squares between the samples, at  $df_1 = V_1 = 3$  and  $df_2 = V_2 = 36$  and the calculated F value was 0.30 and the table value was 2.89. Since the F value was lesser than that of the table value, the proposed null hypothesis was accepted and alternative hypothesis was rejected. In other words, there was no significant difference in the total debt equity ratio of selected steel units.

As per the **Table-6**, the sum of squares within the samples was much higher than the sum of the squares between the samples, at  $df_1 = V_1 = 3$  and  $df_2 = V_2 = 36$  and the calculated F value was 1.22 and the table value was 2.89.

Hence the proposed null hypothesis was accepted and the alternative hypothesis was rejected. It is thus confirmed that there was no significant difference regarding the capital gearing ratio of selected steel units.

The **Table-7** discloses that the calculated F value was 0.301677 at five percent level of significance, with  $df_1=V_1=3$  and  $df_2=V_2=36$ . But the table value was the 2.89 and hence the proposed null hypothesis was accepted and alternative hypothesis was rejected. In other words, there was no significant difference in financial leverage ratio of the selected steel units.

The **Table-8** exhibits that the sum of the squares within the samples was much higher than that of the sum of the squares between samples, at  $df_1=V_1=3$  and  $df_2=V_2=36$ , at five percent level of significance. The calculated F value was 0.36 and the table value was 2.89. Hence the null hypothesis was accepted and the alternative hypothesis was rejected. It is concluded that there was no significant difference regarding the current ratio of selected steel units.

According to **Table-9**, the sum of squares within samples was 95.31 and between the samples was 22.29, at  $df_1=V_1=3$  and  $df_2=V_2=36$ . F value was 0.36, which was lesser than that of the table value (0.289) and hence the proposed null hypothesis was accepted and alternative hypothesis was rejected. Thus it is confirmed that there was no significant difference regarding the quick ratio of selected steel units.

The **Table-10** reveals that the sum of the squares within the samples was 2.02 and between the samples was 0.47, at  $df_1=V_1=3$  and  $df_2=V_2=36$ . The calculated F value was 0.36 and the table value was 2.89 and hence the assumed null hypothesis was accepted and the alternative hypothesis was rejected. In other words, there was no significant difference in gross working capital cycle ratio of selected steel companies.

As per the **Table-11**, the sum of squares within the samples was more than that of the sum of the squares between the samples, with the calculated value of F at 0.40 and its table value being 2.89 at 5 percent level of significance, with  $df_1=V_1=3$  and  $df_2=V_2=36$ . Hence the assumed null hypothesis was accepted and the alternative hypothesis was rejected. It is confirmed that there was no significant difference in net working capital cycle of selected steel units.

As per the **Table-12**, the sum of squares within the samples was 0.81 as a source of variation and between the samples, it was 1.14, at  $df_1=V_1=3$  and  $df_2=V_2=36$ . Since the calculated F value was 0.06 and the table value was 2.89, the proposed null hypothesis was accepted and the alternative hypothesis was rejected. In other words, there was no significant difference in total assets turnover ratio of selected steel units.

## 9. Findings of the Study

1) According to the Gross Profit Ratio, the TSL ltd showed good profitability, followed by RINL ltd, JSW ltd and SAIL ltd, but there was no significant difference regarding this ratio.

2) The steel industry showed fluctuating trend of operating profit ratio, during the study period. The average ratio of steel industry fluctuated from 58.95 percent in 2007-08 to 28.48 percent in 2013-14. The average ratio was 50.63 percent. The steel companies such as JSW Ltd and RINL Ltd recorded higher than average ratio of the steel industry whereas TSL Ltd and SAIL Ltd recoded lower ratio from the average ratio of the steel industry, but this ratio did not differ significantly among selected steel units.

3) The net profit ratio in steel companies was satisfactory. The average ratio of JSW was the highest among all the steel companies. The average ratio of JSW was 24.09 percent, followed by TSL ltd (20.81 percent), SAIL (19.94 percent), RINL (12.3 percent), but statistically

there was no significant difference regarding this ratio among selected steel units.

4) The return on capital employed ratio of steel industry, recorded decreasing trend, during the study period. The ratio ranged from 8.70 percent in 2013-14 to 47.68 percent in 2004-05, with an average of 30.44 percent. The highest ratio was found in RINL Ltd, followed by SAIL Ltd, TSL Ltd, and JSW Ltd, but this ratio did not differ significantly among the selected steel units.

5) The combined total debt equity ratio of selected steel companies, recorded fluctuating trend. The average ratio of the steel industry was 0.66 times. On the basis of the analysis, it can be concluded that the highest ratio was 0.85 times for JSW Ltd, followed by RINL Ltd, TSL Ltd, and SAIL Ltd but the selected steel units did not differ significantly regarding this ratio.

6) The average capital gearing ratios of RINL Ltd and TSL Ltd were 0.52 and 0.65 percent respectively, which were lower than the average ratio of 2.30 percent of the steel industry. Average capital gearing ratio of the steel industry was fluctuating during the study period i.e. from 2004-05 to 2013-14. From the analysis, the Researcher found that the performance of SAIL company Ltd, and JSW company Ltd was better as compared to all other companies but there was no significant difference regarding this ratio among the selected units.

7) Average financial leverage ratio of steel industry was fluctuating during the study period, i.e. from 2004-05 to 2013-14. The average financial leverage ratios of JSW Ltd and TSL Ltd were 1.35 percent and 1.28 percent respectively, which were greater than the average ratio of 1.21 percent of steel industry. The average financial leverage ratios of SAIL Ltd and RINL Ltd were 1.10 percent and 1.11 percent respectively, which were lower than the average ratio of 1.21 percent of steel industry. The ratio increased tremendously due to the increasing rate of wages and salaries, cost of raw materials

and decreasing trend in sales price of steel. The performance of TSL Ltd was better compared to all other companies under the study but this ratio did not differ significantly among the selected steel units.

8) The current ratio in the steel industry, on the whole, presented a fluctuating trend, during the period of study. The average ratio of steel industry was 2.01 times. On comparing the average current ratio of the companies with the average ratio of steel industry, it was found that the performance of RINL Ltd was better. The average ratio of the rest of companies was lower than the average ratio of the steel industry but this ratio did not differ significantly among the selected units.

9) The TSL Ltd and JSW Ltd recorded lower average ratio of gross working capital cycle from the average ratio of the steel industry. On the other hand, SAIL Ltd and RINL Ltd had recorded average ratio of gross working capital cycle, which was above the average ratio of the steel industry. However there was no significant difference of gross working capital cycle of selected steel companies.

10) On the basis of new working capital cycle analysis, it can be said that average ratio of 0.12 days for TSL Ltd was lower from the average ratio of the steel industry of 0.22 days. On the other hand, companies like RINL Ltd and SAIL Ltd, recorded an average ratio, which was higher than the average ratio of steel industry. But there was no significant difference between the net working capital cycle of the selected steel units.

11) Total assets turnover ratio of steel companies showed fluctuating trend through the study period. The ratio varied from 0.43 times to 0.94 times. The combined average ratio of the companies was less than one time in most of the years because of increase in the amount of assets due to huge expansion and development programme. But addition to



investment in various assets could not result in proportionate sales. The average of the combined average ratio of the selected steel companies was 0.60 times and this ratio also did not differ significantly among the selected steel units.

## 10. Suggestions and Conclusion

The selected units should adopt the following techniques of control over the cost of goods sold and operating expenses. They must adopt cost reduction techniques. Quantum of sales generated, should be improved and policy of purchase of fixed assets should be carefully planned and reviewed. There should be adequate amount of working capital and excessive working capital should be invested either in trade securities or should be used to repay borrowings. They must utilise their production capacity fully and reduce the interest burden gradually by increasing the owners' fund. They must follow the policy of financing fixed assets and strengthen the financial efficiency. Cost accounting and cost audit should be made mandatory for these units. They must create the responsibility centre and adopt proper techniques for planning and control of cash. Steel is crucial to the development of any modern economy and it is considered to be the backbone of human civilization. The level of per capita consumption of steel is treated as an important index of the level of socioeconomic development and living standards of the people in any country. It is a product of a large and technologically complex industry, having strong forward and backward linkages in terms of material flows and income generation. Finally, it can be concluded that the financial performance of selected units did not vary from one steel unit to another steel unit.

## 11. Limitations of the Study

The study was confined to only nine years from 2005-06 to 2013-14 and therefore, the data may not sufficient for generalisation. The

sample size was small and it could not sufficient for deriving accurate results. The study applied only ratios and one way ANOVA but there was a possibility of multiple regression analysis to trace out the accurate financial performance of selected units.

## 12. Scope of Further Research

In future, the financial performance of other selected companies may be identified for the research. There is a lot of scope for comparative analysis of private sector, selected public sector units and also there is a lot of scope to apply the techniques of operating cycle of working capital management.

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**Table-1: Test of Difference between the Gross Profit to Gross Sales Ratio of the Select Steel Companies**

Source of Variation	Sum of Squares	DOF	Mean Squares	Test Statistic	Table value
Between Samples	1669.80	3	556.60	0.47	2.89
within samples	9451.75	36	262.55		

**Source:** Annual Reports of the Select Steel Companies during the Year 2005-06 to 2013-14.

**Table-2: Test of Difference in Operating Profit Ratio of Select Steel Units**

Source of Variation	Sum of Squares	DOF	Mean Squares	Test Statistic	Table value
Between Samples	5140.10	3	1713.37	0.45	2.89
within samples	27702.35	36	769.51		

**Source:** Annual Reports of the Select Steel Companies during the Year 2005-06 to 2013-14.

**Table-3: Test of Difference in Net Profit Ratio of Select Steel Units**

Source of Variation	Sum of Squares	DOF	Mean Squares	Test Statistic	Table value
Between Samples	1411.65	3	470.55	0.10	2.89
within samples	1715.94	36	47.66		

**Source:** Annual Reports of the Select Steel Companies during the Year 2005-06 to 2013-14.

**Table-4: Test of Difference in Return on Capital Employed Ratio of Select Steel Units**

Source of Variation	Sum of Squares	DOF	Mean Squares	Test Statistic	Table value
Between Samples	5573.03	3	1857.68	0.26	2.89
within samples	17479.09	36	485.53		

**Source:** Annual Reports of the Select Steel Companies during the Year 2005-06 to 2013-14.

**Table-5: Test of Difference in Total Debt Equity Ratio of Select Steel Units**

Source of Variation	Sum of Squares	DOF	Mean Squares	Test Statistic	Table value
Between Samples	0.75	3	0.25	0.30	2.89
within samples	2.71	36	0.08		

**Source:** Annual Reports of the Select Steel Companies during the Year 2005-06 to 2013-14.

**Table-6: Test of Difference in Capital Gearing Ratio of Steel Units**

Source of Variation	Sum of Squares	DOF	Mean Squares	Test Statistic	Table value
Between Samples	20.52	3	6.84	1.22	2.89
within samples	300.08	36	8.34		

**Source:** Annual Reports of the Select Steel Companies during the Year 2005-06 to 2013-14.

**Table-7: Test of Difference in Financial Leverage Ratio of Select Steel Units**

Source of Variation	Sum of Squares	DOF	Mean Squares	Test Statistic	Table value
Between Samples	0.30	3	0.10	0.30	2.89
within samples	1.10	36	0.03		

**Source:** Annual Reports of the Select Steel Companies during the Year 2005-06 to 2013-14.

**Table-8: Test of Difference in Current Ratio of Select Steel Units**

Source of Variation	Sum of Squares	DOF	Mean Squares	Test Statistic	Table value
Between Samples	28.64	3	9.55	0.36	2.89
within samples	122.03	36	3.39		

**Source:** Annual Reports of the Select Steel Companies during the Year 2005-06 to 2013-14.

**Table-9: Test of Difference in Quick Ratio of Select Steel Units**

Source of Variation	Sum of Squares	DOF	Mean Squares	Test Statistic	Table value
Between Samples	22.29	3	7.43	0.36	2.89
within samples	95.31	36	2.65		

**Source:** Annual Reports of the Select Steel Companies during the Year 2005-06 to 2013-14.

**Table-10: Test of Difference in Gross Working Capital Cycle of Select Steel Units**

Source of Variation	Sum of Squares	DOF	Mean Squares	Test Statistic	Table value
Between Samples	0.47	3	0.16	0.36	2.89
within samples	2.02	36	0.07		

**Source:** Annual Reports of the Select Steel Companies during the Year 2005-06 to 2013-14.

**Table-11: Test of Difference in Net Working Capital Cycle of Select Steel Units**

Source of Variation	Sum of Squares	DOF	Mean Squares	Test Statistic	Table value
Between Samples	0.36	3	0.12	0.40	2.89
within samples	1.70	36	0.05		

**Source:** Annual Reports of the Select Steel Companies during the Year 2005-06 to 2013-14.

**Table-12: Test of Difference in Total Assets Turnover Ratio of Select Steel Units**

Source of Variation	Sum of Squares	DOF	Mean Squares	Test Statistic	Table value
Between Samples	1.14	3	0.38	0.06	2.89
within samples	0.81	36	0.02		

**Source:** Annual Reports of the Select Steel Companies during the Year 2005-06 to 2013-14.