IMPACT OF LIQUIDITY RATIOS ON RETURN ON CAPITAL EMPLOYED OF SELECTED STEEL COMPANIES IN INDIA

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Abstract
The study is focussed on investigating the association and impact assessment between the liquidity position and the company's profitability, therefore financial ratios commonly used have been considered as the key independent variables and the profitability of the company has been considered as dependent variable interpreted as Return on Capital Employed (ROEC) all cohesively influencing working capital management. To ascertain the inferences regarding degree and direction of the relationship among the variables correlation inferential statistics has been used. Variables having cause and effect relationship possess high degree of correlation in bivariate distribution. The simple regression analysis has also been used for impact assessment of the independent variables over dependent variable. The financial ratios are calculated from the financial data collected from CMIE database, Moneycontrol.com and Annual reports for the period 2013-2022 of the selected steel companies of India.

Key Words: Current Ratio, Debt Equity Ratio, Liquid Ratio, Return on Capital Employed, Impact Assessment, India, Steel Companies

Introduction

Liquidity provides capacity to a firm in completion of several obligations such as payment to creditors, bills payable and outstanding expenses. No firm can survive without liquidity. A firm not making profit may be considered as sick but having no liquidity may soon meet its downfall and ultimately die. Liquidity management, thus, is an important issue during financial decision making since its being a part of investment in assets that requires appropriate financing investment. However, working capital always being ignore in financial decision making since it involves investment and financing in short-term period. It also acts as a control in financial performance. Analysis of a firm's liquidity becomes important as it affects business day-to-day operation. But there is uncertainty in achievement of desired trade-off between liquidity and profitability during course of liquidity management. To look into the significance of equity and capital management which rationalises the present study, a rigorous literature review has been done around the liquidity management and its impact over the profitability of the company.

Review of Literature

This section presents review of related and relevant available literature at home and in abroad to find out the research gap, formulating research questions and to limit the scope of the present research. The outcome of the review of literature is summarized below keeping an eye on the above needs.

Korol (2016) studied on "Early warning models against bankruptcy risk for Central European and Latin American enterprises" and provided drawbacks for the model used by Alaka. Some restrictive assumptions that were considered are: (1) The variables (i.e. financial ratios) should have normal distributions, must be independent and must have high discriminative ability to separate the healthy companies from the distressed

ones; (2) The values for all the indicators for all the firms must be available and be complete (i.e. there should be no missing values for any variables); (3) The classification of firms must be clearly defined.

Valaskova (2017) in the paper titled "Quantification of the Company Default by Merton Model" mentions that the Credit Metrics model sees the risk of volatility in the portfolio while the Merton model respectively KMV model doesn't. The credit risk in the assets value volatility is seen by these two models. The default possibility or the possibility of change in rating category causes the volatility of the portfolio.

Kliestik (2018) in the paper "Calculation of distance to default" worked on the distance to default for evaluating the probability of default of a company. The default is usually associated with bankruptcy The KMV model is used for the same. The model defines that the failure of the analysed company occurs at a time when the market value of the business assets derived from the market price of the equity falls below the payable debt.

Mehdian (2019) in the paper titled "Measuring Financial Distress and Predicting Corporate Bankruptcy: An Index Approach" suggested a simple approach in order to employ a set of financial ratios as inputs to estimate an aggregate bankruptcy index (ABI). The value of this index is between 0 and 1 and it basically ranks the firms on the basis of their relative financial distress. Their findings was that ABI can be used to predict the bankruptcy of firms more accurately than Z-score. According to them ABI has relatively robust predictive power so it can be applied together with other models to predict corporate bankruptcy.

Özari (2020) in the paper "A Merton Model Approach to Assessing the Default Risk: An Application on Selected Companies from BIST100" showed that how the Merton Model approach can be used to estimate the default probabilities of selected BIST100 companies. There are four inputs used total debt of company, stock returns volatility, time and risk-free interest rates. The distance to default and expected default frequencies of the companies were calculated and their correlation with total debt was examined. There was positive strong relationship between debt and equity and between debt and expected default frequencies; negative relationship between debt and distance to default for the total time period of five years.

Alaka (2021) in the paper on "Systematic review of bankruptcy prediction models: Towards a framework for tool selection" proposed an integrated framework for bankruptcy prediction models on the basis of 13 criteria which includes accuracy, ability to use, small sample size and transparency of result.

Research Methodology
Objective
To analyse and examine the impact of current ratio, debt equity ratio, and liquidity ratio on return on capital employed of Selected Steel Companies in India

Hypothesis
Alternate Hypothesis (H1) - There is significant impact of current ratio, debt equity ratio, and liquidity ratio on return on capital employed of Selected Steel Companies in India

Null Hypothesis (H0) - There is no significant impact of current ratio, debt equity ratio, and liquidity ratio on return on capital employed of Selected Steel Companies in India

Methodology
The sampling process has been used for the study. The samples of the population are India Steel Companies. The non-probability convenience sampling method has been used in the research. The sample size is of five companies. The samples include the top five companies of India based on market capitalization. For the research work the secondary data have been used. The secondary data have been collected for the period 2013-2022 form the money control website. The variables for the research are current ratio, debt equity ratio, liquid ratio and profitability which is measured by return on capital employed. The regression technique is used to identify the impact. If the value of R^2 statistic is more than 0.7, then it is suggestive measure of significant impact as well as acceptance of alternate hypothesis.

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Research Analysis

Table 1: Correlation and Regression Summary Statistics

Sr. No.	Company	Dependent Variable	Independent Variable	R Statistic	R Square Statistic	Hypothesis Accepted / Rejected
1	Tata Steel	Return on Capital Employed	Current Ratio	0.409	0.167	Null Hypothesis Accepted
2		Return on Capital Employed	Liquid Ratio	0.789	0.623	Null Hypothesis Accepted
3		Return on Capital Employed	Debt Equity Ratio	0.724	0.524	Null Hypothesis Accepted
4	JSW Steel	Return on Capital Employed	Current Ratio	0.896	0.733	Alternate Hypothesis Accepted
5		Return on Capital Employed	Liquid Ratio	0.421	0.176	Null Hypothesis Accepted
6		Return on Capital Employed	Debt Equity Ratio	0.942	0.887	Alternate Hypothesis Accepted
7	SAIL	Return on Capital Employed	Current Ratio	0.382	0.146	Null Hypothesis Accepted
8		Return on Capital Employed	Liquid Ratio	0.488	0.238	Null Hypothesis Accepted
9		Return on Capital Employed	Debt Equity Ratio	0.956	0.915	Alternate Hypothesis Accepted
10	Jindal Stainless	Return on Capital Employed	Current Ratio	0.181	0.033	Null Hypothesis Accepted
11		Return on Capital Employed	Liquid Ratio	0.657	0.431	Null Hypothesis Accepted
12		Return on Capital Employed	Debt Equity Ratio	0.901	0.811	Alternate Hypothesis Accepted
13	Jindal Hisar	Return on Capital Employed	Current Ratio	0.924	0.855	Alternate Hypothesis Accepted
14		Return on Capital Employed	Liquid Ratio	0.897	0.805	Alternate Hypothesis Accepted
15		Return on Capital Employed	Debt Equity Ratio	0.245	0.060	Null Hypothesis Accepted

Source: Spss Output

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Findings Company Wise
<u>TATA STEEL</u>

1. **Return on Capital Employed and Current Ratio** – The R-value: shows the direction and the strength of the correlation. The bigger the value the more significant it is. In this case, the Pearson correlation coefficient (r = 0.409) shows a moderate positive correlation between the variables under investigation. Further the r square value = 0.167 predicts 16.70 % changes in return on capital employed. This means that null hypothesis is accepted. Thus there is no significant impact of Current Ratio on Return of Capital Employed.

2. **Return on Capital Employed and Liquid Ratio** – The R-value: shows the direction and the strength of the correlation. The bigger the value the more significant it is. In this case, the Pearson correlation coefficient (r = 0.789) shows a strong positive correlation between the variables under investigation. Further the r square value = 0.623 predicts 62.30% changes in return on capital employed. This means that null hypothesis is accepted. Thus there is no significant impact of Liquid Ratio on Return of Capital Employed.

3. **Return on Capital Employed and Debt Equity Ratio -** The R-value: shows the direction and the strength of the correlation. The bigger the value the more significant it is. In this case, the Pearson correlation coefficient (r = 0.724) shows a strong positive correlation between the variables under investigation. Further the r square value = 0.524 predicts 52.40% changes in return on capital employed. This means that null hypothesis is accepted. Thus there is no significant impact of Debt Equity Ratio on Return of Capital Employed.

<u>JSW STEEL</u>

1. **Return on Capital Employed and Current Ratio** – The R-value: shows the direction and the strength of the correlation. The bigger the value the more significant it is. In this case, the Pearson correlation coefficient (r = 0.896) shows a strong positive correlation between the variables under investigation. Further the r square value = 0.733 predicts 73.30% changes in return on capital employed. This means that alternate hypothesis is accepted.

Thus there is significant impact of Current Ratio on Return of Capital Employed.

2. **Return on Capital Employed and Liquid Ratio** – The R-value: shows the direction and the strength of the correlation. The bigger the value the more significant it is. In this case, the Pearson correlation coefficient (r = 0.421) shows a moderate positive correlation between the variables under investigation. Further the r square value = 0.176 predicts 17.60% changes in return on capital employed. This means that null hypothesis is accepted. Thus there is no significant impact of Liquid Ratio on Return of Capital Employed.

3. **Return on Capital Employed and Debt Equity Ratio -** The R-value: shows the direction and the strength of the correlation. The bigger the value the more significant it is. In this case, the Pearson correlation coefficient (r = 0.942) shows a strong positive correlation between the variables under investigation. Further the r square value = 0.887 predicts 88.70% changes in return on capital employed. This means that alternate hypothesis is accepted. Thus there is significant impact of Debt Equity Ratio on Return of Capital Employed.

<u>SAIL</u>

1. **Return on Capital Employed and Current Ratio** – The R-value: shows the direction and the strength of the correlation. The bigger the value the more significant it is. In this case, the Pearson correlation coefficient (r = 0.382) shows a weak positive correlation between the variables under investigation. Further the r square value = 0.146 predicts 14.60 % changes in return on capital employed. This means that null hypothesis is accepted. Thus there is no significant impact of Current Ratio on Return of Capital Employed.

2. **Return on Capital Employed and Liquid Ratio** – The R-value: shows the direction and the strength of the correlation. The bigger the value the more significant it is. In this case, the Pearson correlation coefficient (r = 0.488) shows a moderate positive correlation

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between the variables under investigation. Further the r square value = 0.238 predicts 23.80% changes in return on capital employed. This means that null hypothesis is accepted. Thus there is no significant impact of Liquid Ratio on Return of Capital Employed.

3. **Return on Capital Employed and Debt Equity Ratio -** The R-value: shows the direction and the strength of the correlation. The bigger the value the more significant it is. In this case, the Pearson correlation coefficient (r = 0.956) shows a strong positive correlation between the variables under investigation. Further the r square value = 0.915 predicts 91.50% changes in return on capital employed. This means that alternate hypothesis is accepted. Thus there is significant impact of Debt Equity Ratio on Return of Capital Employed.

JINDAL STAINLESS

1. **Return on Capital Employed and Current Ratio** – The R-value: shows the direction and the strength of the correlation. The bigger the value the more significant it is. In this case, the Pearson correlation coefficient (r = 0.181) shows a weak positive correlation between the variables under investigation. Further the r square value = 0.033 predicts 3.30 % changes in return on capital employed. This means that null hypothesis is accepted. Thus there is no significant impact of Current Ratio on Return of Capital Employed.

2. **Return on Capital Employed and Liquid Ratio** – The R-value: shows the direction and the strength of the correlation. The bigger the value the more significant it is. In this case, the Pearson correlation coefficient (r = 0.657) shows a moderate positive correlation between the variables under investigation. Further the r square value = 0.431 predicts 43.10% changes in return on capital employed. This means that null hypothesis is accepted. Thus there is no significant impact of Liquid Ratio on Return of Capital Employed.

3. **Return on Capital Employed and Debt Equity Ratio -** The R-value: shows the direction and the strength of the

correlation. The bigger the value the more significant it is. In this case, the Pearson correlation coefficient (r = 0.901) shows a strong positive correlation between the variables under investigation. Further the r square value = 0.811 predicts 81.10% changes in return on capital employed. This means that alternate hypothesis is accepted. Thus there is significant impact of Debt Equity Ratio on Return of Capital Employed.

JINDAL HISAR

1. **Return on Capital Employed and Current Ratio** – The R-value: shows the direction and the strength of the correlation. The bigger the value the more significant it is. In this case, the Pearson correlation coefficient (r = 0.924) shows a strong positive correlation between the variables under investigation. Further the r square value = 0.855 predicts 85.50% changes in return on capital employed. This means that alternate hypothesis is accepted. Thus there is significant impact of Current Ratio on Return of Capital Employed.

2. **Return on Capital Employed and Liquid Ratio** – The R-value: shows the direction and the strength of the correlation. The bigger the value the more significant it is. In this case, the Pearson correlation coefficient (r = 0.897) shows a strong positive correlation between the variables under investigation. Further the r square value = 0.805 predicts 80.50% changes in return on capital employed. This means that alternate hypothesis is accepted. Thus there is significant impact of Liquid Ratio on Return of Capital Employed.

3. **Return on Capital Employed and Debt Equity Ratio -** The R-value: shows the direction and the strength of the correlation. The bigger the value the more significant it is. In this case, the Pearson correlation coefficient (r = 0.245) shows a weak positive correlation between the variables under investigation. Further the r square value = 0.006 predicts 0.6% changes in return on capital employed. This means that null hypothesis is accepted. Thus there is

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no significant impact of Debt Equity Ratio on Return of Capital Employed.

Conclusion

1. **Current Ratio (CR):** It is the ability of a company for the short-term obligations' payment or payments due within one year is measured by this ratio, which also capacitates a company with the method of maximising current assets satisfying current debt and payables. The current ratio is very important for JSW Steel as well as Jindal Hisar.

2. **Liquid Ratio (LR):** It tells capacity of a firm for the payment of its current liabilities without getting any additional financing or without selling its inventory. The higher liquid ratio leads to the stronger financial health of the firm. The liquid ratio is very important for Jindal Hisar.

3. **Debt Equity Ratio (DER):** Tends to compare liabilities of a firm to the shareholders' equity that can be helpful in evaluating the extent of leverage being used by the firm. Higher the leverage ratio tends to reflect a firm with higher risk to shareholders. The debt equity ratio is very important for JSW Steel, SAIL as well as Jindal Hisar.

4. **Return on Capital Employed (ROCE):** It tells profit or operating income generated by the firm on employment of one unit of investment value.

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