

The Effectiveness of Ratio Analysis to Estimate Working Capital Management of National Fertilizers in India

Vikash Saini

Research Scholar, Department of ABST, University of Rajasthan, Jaipur-302004, India.

Received: May 23, 2018

Accepted: July 18, 2018

ABSTRACT

The effective working capital management is very important because it affects the performance and liquidity of the firms. The main objective of working capital management is to reach optimal balance between working capital management components. Therefore firms try to keep an optimal level of working capital that maximizes their value. This paper investigates the relationship between working capital management and the firm's performance for a sample of public sector Company named National Fertilizers Limited for the period of 10 years from 2008 to 2017 with the help of ratio analysis. According to findings the company belongs to average condition, which indicates that the level of working capital management of the corporation is not high. The study indicating that ratio analysis is the best tool to estimate working capital performance for the companies.

Keywords: Finance; National Fertilizers; Ratio Analysis; Working Capital Management.

I. INTRODUCTION

In today's competitive world maintaining financial strength on a day to day basis has become a challenge. Every firm wants to see themselves financially sound. The financial attributes like liquidity, solvency and profitability can be improved by effective implementation of the working capital management. Working capital management decisions are very important and strategic because they affect the firm's value. Working capital management involves managing current assets and current liabilities of firms. The current assets are cash and cash equivalents, marketable securities, accounts receivable and inventories. The current liabilities are accounts payable, expenses payable, including accrued wages and taxes and notes payable. A narrower definition for the working capital is inventory + accounts receivable – accounts payable. So according to this definition, working capital management is managing inventory, accounts receivable and accounts payable. In this paper, an attempt has been made to use ratio analysis to have an insight into the examination of working capital management of selected public sector company of India.

Review of Literature

In literature, traditional definition of working capital is current assets minus current liabilities (Preve and Sarria-Allende, 2010). Current assets include firm's inventories, accounts receivable, and minimum level of liquidity. Shin and Soenen (1998) studied the relationship between working capital management and profitability of firms. Shin and Soenen used Net Trade Cycle (NTC) instead of Cash Conversion Cycle to measure working capital management. The difference is components of CCC are expressed as a percentage of sales in NTC. They founded a strong negative relationship between NTC and corporate profitability for a large sample of listed American firms for the periods between 1975 and 1994. Lazaridis and Tryfonidis (2006) used a sample of 131 companies listed in the Athens Stock Exchange (ASE) for the period of 2001-2004. They founded a significant negative relationship between cash conversion cycle and gross operating profit. The findings reveal that managers can create profits for their companies by handling correctly the cash conversion cycle and keeping each component (accounts receivable, accounts payable and inventory) to an optimal level.

Similarly, Dong and Su (2010) examined working capital management effects on firms' profitability of listed Vietnamese firms from 2006-2008. The authors find that, a significantly negative relationship exists between profitability, measured as gross operating profit and the components of cash conversion cycle (inventory days, and receivable days). Furthermore, the study also observes a statistically significant positive association between profitability and accounts payable days. These findings imply that increasing firms' inventory and receivable days lead to a decreasing profit while significant financial success can be attained with increased payable days.

II. METHODOLOGY

The study has been confined to only select public sector Company named National Fertilizers Limited. It confines itself to issues relating to the financial performance only.

Objectives of the Study:

The objectives of the study are as follows:

1. To study the working capital management of the company in past 10 years.
2. To investigate the relationship between the various components of working capital management and profitability of the company over the study period.
3. To predict the financial viability of the company.

Hypotheses of the Study:

1. Null Hypothesis: The Correlation between working capital and profitability of this company is not significant.
Alternative Hypothesis: The Correlation between working capital and profitability of this company is significant.
2. Null Hypothesis: The Correlation between profit after tax and total sales of this company is not significant.
3. Alternative Hypothesis: The Correlation between profit after tax and total sales of this company is significant.

Data Collection & Research Sample:

A moderately lengthy period was deemed necessary to arrive at meaningful and purposeful inferences. A ten year period beginning at 2007-08 and ending with 2016-17 was adopted for the present study. The data has been collected from the secondary sources comprises of published annual reports, various journals and information from the related websites. The collected data was classified, tabulated and analyzed in a systematic manner. The data was analyzed with the help of ratio analysis. There are four categories of ratios, which are used in this study: these are: 1. Liquidity ratios, which measure a firm's ability to meet cash needs as they arise; 2. Activity ratios, which measure the liquidity of specific assets and the efficiency of managing assets; 3. Leverage ratios, which measure the extent of a firm's financing with debt relative to equity and its ability to cover interest and other fixed charges; 4. Profitability ratios, which measure the overall performance of a firm and its efficiency in managing assets. In addition to that, the study used statistical tools like mean, standard deviation and correlation.

1. Liquidity Ratios:

- **Current Ratio-** The current ratio is a commonly used measure of short-run solvency, the ability of the firm to meet its debt requirements as they come due. Current liabilities are used as the denominator of the ratio because they are considered to represent the most urgent debts, requiring retirement within one year or one operating cycle.
- **Quick Ratio-** The quick or acid-test ratio is a more rigorous test of short-run solvency than the current ratio because the numerator eliminates inventory, considered the least liquid current asset and the most likely source of losses.

2. Activity Ratios:

- **Inventory Turnover Ratio-** This ratio is defined as sales divided by inventories. It measures how quickly a company's inventory is sold out, or turned over. The ratio is important because the faster the inventories turn, the greater the profit.
- **Receivables Turnover Ratio-** The debtor's turnover gives the number of times debts are collected during the years. The turnover is found by dividing net credit sales (if not available, then total sales) by the average debtors.
- **Total Assets Turnover Ratio-** This ratio is derived by dividing sales by total assets. This ratio indicates the productivity of total assets, an increase of the ratio over time is regarded as a satisfactory result and a decrease over time is regarded as unsatisfactory.
- **Working Capital Turnover Ratio-** Working capital turnover ratio indicates the speed at which the working capital is utilised for business operations. It is the velocity of working capital ratio that indicates the number of times the working capital is turned over in the course of a year.

3. Leverage Ratios:

- **Debt Equity Ratio-** This ratio is computed by dividing total liabilities by total equity. The D/E ratio gauges to what extent a company is operating on funds invested by shareholders and to what extent it is dependent upon funds borrowed from creditors.
- **Proprietary Ratio-** It is also known as equity ratio. This ratio establishes the relationship between shareholders' funds to total assets of the firm. The shareholder's fund is the sum of equity share capital, preference share capital, reserves and surpluses.

- **Solvency Ratio-** Solvency ratio measures a firm's total debts as a percentage of its total assets. In a sense, the solvency ratio shows a company's ability to pay off its liabilities with its assets. In other words, this shows how many assets the company must sell in order to pay off all of its liabilities.
- **Capital Employed Ratio-** Capital Employed Ratio indicate the extent to which the long term funds are sunk in fixed assets which are supplied by creditors and owners of the firm.

4. Profitability Ratios:

- **Return on Capital Employed-** This ratio explains the relationship between total profits earned by the business and total investments made or total assets employed. This ratio thus measures the overall efficiency of the business operations.
- **Return on Equity Capital-** This ratio is calculated by dividing net income by total equity capital. ROE measures how efficiently a company uses owner's equity to generate profit.

Ratio formulas for the study:

- Current Ratio(CR):- Current Assets / Current Liabilities
- Quick Ratio(QR):- Quick Assets / Current Liabilities
- Inventory Turnover Ratio(ITR):- Sales / Average Stock
- Receivable Turnover Ratio(RTR):- Net Credit Sales / Average Receivables
- Total Assets Turnover Ratio(TATR):- Total Sales / Total Assets
- Working Capital Turnover Ratio(WCTR):- Total Sales / Working capital
- Debt Equity Ratio(D/E Ratio):- Total Debt / Total Equity
- Proprietary Ratio(PR):- Proprietor's Fund / Total Assets
- Solvency Ratio(SR):- Total Debt / Total Assets
- Capital Employed Ratio(CER):- Fixed Assets / Capital Employed
- Return on Capital Employed(RoCE):- Net Profit / Capital Employed * 100
- Return of Equity Capital(RoEC):- NPAT-PSD / Paid up Equity share capital * 100

Profile of the National Fertilizers ltd

National Fertilizers Limited (NFL), a Schedule 'A' & a Mini Ratna (Category-I) Company, having its registered office at New Delhi was incorporated on 23rd August 1974. Its Corporate Office is at NOIDA (U.P). It has an authorized capital of Rs. 1000 crore and a paid up capital of Rs. 490.58 crore out of which Government of India's share is 74.71 % and 25.29 % is held by financial institutions & others. NFL has five gas based Ammonia-Urea plants viz. Nangal & Bathinda plants in Punjab, Panipat plant in Haryana and two plants at Vijaipur at District Guna, in Madhya Pradesh. The company currently has a total annual installed capacity of 35.68 LMT (Re-assessed capacity of 32.31 LMT) & is the 2nd largest producer of Urea in the country with a share of about 16% of total Urea production in the country. The brand name of the company is popularly known in the market as 'KISAN'. The company has also started production of certified seeds under its Seeds Multiplication Program for sale under its own brand name as Kisan Beej. The Company is equally committed towards society by taking responsibility for the impact of their activities on customers, employees, shareholders, communities and the environment in all aspects of their operations.

III. FINDINGS

Table-1 Various Ratios for National Fertilizers

| | 2007-08 | 2008-09 | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 | 2014-15 | 2015-16 | 2016-17 | Average (Mean) |
|------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------------|
| CR | 1.76 | 1.72 | 2.61 | 2.12 | 1.11 | 1.13 | 1.14 | 1.11 | 1.14 | 1.12 | 1.50 |
| QR | 1.30 | 1.33 | 2.18 | 1.76 | 0.92 | 1.02 | 1.07 | 1.06 | 1.06 | 1.01 | 1.27 |
| ITR | 4.26 | 4.83 | 4.88 | 5.16 | 3.76 | 4.07 | 4.71 | 7.22 | 4.63 | 4.63 | 4.82 |
| RTR | 2.09 | 1.81 | 1.84 | 1.17 | 0.80 | 0.54 | 0.43 | 0.41 | 0.48 | 0.62 | 1.02 |
| TATR | 0.56 | 0.61 | 0.58 | 0.56 | 0.30 | 0.15 | 0.14 | 0.15 | 0.19 | 0.26 | 0.35 |
| WCTR | 2.59 | 2.63 | 1.32 | 1.68 | 6.50 | 3.41 | 2.40 | 2.97 | 2.73 | 4.21 | 3.04 |
| D/E Ratio | 1.06 | 0.86 | 0.83 | 1.01 | 2.65 | 6.00 | 8.21 | 8.09 | 6.54 | 4.57 | 3.98 |
| PR | 0.48 | 0.54 | 0.55 | 0.50 | 0.27 | 0.14 | 0.11 | 0.11 | 0.13 | 0.18 | 0.30 |
| SR | 0.52 | 0.46 | 0.45 | 0.50 | 0.73 | 0.86 | 0.89 | 0.89 | 0.87 | 0.82 | 0.70 |
| CER | 0.39 | 0.41 | 0.33 | 0.53 | 0.89 | 0.66 | 0.6 | 0.65 | 0.71 | 0.82 | 0.60 |
| RoCE | 5.22% | 5.26% | 8.15% | 5.84% | 3.50% | -2.32% | -1.14% | 0.38% | 3.26% | 4.15% | 3% |
| RoEC | 22.15% | 19.87% | 34.96% | 28.23% | 25.83% | -34.80% | -18.29% | 5.35% | 40.17% | 42.43% | 17% |

Interpretation:-

The figure indicates that National Fertilizers Ltd. Company's current ratio was not according to current ratio standard except the year 2009-10 & 2010-11, which shows that company not maintaining its current resources properly. The quick ratio of National Fertilizer's has an increased from year 2007-08 to 2009-10, i.e. 1.30 to 2.18. In the year 2010-11 it was not increased but it was according to standard norms. In the year 2011-12 quick ratio decreased to 0.92, which is near to standard norms. After that till 2016-17 the quick ratio has good values. It shows that company's assets are highly liquid. From the year 2007-08 to 2010-11 inventories turnover ratio is increasing in every year. During the year 2011-12 it was decreased to 3.76, and then till the year 2014-15 it was increased to 4.07 to 7.22. The high value of this ratio for the NFL shows that company is making good sales of own inventories. Receivables turnover ratio is not so good for the NFL. It was high in first four years, but in last six years it was lower, which is not good indication for the company. But total assets turnover ratio is high in the study period. The company is showing positive and good working capital turnover ratio. It was higher in the year 2011-12.

The above table shows D/Es ratio is very high in last six years. This ratio was 1.06 in the year 2007-08, which is high compared to the desirable ratio. In the year 2008-09 and 2009-10 it is 0.86 and 0.83, which is according to standard norms. From the year 2011-12 to 2016-17 it was very high, i.e. 2.65, 6.00, 8.21, 8.09, 6.54 and 4.57, which shows that company is depending on outsider's debt. Proprietary ratio is very lower in all years. This ratio was 0.48 in the year 2007-08, which is low compared to the desirable ratio. In the year 2008-09 and 2009-10 it is 0.54 and 0.55, which is not according to standard norms. Solvency ratio is good in all years. This ratio was 0.52 in the year 2007-08, which is good compared to the desirable ratio. In the year 2008-09 and 2009-10 it is 0.46 and 0.45, which is according to standard norms. From the year 2011-12 to 2016-17 it was increase, i.e. 0.73 to 0.89. Capital employed ratio is low than desirable ratio. In this company it was low in first four years, but in next year's it was high, which is a good ratio for the company. The profitability indicators like return on capital employed (ROCE) and equity (ROE) has shown consistent performance in the first five years but in mid years these were negative.

IV. DISCUSSIONS

The overall values of the National Fertilizers Ltd. during the study period under review have been also depicted in the table 1. It is understood from the table that during the study years the company registered the score lower than standard value of current ratio. The table 1 also revealed that quick ratio is high and according to standard, it indicates that company is in good liquid form. Turnover ratios are also showing good position of the company except the receivables turnover ratio. Leverage ratio indicating that company is more depending on outsider's fund. Profitability ratios are showing average situation of profitability of the company in the study period.

V. CONCLUSIONS

This study evaluated working capital management of National Fertilizers Limited through ratio analysis. The study covers 10 years of time frame from 2008 to 2017. According to findings the company belongs to average condition, which indicates that the working capital management of the corporation is not on high level. This result will provide a constraining signal to both internal and external users of financial statement in planning, controlling and decision making. The ratio analysis has the ability to assist management for working capital management to avoid financial difficulties.

VI. REFERENCES

1. Amel, D., Barnes, C., Panetta, F., & Salleo, C. (2004): "Consolidation and Efficiency in the Financial Sector: A Review of the International Evidence", *Journal of Banking and Finance*, vol. 28, no. 10, pp. 2493-2519.
2. Athanoglou, PP, Brissimis, SN & Delis, MD (2008): "Bank-Specific, Industry-Specific and Macroeconomic Determinants of Bank Profitability", *Journal of International Financial Markets, Institutions and Money*, vol. 18, no. 2, pp. 121-136.
3. Beaver, W. H. (1968): "Market Prices, Financial Ratios and the Prediction of Failure", *Journal of Accounting Research*, vol. 6(2), pp.179-193.
4. Basu, S. (1977): "Investment Performance of Common Stocks in Relation to their Price-Earnings Ratios: A Test of the Efficient Market Hypothesis", *Journal of Finance*, vol. 32, no. 3, pp. 663-682.
5. Barnes, Paul (1987): "The Analysis and Use of Financial Ratios: A Review Article", *Journal of Business, Finance and Accounting*, vol. 14, pp.449-461.
6. Chary, T. S., Kaskuri, R., & Kumar, S. K. (2011): "Relationship between Working Capital and Profitability: A Statistical Approach", *International Journal of Research in Finance and Marketing*, vol. 1(7), pp. 1-16

7. Deran, A., Iskenderoglu O., and Erduru, I. (2014): "Regional Differences and Financial Ratios: A Comparative Approach on Companies of ISE City Indexes", *International Journal of Economics and Financial Issues*, Vol. 4, No. 4, pp.946-955.
8. Desrani, H. R. (2013): "Comparative Study of Ratio Analysis of Selected Textile Companies of India", *International Journal of Research in Humanities and Social Sciences*, June, Vol. 1, Issue: 4, pp.43-52.
9. Ganesan (2007): "An Analysis of Working Capital Management Efficiency in Telecommunication Equipment Industry", *Rivier Academic Journal*, vol. 3(2), pp. 1-10.
10. Halkos, G. and Salamouris, D. (2004): "Efficiency Measurement of the Greek Commercial Banks with the Use of Financial Ratios: A Data Envelope Analysis Approach", *Management Accounting Research*, vol. 15 (2), pp. 201-224.
11. Islam, A. Md. (2014): "An Analysis of the Financial Performance of National Bank Limited Using Financial Ratio", *Journal of Behavioural Economics, Finance, Entrepreneurship, Accounting and Transport*, Vol. 2, No. 5, pp.121-129.
12. Kheradyar, S., Ibrahim I., and Nor F. M. (2011): "Stock Return Predictability with Financial Ratios", *International Journal of Trade, Economics and Finance*, October, Vol. 2, No. 5, pp.391-396.
13. Nia, S. H. (2015): "Financial Ratios between Fraudulent and Non-Fraudulent Firms: Evidence from Tehran Stock Exchange", *Journal of Accounting and Taxation*, March, vol.7 (3), pp.38-44.
14. Sareewiwatthana, P. (2013): "Common Financial Ratios and Value Investing in Thailand", *Journal of Finance and Investment Analysis*, vol. 2, no.3, pp.69-85.