Working Capital Management and Profitability in State Owned Companies: A Case Analysis of National Fertilizers Ltd.

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Abstract: ***The present study is conducted to further extend the prior studies to examine the relationship between efficient working capital management and financial performance (profitability) in a state owned company. For this purpose we have selected National Fertilizes Ltd. We have sourced data from audited financial statements of company from year 2000-01 to 2011-12 and compiled as per study requirement. The working capital ratios were used as independent variable and profitability (ROE) has been used as dependent variable to test the hypothesis. Data has been analyzed using correlation and regression statistics. The results shows that the ratios such as Working Capital Ratio, Acid Test Ratio, Current Assets to Total Assets Ratio, Inventory Turnover Ratio, Debtors Turnover Ratio and Cash Turnover Ratio; had either a negative or lower degree of positive correlation with profitability.***

Keywords: Working Capital, liquidity, Profitability, ROE, Working Capital Ratios

1. Introduction

Working capital has multiple connotations for different users. From accountants' perspective it refers to the current assets minus current liabilities differentials; from the finance manager point of view it is understood as a total investment made in current assets; for production managers' it implies to the total funds that requires for day to day operations. However, irrespective of its undertone, the efficient working capital management is one of the most important determinants for financial viability and maximization of shareholders wealth of a firm. Sufficient working capital is necessary to sustain sales activity as it deals with the problem arising out of lack of immediate realization of cash against goods sold. Efficient working capital management leads to increased cash flows which eventually reduces the need of external borrowings and therefore, increasing the profitability of the firm.

The underlying issue with working capital management is to balance between liquidity and profitability. The working capital is said to be managed efficiently when a tradeoff between liquidity and profitability is made. To make a tradeoff between liquidity and profitability, a manager relentlessly tries to optimize the cash balance that allows him to meet day-to-day expenses but minimizes the cost of holding cash. He also optimizes the level of inventory that allows for continuous production but lessens the investment in raw materials and reduces reordering costs. He carefully follows the ageing schedule to collect funds from debtors without any delay, leading to zero default cost. About two third time of a finance manager is spent on managing working capital which leads to efficient utilization of current assets converting to higher profitability.

Working Capital may have positive or negative balance. A positive WC balance means, that a company is able to support its day-to-day operations. i.e. to serve both maturing short-term debt and upcoming operational expenses. High positive balance leads to higher liquidity and very good image among creditors but at the same time it lowers the profitability and vice-a-verse. The efficiency of WCM is measured using various financial ratios such as Working Capital Ratio, Current Ratio, Acid Test Ratio, and Current Assets to Total Assets Ratio, Current assets to Sales Ratio, Working Capital Turnover Ratio, Inventory Turnover Ratio, Debtors Turnover Ratio and Cash Turnover Ratio etc. High working capital ratios often indicate that high amount is tied up in receivables and inventories. The extra working capital is not utilized in business operations and earns no profit for the firm. It results in unnecessary accumulation of inventories, leading to inventory mishandling, waste, theft etc. This increases the length of operating cycle and enhances the borrowing cost and ultimately lowering the portability. On other hand low working capital ratios reduces the liquidity but enhance the profitability. However this aggressive policy of WCM is equally not good.

2. Literature Review

Agha Hina (2014) in her study on, working capital management and its profitability in pharmaceutical company in Pakistan; observed a significant impact of working capital management on profitability of pharmaceutical company. Kaur Harsh Vineet and Singh Sukhdev (2013) in their study on, Managing Efficiency and Profitability through Working Capital on BSE 200 companies; concluded that the results of their study support earlier studies revealing that efficient management of working capital significantly affects the profitability. Ramana Venkata N. et al (2013) in their study on, impact of receivables management on working capital and profitability on select cement companies in India from a period of 2001-2010; investigated that working capital and profitability were considered as dependent variables. The investigation reveals that the receivable management across cement industry is efficient and showing significant impact on working capital and profitability. Ganesamoorthy L. and Rajavathana R. (2013) in their study on, effects of working capital management on profitability of select automobile companies in India; they found insignificant relationship between working capital management and profitability of Tata Motors and Mahindra and Mahindra. Chatterjee Saswata (2012) in his study on, The Impact of Working Capital on the Profitability on 100 Indian companies listed in the Bombay Stock Exchange; concluded that there is a strong negative association between the components of the working capital management and the profitability ratios of the Indian firms which indicates that, as the cash conversion cycle increases it tend to reduce the profitability of the company, and the managers might increase the shareholder's value by shortening cash conversion cycle to a minimum level. Sharma A K and Kumar Satish (2011) in their study on, Effect of Working Capital Management on Firm Profitability, on a sample of 263 non-financial BSE 500 firms listed at the Bombay Stock (BSE) from 2000 to 2008; reveal that working capital management and profitability is positively correlated in Indian companies. The study further reveals that inventory of number of days and numbers of day's accounts payable are negatively correlated with a firm's profitability, whereas number of days accounts receivables and cash conversion period show a positive relationship with profitability. Kaur Jasmine (2010) in her study on, working capital management in Indian Tyre Industry; revealed that efficient management of working Capital and its components have a direct effect on the profitability of tyre industry. Ramachandran and Janakiraman (2009) in their study on, relationship between working capital management efficiency and earnings before interest and tax of the paper industry in India; they analyzed that cash conversion cycle and inventory days were negatively correlated with EBIT, while accounts payable days and accounts receivable days were positively correlated with EBIT. Singh Pradeep (2008) in his study tried to evaluate, the effect of size of inventory and its impact on working capital management in Indian Farmers Fertilizer Cooperative Limited (IFFCO) and National Fertilizer Limited (NFL); It was found that the size of inventory directly affects working capital and its management and there was a need for improvement in inventory utilization and turnover to enhance the profitability. Teruel and Solano (2007) in their study analyzed the WCM of Spanish firms by analyzing the data set from year 1996-2002. They concluded that the firms can improve profitability by reducing the cash conversion cycle. Padachi Kesseven et al. (2006) in their study on, Working Capital Structure and Financing pattern of Mauritian SMEs, found a strong significant relationship between working capital management and profitability. Garcia-Teruel and Martinez-Salano, (2004) in their study of, effect of working capital management on profitability using a sample of 8872 small and medium size Spanish firms; investigated a positive relationship between WCM and profitability and found that a shorter cash conversion cycle can improve the firms' profitability. Deloof (2003)in his analysis on Belgian firms observed that they can increase their profitability by reducing the debtors' collection period and the days-in-inventory period. Wang (2002) in his study on Japanese and Taiwanese firms opined that a shorter cash conversion cycle will lead to a better operating performance of firms.

3. Problem Statement

It is generally observed that private owned companies are more concerned with their bottom line and hence the efficiency at each operating level including working capital management is rigorously maintained. But when we compare and contrast the same for a state owned company, most of the time, we find a different picture. From various studies conducted in past, it was observed that working capital management has a significant relationship with profitability in private owned companies when compared to state owned companies. Thus the problem addressed in present study is to inquire the efficiency of managing working capital in a state owned company and investigate whether it leads to higher profitability.

4. Objectives

The primary objective of our study is to further extend the prior studies to examine the relationship between efficient management of working capital and financial performance (profitability) in a state owned company and; the second objective is to investigate the above relationship in a fertilizer industry. It is hypothesized that there is a significant relationship between efficient working capital management and profitability in a state owned Fertilizer Company.

5. Approach

The present study is a descriptive research in nature and used secondary data collected from published annual reports of National Fertilizers Limited for a period of twelve years ranging from year 2000-01 to 2011-12. The data used in this study are reliable and validated as they have been sourced from published (audited) financial statement of company, including balance sheet, profit & loss statement, cash flow statements, explanatory notes etc. The data so collected was edited and re-compiled in tables, chats in MS word and Excel as per the requirement of study.

The dependent variable studied in the present study was key profitable ratio Return on Equity (ROE), and the independent variables were the key working capital ratios as identified Working Capital Ratio (WCR), Acid Test Ratio (ATR), Current Assets to Total Assets Ratio (CTTR), Current assets to Sales Ratio (CTSR), Working Capital Turnover Ratio (WTR), Inventory Turnover Ratio (ITR), Debtors Turnover Ratio (DTR) and Cash Turnover Ratio (CTR).

The compiled data set was analyzed through correlation and regression tests. Correlation test was run to examine the relationship between working capital ratios and profitability. To examine the sensitivity of ROE to changes in the level of working capital of the company, multiple regression tests were used. Statistical analysis has been done in SPSS.

6. Data Analysis, Results and Discussion

International Journal of Science and Research (IJSR)
ISSN (Online): 2319-7064
Index Copernicus Value (2013): 6.14 | Impact Factor (2013): 4.438

Table 1: Summary of Relationship Statistics between working capital ratios and profitability (ROE)

	WC Ratios	*WCR*	*ATR*	*CTTR*	*CTSR*	*WTR*	*ITR*	*DTR*	*CTR*
ROE	Correlation Coefficient	-0.577	0.526	0.197	-0.813	-0.747	-0.686	0.681	0.412
	P value	0.423	0.474	0.803	0.187	0.253	0.314	0.319	0.588

Sources: Author's compilation from data analysis in SPSS

To examine the relationship between different working capital ratios and profitability, the correlation coefficient was calculated and its significance level was checked thereafter. As we know that high liquidity leads to lower profitability and vice versa. We observed a negative correlation between WCR and ROE as the coefficient was found -0.577, which states that high liquidity has a negative impact on profitability and vice-versa. However p value at the same time was found insignificant and we could not find strong evidence to accept our alternate hypothesis that there is a significant relationship between WCR and ROE.

The high asset turnover indicates efficient utilization of investment leading to a positive impact on profitability. Our observation of correlation coefficient between ATR and ROE supports the above statement. We found a positive correlation (0.526) between ATR and ROE. This state that high asset turnover ratio at NFL has positive impact on profitability and vice versa. But we found this statistically insignificant for NFL. We found a lower degree of positive correlation coefficient between CTTR and ROE 0.197. This relationship was also found statistically insignificant.

We found a high degree of negative relationship (-0.813) between CTSR and ROE. This means policy at CTSR front has a negative impact on profitability, however we could not find it statistically significant and we had to reject our alternate hypothesis. Generally a high working capital turnover ratio is considered to be better as this validate that the company is utilizing its working capital more efficiently. But our correlation coefficient between WTR and ROE was found moderately negative (-0.747), which indicates that higher working capital turnover ratio has a negative impact on profitability and vice versa. However we could not find strong evidence to accept our alternate hypothesis that there is a significant relationship between WTR and ROE as our observer p value was much higher than alfa value. The high inventory turnover ratio is considered to be good as it reduces the liquidity and increases the profitability and hence an efficient management at this front. But some time high inventory turnover also indicate a shortage or inadequate inventory levels, which may lead to reduced sale. But we observed a moderate negative correlation (-0.686) between ITR and ROE. It means that high inventory turnover impact the profitability of company negatively and vice versa. However the coefficient was found statistically insignificant.

A high receivables turnover ratio implies that the collection of accounts receivable are efficient at the company, leading to higher profitability. We also observed the same relationship between DTR and ROE at NFL. We found a moderate degree of positive correlation coefficient (0.681), which indicates that higher the DT ratio better the profitability. But the statistical results found it insignificant. On the same line we found a positive relationship (0.412) between CTR and ROE, which indicates higher cash turnover will lead to higher profitability and vice versa. But found statistically insignificant and hence we could not find strong evidence to accept our alternate hypothesis that there is a significant relationship between CTR and ROE at NFL.

Table 2: Summary of Regression Statistics between working capital ratios and profitability (ROE)

R	R Square	Adjusted R Square	SE	F
0.964	0.93	0.649	2.06668	0.253

Sources: Author's compilation from data analysis in SPSS

In order to examine the influence of working capital ratios as a whole on profitability, a linear multiple regression model was used. The regression model used is this analysis is, ROE=b0 + b1* WCR + b2 *ATR + b3 *CTTR + b4 *ITR + b5 *DTR+ b6 *CTR. The adjusted R value is found positive which indicates that all component of working capital as a whole have a positive impact on profitability. However F value is found statistically insignificant, which indicates the insignificant relationship of working capital management with profitability at NFL.

7. Findings and Conclusion

The objective of the study was to investigate the relationship between working capital ratios and its impact on profitability. We found both positive and negative relationship between working capital ratios and profitability at NFL. It was found that the ratios such as Working Capital Ratio, Acid Test Ratio, and Current Assets to Total Assets Ratio, Inventory Turnover Ratio, Debtors Turnover Ratio and Cash Turnover Ratio had either a negative or lower degree of positive impact on profitability. However, the profitability of the company was found having a positive relation with the accounts receivable of the company. Inventory holding period at company was found high having negative impact on profitability. Liquidity of the company is good, which indicates that company has ability to pay short terms liabilities. But since considered on a little higher side had negative impact on profitability. However none of the relationships among working capital ratios and profitability was found statistically significant. Hence it was summarized that working capital management at NFL had an insignificant relationship with profitability.

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Author Profile

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