



Impact of working capital management indicators on stock prices - An empirical study of selected steel companies in India

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Abstract

The purpose of this study is to investigate the impact of working capital management on stock prices for 14 steel companies listed on BSE, using panel data for ten years from 2015 to 2024. The primary goal is to analyze WCM and Stock Return on steel companies in India. Working capital management ensures that a business functions smoothly by keeping an eye on and making the most use of its current assets and liabilities. The WCM analysis assists firm stakeholders in evaluating the company's liquidity status. The study is based on secondary data taken from the company's annual report. We analyzed the data using financial ratio analysis tools. The optimal amount of liquidity may reduce costs while contributing more to the success of a company. Based on the results, the author confirms the relationship between Working capital management and stock prices are significant, as well as provides steel companies in India with solutions to WCM effectively in order to enhance firms' value, especially in such an uncertain economic condition.

Keywords: Investigate, analysis, assists, optimal, significant, provides.

Introduction

Working capital policy and stock return but working capital policy had some effect on the volatility of stocks. Working capital policy plays a part in firm's stock performance across different sectors even though there was no clear pattern (Hornbrink and Bratland 2013). Working capital cycle plays role as a liquidity indicators of the firms and tried to determine its relationship with the current and quick ratio, with its component variables, and investigated the implications of working capital cycle in terms of profitability, indebtedness and firm size. The working capital cycle also positively related to return on assets and net profit margin but had no linear relationship with the leverage ratio. Conversely, the current and quick ratio had negative relationship with the debt to equity ratio. Finally there was no difference between the liquidity ratios of large and small firm (Lyroudi & Lazaridis 2000). WCM was to manage any current assets (inventory, accounts receivable, marketable securities, and cash) and current liability (note payable, accruals, and accounts payable) of the company to achieve a contribution balance between profitability and risk to value of the company (Gitman and Zutter 2012). Companies which had huge capacity of internal financing and easily capital market access had conservative approach towards policy regarding working capital management. It also described efficient production and rapid sales of firms had to rely on internal finance. A good net working capital was indicators of liquidity availability which might affect stock price positively or negatively (Mathew *et al.* 2010). Impact of negative working capital on profitability could lead to the company's sales, net profit and operating profit positive growth which indicated that company had done well and profitability was not adversely affected by the negative capital (Arora 2013). Reducing the cash conversion cycle (CCC) led to increased profitability. This suggested that efficient WCM positively influences firm value, which may, in turn, affect stock prices (Deloof 2003). Adopting an aggressive WCM strategy (low levels of receivables and inventory) experienced higher stock price

stability in emerging markets (Nazir and Afza 2009). Working capital management practices on the financial performance of small-scale enterprises (SSEs) practices were low amongst SSEs as majority of them had not adopted formal working capital management routines. Similarly their financial performance was on a low average. Working capital management practices influence the financial performance of small scale enterprise (Lumumba *et al.* (2012). Impact of working capital policies (aggressive and conservative policies) on the firm's profitability showed that application of a conservative investment policy and aggressive financing policy had a negative impact on a firm's profitability and value (Vahid *et al.* 2012). Working capital management was a crucial aspect of a company's financial affairs, having a direct positive effect on the company's profitability and liquidity. Profitability and liquidity were opposite sides of the same coin. Optimal levels of liquidity ensure that a company pays its short-term obligation, and a profitable business could guarantee proper cash flow management. Liquidity denoted the capacity of a business to meet its short-term obligations. A company must optimize its liquidity and profitability while conducting daily operations. Net working capital management includes balancing the proportion of working capital components, such as accounts receivable, inventory, and accounts payable, and efficiently using cash and cash equivalents for daily business operations (Agha (2014). Working capital management is one of a company's most crucial financial decisions. Regardless of the type of business, a company requires a sufficient working capital level in order to function properly. And found significant positive relationship between average payment time and profitability and a significant negative relationship daily sales revenue and profitability (Ponsian *et al.* 2014). Influence of working capital management components on corporate profitability were exists a highly significant negative relationship between the time had taken for firms to collect cash from their customer and profitability, there exists highly significant positive relationship between the period taken to

convert inventories to sales and profitability and there exists a highly significant positive relationship between the time had taken for firms to pay its creditors and profitability (Mathuva 2009). Different variables of working capital management including the debt ratio, average collection period, inventory turnover period, average payment period CCC and current ratio on the net operating profit. He found a strong negative relationship between the variables of working capital management and profitability of the firm except the sale (size of the company) while the study also revealed that there was positive relationship the firm size and its profitability. The effect of working capital management on firm profitability was related and was found a significant negative relation between gross operating income and the number of days in accounts receivable, inventories, and account payable of the firm (Ashraf 2012). A Poor and inefficient working capital management lead to blocking of funds in idle assets, as a result the liquidity and the profitability of a firm could not be maintained. In addition, working capital divided by two approaches, which were conservative approach and aggressive approaches those affect the firm performance. WCM had also long-term impact on the firm's value that efficient working capital management improved market value of a firm and consequently made positive impact upon shareholder's value (Raghunatha & Kameswari (2004). Existence of a working capital management optimal point that maximizes shareholder wealth. a concave down relation between net trade cycle and market value. Also, suggested the existence of an optimal NTC point that maximizes the value of firms for shareholders. This optimal point was lower for firms in financial distress, as access to finance was more expensive for these firms, leading to a lower investment in working capital to reduce the need for external financing (Banos-Caballero *et al.* 2014). WCM was required to ensure that company had sufficient cash flow to resume normal operations in a way that minimizes the risk of inability to pay short term obligations. In additions managers should try to avoid not necessary WC investment because the company imposed opportunity cost and lower profitability. However, balancing the company's liquidity and profitability was not a simple task and companies have a low liquidity at higher risk resulting in high protibility (Sagnr *et al.* 2011).

Background

Working capital management focuses on the routines employed by firms. This research showed that firms which focus on cash management were larger, with fewer cash sales, more seasonality and possibly more cash flow problems. While smaller firms focused more on stock management and less profitable firms were focused on credit management routines It is suggested that high growth firms follow a more reluctant credit policy towards their customers, while they tie up more capital in the form of inventory. Meanwhile accounts payables will increase due to better relations of suppliers with financial institutions which divert this advantage of financial cost to their clients. The Indian's steel company is one of the sectors that have complete integration from the mining process to the manufacturing and marketing of the final product. The research's primary focus is on Indian's Steel Limited's working capital management. Liquidity evaluation is the key objective of the research. The goal of managing working capital is to ensure that a firm runs consistently by

keeping an eye on and making the best use of its current assets and obligations. Business processes enable organizations to maximize cash flow and make efficient use of their current assets. Every firm requires working capital to be functioning properly, and holding a better working capital position may enhance the efficiency of an organization's operations. A company's everyday operations, an evaluation of liquidity is vital for both internal and external examination. The ability of a business to pay its immediate debts on the day they become due is referred to as liquidity. A company can only satisfy its short-term obligations if it possesses sufficient liquid assets. Realizing sums from current, floating, or circulating assets fulfills the short-term obligations. If current liabilities are covered by current assets, the state of liquidity will be appropriate. Working capital management is vital in corporate finance governance. It manages short-term investment and financing sources to seek the optimal balance between profitability and liquidity. Management of working capital, particularly short-term asset management and efficient short-term debt management, is one of the essential responsibilities of every financial manager in every industry. And have demonstrated that effective working capital management has a direct effect on the stock prices. With a short life (within a business cycle or within one year), working capital rotates quickly, changing form throughout different stages of the product and business life cycle. From the initial form of cash, converting into supplies, goods, and materials for trading (at commercial companies) or for production (at manufacturing companies) then becoming work-in-progress, semi-finished or finished products and finally back to the original form of cash. After each business cycle, the value of working capital is converted entirely in to the value of finished goods, goods or services. This process takes place on a regular and continuous basis, creating the flow of capital for the firms to develop and generate profitability. Therefore, the relationship between WCM management and the stock return are directly related.

Literature review

Raheman and Nasr (2007) ^[2] investigated the relationship between working capital management and profitability of 94 pakistani listed companies for the six year period from 1999 to 2004. Average collection period, inventory turnover in days, average payment period, cash conversion cycle and current ratio on net operating profitability include in the study. Net operating profitability is used to measure profitability. Result from regression analysis show that there is positive relationship between company size and profitability. And also found that profitability has significant negative relations with accounts receivable as a measure of liquidity debt ratio, inventory turnover in days, average payment period and cash conversion cycle. Bhunia, Khan and Mukhuti (2011) provided the evidence with respect to the relationship between liquidity and profitability of a firm. They took steel companies of private sector in india to assess the management of liquidity as a factor of performance. They studied important liquidity indicators and analyzed that optimum working capital can be achieved by controlling the trade-off between profitability and liquidity of a firm. Firm value is positively affected by optimum working capital management so that investment in working capital must be satisfactory. They concluded that liquidity and profitability are significantly positively related.

Afza and Nazir (2007) investigate the relative relationship between aggressive and conservative working capital policies and profitability of companies. The empirical results found the negative relationship between working capital policies and profitability. On the other hand, Nazir (2009) used Tobin's Q test as a dependent variable and the ratio of current assets and total assets as an independent variable and also attempted to control variables to check opposite analysis of working capital management on profitability of companies. Bhunia (2007) [2] made an assessment of working capital management of working capital of Steel authority of India and Indian Iron company limited from 1991-92 to 2002-03 with help of financial tools and statistical techniques. And concluded that both companies have maintained inadequate working capital, poor liquidity during the period. Pandey and Upadhyay (2007) conducted the study to evaluate the efficiency of management of working capital in Bokaro Steel plant during the period from 1999 to 2005. And concluded that position of payment of liability was not as expected but management of inventory and receivable was good. Verma (1989) examined working capital management in Tata Iron and steel authority of India limited during the period from 1978-79 to 1985-86 by using financial tools and statistical techniques. The study revealed that Tata iron had better working capital management in comparison to Steel authority India limited. And also found that both companies had made excessive use of bank borrowings to finance the working capital requirements. Negarbo (2006) selected 250 firms as a sample to test the working capital management and concluded that growth rate of the firm and anticipated cash flows both play major role in working capital management. They also found that changing size and accumulated assets not significantly affected by cash flow prediction and sale growth. They are also highly influenced by some factors such as the business nature of the firms, sales, firm size and profitability. Deloof (2003) working capital managed had significant impact on the way of profitability of the firms. The result indicated that there was a certain level of working capital requirements which potentially maximizes return. And analyzed from National Bank of Belgium through statistics in 1997 accounts payable were 13% of their total assets while accounts receivables and inventory accounted for 17% and 10% respectively. Wilner (2000) stated in UK corporate sector more than 80% of daily business transactions are on credit terms so Working capital management plays an important role to run the business. Also found American firms extended their credit towards customers by 1.5 trillion dollars. Most firms use trade credit extensively despite its cost and trade credit interest rates commonly 18% on above. Nobanee *et al.* 2009 indicated that if the working capital management efficiency is measured accurately and the optimal levels of receivables, payables and inventory are identified accordingly then financial ratio related to working capital can be disclose the efficiency and can be measured the relationship among working capital components and stock prices. Mathew *et al.* 2010 indicated that companies which have huge capacity of internal financing and easily capital market access have conservative approach towards policy regarding working capital management. It describes efficient production and rapid sales firms have to rely on internal finance. A good net working capital is and indicators of liquidity availability which may affect stock

price positively or negatively. Awad & Al-Ewesat, 2012 examined the relationship between working capital and stock prices by using Regression analysis and Granger causality test and concluded that current ratio and earnings per share are positively correlated to stock price and inventory turnover whereas there is negative relationship between receivable turnover and stock prices. Moyer *et al.* (2003) found that working capital consist of large portion of a firm's total investment in assets, 40% in manufacturing and 50-60% in retailing and wholesale industries respectively. The firm could reduce its financing cost and increase the funds available for expansion if they minimize the funds. They found that cash helps to keep the firm liquid. It enables the firms to pay its obligations and also protects the firm from becoming bankrupt.

Objective

1. To study the impact of working capital management on stock return by analyzing the liquidity position of the company.
2. To know the issues related to Working Capital.
3. To know the Working Capital requirements of the Steel Industry.
4. To examine whether the requirements of Working Capital is uniform among selected Companies.

Hypothesis of the study-

H₀: Working capital management has no association with stock prices of Indian Steel Co. Limited.

H₁: Working capital management has a significant association with stock prices of Indian Steel Co. Limited.

Data Collection

The data collected were from Prowess IQ (CMIE) listed firms in the BSE Stock Exchange Market. This study employed a quantitative, panel data based research design to investigate the impact of working capital management indicators on stock price performance of selected steel companies in India, focusing on 10 firms listed on BSE Ltd. The sample comprised leading steel producers chosen based on market capitalization, continuous trading history and data availability, ensuring sectoral representation. The dependent variable is ROCE while independent variable STR, CR, DER, DTR, NPR, QR, CTR. Stationery of variables was confirmed using LLC and IPS as well as ADF panel unit root tests to avoid spurious relationships. A descriptive analysis was first conducted to summarize trends in WCM practices and stock prices fluctuations, followed by Pearson correlation analysis to identify preliminary relationship between variables. This study provided empirical insight into whether efficient strategies enhanced market valuation in the Indian steel industry.

Descriptive Statistics

The following table gives the descriptive statistics of the collected variables. Descriptive statistics showed that Indian steel companies experienced moderate stock price volatility during the period, with stock prices, reflecting cyclical market behavior in response to global commodity trends, demand fluctuations. The stock turnover ratio of the company during the study period is 20.78, indicating strong market performance with considerable variability. The Debtor turnover ratio has highest mean value among working capital components, suggesting that a significant

portion of funds remain tied up in capital-intensive nature of the steel industry. The cash turnover ratio shows moderate dispersion, indicate fluctuations in working capital efficiency over time. The debtor equity ratio indicated a moderately efficient debt-equity ratio cycle typical of capital intensive industries. The net profit ratio and return on capital employed become negative that indicated that

companies extend revenue as well as long credit period to buyers, possible boost the sales. Average skewness values are positive for all variables, implying slightly right-skewed distributions while kurtosis values close to normal distribution patterns. The descriptive results indicate reasonable stability in working capital management practices.

	N	Mean		Std Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
cr	140	-2.3981	3.40931	40.33955	1627.279	-11.826	.205	139.900	.407
qr	140	.4558	.05075	.60052	.361	3.276	.205	12.792	.407
npr	140	-3.3452	1.96380	23.23594	539.909	-5.665	.205	43.027	.407
der	140	8.5901	1.86806	22.10319	488.551	4.266	.205	21.158	.407
dtr	140	23.7786	2.13974	25.31774	640.988	3.196	.205	12.820	.407
ctr	140	7.2844	.86132	10.19131	103.863	-1.537	.205	9.465	.407
str	140	20.7800	1.66570	19.70885	388.439	2.059	.205	5.010	.407
roce	140	-59.7143	17.44076	206.36191	42585.237	-3.931	.205	16.398	.407
Valid N (listwise)	140								

Correlation analysis

The correlation results indicate the direction and strength of relationship among variables. Current ratio positively related to quick ratio, net profit ratio, credit turnover ratio, stock turnover ratio, suggesting that efficient management

of cover short term liability and enhance liquidity and improves investor confidence.

Current ratio are negatively related with debt equity ratio, debtor turnover ratio and return on capital employed, implying that low liquidity position as well as discourage to cover short term liability.

		cr	qr	npr	der	dtr	ctr	str	roce
cr	Pearson Correlation	1	.131	.140	-.030	-.347**	.465**	.003	-.001
	Sig. (2-tailed)		.123	.100	.724	.000	.000	.968	.992
	N	140	140	140	140	140	140	140	140
qr	Pearson Correlation	.131	1	.193*	-.043	.084	.331**	.625**	.003
	Sig. (2-tailed)	.123		.022	.613	.324	.000	.000	.967
	N	140	140	140	140	140	140	140	140
npr	Pearson Correlation	.140	.193*	1	-.359**	.025	.261**	.082	.525**
	Sig. (2-tailed)	.100	.022		.000	.773	.002	.337	.000
	N	140	140	140	140	140	140	140	140
der	Pearson Correlation	-.030	-.043	-.359**	1	-.122	-.157	-.140	-.249**
	Sig. (2-tailed)	.724	.613	.000		.150	.064	.098	.003
	N	140	140	140	140	140	140	140	140
dtr	Pearson Correlation	-.347**	.084	.025	-.122	1	-.416**	.039	.155
	Sig. (2-tailed)	.000	.324	.773	.150		.000	.645	.068
	N	140	140	140	140	140	140	140	140
ctr	Pearson Correlation	.465**	.331**	.261**	-.157	-.416**	1	.456**	.086
	Sig. (2-tailed)	.000	.000	.002	.064	.000		.000	.314
	N	140	140	140	140	140	140	140	140
str	Pearson Correlation	.003	.625**	.082	-.140	.039	.456**	1	-.124
	Sig. (2-tailed)	.968	.000	.337	.098	.645	.000		.145
	N	140	140	140	140	140	140	140	140
roce	Pearson Correlation	-.001	.003	.525**	-.249**	.155	.086	-.124	1
	Sig. (2-tailed)	.992	.967	.000	.003	.068	.314	.145	
	N	140	140	140	140	140	140	140	140

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Unit root test result (at level)

Name	LL&C	IPSW	ADF	FISHER
CR	.0000	.0000	.0290	.0200
DER	.0000	.0125	.0036	.0000
DTR	.0000	.0254	.0000	.0000
NPR	.0000	.0000	.0000	.0000
QR	.0000	.0001	.0000	.0000
STR	.0000	.0001	.0000	.0000
ROCE	.0000	.0000	.0000	.0000

The unit root of all test (Levin-Lin-Chu, Im-Pesaran-Shin, Fisher-Type Tests, Augmented Dickey-Fuller) result confirm that all variable are stationary at level, as probability value are below.05. This indicates the absence of unit root problems and validates the use of regression analysis without further transformation. Firm size was stationary level, it was common and asset growth trends upward over time due to inflation an capital investment.

Regression Analysis

The multiple regression results reveal that working capital management significantly influences stock returns. The strength of the relationship between the dependent variable, ROCE and all the independent variable taken together and impact of of these independent variables on the profitability are given below. It was observed from the above that increase in CR, DER, STR by one unit, ROCE decreased by.485 units,.594 units.2.902 units that were statistically insignificant. When increase in QR, DTR, CTR by one unit, then ROCE are increased by 32.44 units,.686 units, 2.109

units which was not statistically significant but increase in NPR by one unit ROCE of the company increase by 4.256 units which was statistically significant at five percent level. The multiple correlations among the dependent variable ROCE and the independent variable taken together.591. It indicates that the profitability was strongly responded by its independent variables.

It was also evident from the value of R square that.349 percentage of variation in ROCE was accounted by the joint variation in independent variable. Adjusted R square signifies that 31 percentage of positive variations in the ROCE are explained by the independent variable. Standard error of regression coefficients 170 being high, demonstrates that there exists moderate line of estimates among the variables. F value indicates that the model is perfectly fit and also the probability is less than 0.05. Durbin -Watson statistics 1.020 indicates that residuals are not serially correlated. The multiple regression result between the dependent and independent variables has been authenticated because the results satisfy the model.

Model Summary ^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.591 ^a	.349	.314	170.85812	1.020
a. Predictors: (Constant), str, cr, der, dtr, npr, qr, ctr					
b. Dependent Variable: roce					

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2065938.156	7	295134.022	10.110	.000 ^b
	Residual	3853409.822	132	29192.499		
	Total	5919347.978	139			
a. Dependent Variable: roce						
b. Predictors: (Constant), str, cr, der, dtr, npr, qr, ctr						

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-50.098	30.091		-1.665	.098
	cr	-.485	.431	-.095	-1.127	.262
	qr	4.166	32.441	.012	.128	.898
	npr	4.256	.705	.479	6.037	.000
	der	-.594	.724	-.064	-.821	.413
	dtr	1.587	.686	.195	2.312	.022
	ctr	4.014	2.109	.198	1.903	.059
	str	-2.902	1.079	-.277	-2.689	.008
a. Dependent Variable: roce						

Conclusion

The study proved that working capital management significantly influences stock returns. In the above study Steel Limited did not have an optimal liquidity position. They have insufficient funds to meet their current obligations As a result, management must handle this issue in order to sustain the company's liquidity position in the future and ensure that existing assets are used effectively to pay back short-term obligations on time. Liquidity management indicates that higher liquidity levels enhance financial performance. Efficient management of liquid assets enables companies to meet short term obligations while optimizing resources. This efficiency allows companies to reduce cash flow gaps, which is crucial for sustaining operations and investing in growth. Steel industry should maintain a balanced liquid assets, ensuring sufficient liquidity without overstocking cash or easily liquid assets, which can reduce returns. This can be achieved by closely monitoring the liquid asset to meet short term obligations while maximizing capital efficiency. Working Capital management

should be reviewed regularly to adapt to changing market conditions, industry cycle and customer demands. Steel industry can benefit from benchmarking their working capital management practices against industry leaders or peers.

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