

DOES WORKING CAPITAL HAS AN IMPACT ON PROFITABILITY OF INDIAN STEEL INDUSTRY

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Abstract:

Working capital has a major role in day to day business activities. It is simply defined as the excess amount of current assets over current liabilities. Working capital also means the fund which is needed for the operations which are taken place in a firm every day. So working capital is considered as a fund which revolves all the time. This revolving fund consists of continues conversion of cash and raw materials in to inventory, then inventory to sales or debtors and this debtors into cash or investment. The existing Working capital in the company is also commonly known as Net Working Capital or net current assets, is the excess if current assets over current liabilities. But this is on a particular day i.e., 31st March's position. While it is important to know whether the company really has correct level of WC which is required to them? For this purpose there is a need to find out the required working capital and its relation with the profitability. Thus, the research work has included measuring the impact of WC on profitability. Further there must be discussions with the accounting experts of the selected 10 steel companies to know what they feel about their desired level and actual level of working capital.

Keywords:

EVA, Net operating profit after tax (NOPAT), Leverage, Capital Employed, Weighted Average Cost of Capital (WACC) and Traditional measures.

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INTRODUCTION

Working capital has a major role in day to day business activities. It is simply defined as the excess amount of current assets over current liabilities. Working capital also means the fund which is needed for the operations which are taken place in a firm every day. So working capital is considered as a fund which revolves all the time. This revolving fund consists of continues conversion of cash and raw materials in to inventory, then inventory to sales or debtors and this debtors into cash or investment. Therefore in short we can say that working capital is nothing but circulation of current assets(Khan et.al, 2012; Chandra et.al, 2012; Chandra et.al, 2012; Chouhan & Verma, 2014:a; Chouhan. & Verma 2014:b; Chouhan, 2013). After knowing what is exactly working capital we have to analyse what are the main components of working capital. The existing Working capital in the company is also commonly known as Net Working Capital or net current assets, is the excess if current assets over current liabilities. But this is on a particular day i.e., 31st March's position (Chouhan et.al, 2014; Chouhan et. al, 2013; Khan et.al, 2014). While it is important to know whether the company really has correct level of WC which is required to them? Not only is that it also important to know that whether the level of WC has a relation with the profitability and what managers believe about it(Naghshbandi et.al, 2016; Chouhan et.al, 2016, Chouhan, V., & Naghshbandi, N. 2015; Goswami, Chandra & Chouhan, 2012; Chouhan & Gorana, 2014). For this purpose the current study were undertaken in steel industry.

1. OBJECTIVES

The objectives of this study were as follows:

- i. To measure the relation between the EVA and profitability.
- ii. To measure the satisfaction of the managers with the various components of WC in their company.

2. REVIEW OF LITERATURE

The reviews related with WC and Profitability are presented in a Table-1 as under.

Table-1: Review of Related Literature

Sl.	Scholarly Observations/studies	Related Areas	Variables	Relation
1.	Horrigan, J. O. (1965)	Financial ratio analysis	Working capital and profitability	Positive Relation
2.	Altman, E. I.(1968)	Corporate Bankruptcy Prediction	Working capital and profitability	Positive Relation
3.	Grass (1972)	Control of Working Capital	Working capital and profitability	Positive Relation
4.	Merville, L. J., and Tavis, L. A. (1973)	Optimum Working Capital Policy	Economic Environment and Working Capital	Positive Relation
5.	Chakraborty, S. K. (1976)	Indian Cement, Sugar And Fertilizer Industries	Working Capital, Turnover and Profit	Positive Relation
6.	Vijaya, K. A. (1977)	Co-operative and private sugar industries of Tamilnadu	Working capital of Co-operative and Sugar	Negative Relation
7.	Parosh and Timari(1978)	Israeli companies	Profitability and Working Capital	Positive Relation

8.	Vijaysaradhi, S. P. and RajeswaraRao (1978)	Indian Public Enterprises	Profitability and Working Capital	Negative Relation
9.	Gitman, Lawrence J., E. A. Moses, and L T. White(1979)	US Top 150 and Bottom 150 Firms from Fortune 1000 largest firms	Profitability and Working Capital	Positive Relation Short-Term Assets
				Management Policies.
10.	Richard, V. and Laughlin, E.(1980)	Liquidity analysis	Profitability and Working Capital	Positive Relation
11.	Smith, K(1980)	Profitability and Liquidity	Profitability and Liquidity	Positive Relation
12.	Smith, Keith V. and Shirley Blake Sell (1980)	US Firms	Profitability and Working Capital	Positive Relation
13.	Banerjee, B.(1982)	Indian Corporate Sector	Working Capital and Profitability	Positive Relation
14.	Gitmann, L. J.(1982)	Major US Firm, Fortune 1000"	Working capital and profitability	Positive Relation
15.	Emery, Gary W.(1984)	-----	Working Capital, Current and Quick ratio V/s Profitability	Negative Relation
16.	Luo, C. H. (1984)	Financial Ratio In Taiwan	Working capital and profitability	Positive Relation
17.	Myers, Stewart and Nicolas Majluf, (1984)	Corporate Financing and Investment Decision	Working capital and profitability	Negative Relation
18.	Gitman, Lawrence J., and Charles E. Maxwell(1985)	US Firms	Working capital and profitability	Positive Relation
19.	Liu, F. L. (1985)	Manufacturing Industry in Taiwan	Performance and Financial Ratio	Positive Relation

20.	Shulman, J. M. and Cox, R. A. K. (1985)	WC Management	Working Capital and Profitability	Positive Relation
21.	Hawawini, G., Viallet C., and Vora, A. (1986)	Working Capital Decision at Sloan Corporate Sector	Working Capital and Net Liquid Balance	Positive Relation
22.	Panda, G. S.(1986)	SSI in Orissa	Working Capital and Profitability	Positive Relation
23.	Emery, G.W.(1987)	WC and Demand analysis	WC and Demand analysis	Positive Relation
24.	Sarkar, J.B. and Saha, S.N.(1987)	Indian Public Sector	Working Capital and Profitability	Positive Relation
25.	Brennan, M., Maksimovic, V. and Zechner, J.(1988)	Vendor Financing to Companies	Vendor Financing for Working Capital and Profitability	Positive Relation
26.	Jain, R.K.(1988)	10 Manufacturing Trading & Service Industries of Rajasthan	Working Capital and Profitability	Negative Relation
27.	Mukherjee, A. K.(1988)	Indian Public Enterprises	Profitability and Liquidity	Negative Relation
28.	Panda J. and Satapathy A.K.(1988)	Private Cement Industry	Working Capital and Profitability	Positive Relation
29.	Shin, Hyun-Han and Soenen, Luc (1988)	58,985 firms, 1975 to 1994	Working capital and profitability	Negative Relation
30.	Kamath, Ravindra, (1989)	Liquidity Measurement	Working Capital, Current and Quick ratio V/s Profitability	Negative Relation
31.	Binder, A. S. and Maccini, L. J.(1991)	Inventory Research	Profitability and Inventory	Positive Relation
32.	Gibert, Erik W. and Reichert, Alan K.(1992)	USA Largest Corporation	Working Capital & cash Management.	Positive Relation

33.	Shi, Y. H (1992)	Taiwan Manufacturing Industries	Working Capital and Profitability	Positive Relation
34.	Yang, A. M. (1992)	Taiwan Textile Industries	Working Capital and Profitability	Positive Relation
35.	Long, M.S., Malitz, I. B. and Ravid, S. A. (1993)	UK	Working Capital and Customer Credit	Positive Relation
36.	Kargar, J., and Blumenthal, R. A. (1994)	Small Business	Leverage and impact on Working Capital	Positive Relation
37.	Rajan, Raghuram and Luigi Zingales(1995)	International Data	Working capital and profitability	Negative Relation
38.	Vijaykumar, A. and Venatachalam, A.(1995)	31 Sugar Companies in Tamilnadu	Liquidity and Profitability	Negative Relation
39.	Zhou, D. C. (1995)	Manufacturing industry in Taiwan	Business Cycle And Financial Ratio	Positive Relation
40.	Peel, M. L., and Wilson, N. (1996)	Small Firm Sector	Working Capital and Profitability	Positive Relation

3. SAMPLE COMPANIES

For the purpose of this paper the sample characteristics are shown in table-2

Table-2: Sample characteristics & Working capital in Sample Companies

Name of Company		Net profit (NOPBT)	CA	CL	WC
TATA STEEL	2013-14	9713.5	11564.5	18881.78	-7317.28
	2012-13	7836.6	11350.6	16488.65	-5138.05
	2011-12	9857.35	12819.57	16838.49	-4018.92
	2010-11	9776.85	24212.3	10995.81	13216.49
	2009-10	7214.3	12250.61	9003.53	3247.08
SAIL	2013-14	2265.43	26890.75	28340.28	-1449.53
	2012-13	3469.98	27615.89	22504.46	5111.43
	2011-12	5150.87	22752.23	18423.37	4328.86
	2010-11	7194.31	38090.36	17356.96	20733.4
	2009-10	10132.03	39154.16	17148.53	22005.63
	2013-14	1478.28	3449.53	11106.75	-7657.22
	2012-13	1075.72	3599.4	8079.14	-4479.74

VISA STEEL	2011-12	1188.79	5910.39	21022.16	-15111.8
	2010-11	513.77	6934.9	10807.54	-3872.64
	2009-10	474.16	6333.18	7780.24	-1447.06
RINL	2013-14	549.15	8400.66	10211.56	-1810.9
	2012-13	526.47	9977.75	10184.67	-206.92
	2011-12	1110.01	8492.11	7221.61	1270.5
	2010-11	981.66	7401.68	5117.85	2283.83
	2009-10	1247.65	9550.66	4307.84	5242.82
JSW STEEL	2013-14	1955.33	14998.81	20671.6	-5672.79
	2012-13	2054.12	14322.84	1559.92	12762.92
	2011-12	2094.56	14061.7	17368.02	-3306.32
	2010-11	2782.28	10188.37	10064.73	123.64
	2009-10	2819.65	5559.52	7261.89	-1702.37
	2013-14	-	36719.49	22793.24	13926.25
	2012-13	2569.96	77134.64	51137.52	25997.12
	2011-12	3731.92	78620.1	57322.13	21297.97
	2010-11	5263.63	34181.07	22330.65	11850.42
	2009-10	8085.24	36503.75	17738.08	18765.67
	2013-14	93548.88	667403.39	885923.86	-218520
	2012-13	87692.48	631681.22	809062.05	-177381
	2011-12	348813	551177	10067350	-9516173
	2010-11	-713795	446306	1304000	-857694
	2009-10	115136.49	377020.83	160358.78	216662.1
	2013-14	-29112	1059747.23	157038.4	902708.8
	2012-13	27999.83	977635.32	235426.49	742208.8
	2011-12	14978.22	857246.1	151486.99	705759.1
	2010-11	61344686	230197.57	227189.76	3007.80
	2009-10	-	173621.44	86356.80	87264.64
	2013-14	-141354.13	577765.88	670661.12	-92895.2
	2012-13	-119946	622023.91	599866.23	22157.68
	2011-12	-15381.87	545027.65	575357.42	-30329.8
	2010-11	44735.66	467510.8	177633.66	289877.1
	2009-10	57037.64	419806.01	251597.31	168208.7
	2013-14	601.15	19345.73	12338.73	7006.99
	2012-13	518.03	19204.47	11841.06	7363.40
	2011-12	774.87	19048.83	11338.43	7710.39
	2010-11	33158.61	18310.21	5988.92	12321.28
	2009-10	3384.28	15535.51	4909.94	10625.57

4. RESEARCH METHODOLOGY AND HYPOTHESIS

Collection of Data:

The data for this research is collected from secondary source mainly by the annual report of the companies. For these purpose annual reports of companies, articles, Database Such AS CMIE, Stock Markets, Securities Companies and journals etc., have also been used as. Healthy samples of 10 companies of Steel industry, having maximum share in the production, were selected for 5 year period.

Data analysis Tool:

To identify the dependence of Profitability on Working capital Pearson correlation and multiple regression for measuring the managers perception were used with SPSS-19 software.

Hypothesis

To conduct the study following hypotheses were drawn:

H1= Working Capital Management demonstrates a significant relationship with profitability of an organization.

H2: The attributes satisfaction regarding working capital management on different factors has significantly influence on satisfaction from desired level of working capital.

5. WC AND PROFITABILITY ANALYSIS

As per the objective of the study the impact of the WC over profitability was measured with the help of correlation between the profitability and level of Working capital:

H1: Working Capital Management demonstrates a significant relationship with profitability of an organization.

To test the above hypothesis the Karl Pearson's coefficient of correlation were used with SPSS- 19 software. The results were shown in table-3 as under:

Table-3: Correlations between the profitability and existing working capital

		WC	NP
WC	Pearson Correlation	1	.951**
	Sig. (2-tailed)		.000
	N	48	43
NP	Pearson Correlation	.951**	1
	Sig. (2-tailed)	.000	
	N	43	43
**. Correlation is significant at the 0.01 level (2-tailed).			

Table-3 revealed that there is a significant and high degree of positive correlation between the profitability and working capital. Thus it is essential for the steel companies to maintain the desired level of the working capital.

At this stage the perception of the financial professionals are sought in relation to satisfaction from various components. The following hypothesis was developed:

H2: The attributes satisfaction regarding working capital management on different factors has significantly influence on satisfaction from desired level of working capital.

To identify key variables multivariate regression analysis has been used with SPSS-19 software and results were shown in table-4 as under:

Table-4: Multiple regression of satisfaction

a. Descriptive Statistics			
	Mean	Std. Deviation	N
SAT_WC	4.7625	.50925	80
SAT_CM	4.7000	.53722	80
SAT_IM	3.6500	.82830	80
SAT_RM	3.6250	.94635	80
SAT_DM	3.3625	.94459	80
b. Variables Entered/Removed			

Model		Variables Entered	Variables Removed	Method							
1		SAT_CM	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).							
a. Dependent Variable: SAT_WC											
c. Model Summary											
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics						
					R Square Change	F Change	df1	df2	Sig. F Change		
1	.847 ^a	.717	.713	.27267	.717	197.553	1	78	.000		
a. Predictors: (Constant), SAT_CM											
d. ANOVA ^b											
Model			Sum of Squares		df	Mean Square		F	Sig.		
1	Regression		14.688		1	14.688		197.553	.000 ^a		
	Residual		5.799		78	.074					
	Total		20.488		79						
a. Predictors: (Constant), SAT_CM											
b. Dependent Variable: SAT_WC											
e. Coefficients ^a											
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	.990	.270		3.666	.000					
	SAT_CM	.803	.057	.847	14.055	.000	.847	.847	.847	1.000	1.00
a. Dependent Variable: SAT_WC											

The final Regression model with 1 independent variable (SAT_CM) explains almost 71.3% of the variance of satisfaction from level of WC. Also, the standard errors of the estimate has been reduced to .27267, which means that at 95% level, the margin of errors for any predicted value of Satisfaction from level of WC can be calculated as ± 0.5344332 ($1.96 \times .27267$). The one regression coefficients, plus the constraints are significant at 0.05 levels. The impact of multi colinerarity in the 1 variable is substantial. It has the tolerance value less than 0.953, indicating that only over 4.7% of the variance is accounted for by the other variables in the equation.

ANOVA Analysis

The ANOVA analysis provides the statistical test for overall model fit in terms of F Ratio. The total sum of squares (20.488) is the squared error that would accrue if the mean of Satisfaction from WCM has been used to predict the dependent variable. Using the values of SAT_CM this errors can be reduced by 71.69% ($14.688/20.488$). This reduction is deemed statistically significant with the F ratio of 197.553 and significance at level of .000^a. With the above analysis

it can be conclude that only one variables i.e., SAT_CM explains the satisfaction of respondents from WC levels in their companies.

6. CONCLUSION

It was found in the study that there is a significant and high degree of positive correlation between the profitability and working capital. Thus it is essential for the steel companies to maintain the desired level of the working capital. Maximum respondents revealed that their company has adopted aggressive policy for WC management thus their WC was found to be desired or less than the desired level of the company. From the findings, it is also clear that The Company's financial officers and top management are aware about the desired level of working capital and satisfied with the level Cash management of their company. The satisfactions were majorly significant in case of Centralization of cash management decisions. Thus it is important for the companies to manage their WC in better way.

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