Working Capital Policy of Indian Service Industry

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Abstract

Working capital policy of every enterprise assumes great significance as it affects not only the routine business but also the strategic decisions related to sourcing funds for the same. An aggressive approach may prove to be risky but profitable whereas, vice versa is the case for conservative approach. Appropriate working capital policies ensure both, the short term as well as the long term solvency of a firm coupled with the smooth functioning. Service sector is driving the growth of Indian economy with its impressive share of fifty four percent in gross domestic product. Considering the same, the current study attempts to examine the working capital policy as represented by working capital ratios of the Indian Service Industry for a period of fifteen years from 1995-96 to 2009-10. Twenty four ratios classified into five subgroups were selected for the purpose of analysis. Current assets structure, Current Liabilities Structure, Liquidity and Working capital Policy was examined. Receivables dominated the current asset structure and Trade Credit dominated the current liabilities structure of service industry. It followed an aggressive current asset financing policy and is moving towards an aggressive current asset investment policy. Service industry enjoyed sound liquidity position throughout the study period.

Keywords: Working Capital Policy, Working Capital Leverage, Liquidity, Current Asset Structure, Indian Service Industry.

Introduction

The Services Sector has been at the forefront of the rapid growth of the Indian economy contributing nearly 59.6 percent to the gross domestic product (GDP) with a growth of 8.1 percent. “It accounts for 51.3 per cent of India’s gross value added (GVA) at current prices in 2013-14. It grew by 9.1 per cent compared to 6.6 per cent total GVA growth and 6.9 per cent GDP growth at market prices” (Economic Survey, 2014-15, p. 106). The services sector has been a major and vital force steadily driving growth in the Indian economy for more than a decade. In addition, the services sector is contributing to about a quarter of total employment; accounting for a high share in foreign direct investment (FDI) inflows; over one-third of total exports. India thus stands out for the magnitude and vitality of its services sector. Thus, a study of working capital policy of the Service Industry would be a revelation.

"A lot of emphasis is placed on working capital management (WCM) as it is closely related to the operations management of a firm and plays a key role in creating stock- holder value due to its two dimensions viz,

profitability and the liquidity which has deep implications for any business" (Kantawala and Shroff, 2012). "While long-term decisions, involving plant and equipment or market strategy, may well determine the eventual success of the firm, short-term decisions on working capital determine whether the firm gets to the long term" (Block and Hirt, 1992). "Surveys indicate that largest portion of a financial manager's time is devoted to day to day internal operations of a firm, i.e. working capital management" (Weston and Brigham, 1962). "The management of working capital plays an important role in maintaining the financial health of the firm during the normal course of the business" (Bhalla, 1997). "In practice, WCM has become one of the most important issues in the organizations where many financial executives are struggling to identify the basic working capital drivers and the appropriate level of working capital" (Lamberson, 1995). Thus, "WCM could vitally affect the health of the firm" (Sagan, 1955).

In the said context, the present study is organized as follows: Section – I presents a review of previous studies on WCM. Section – II states the objectives of the study; Section – III discusses the methodology; Data analysis and interpretations are discussed in Section – IV and Section – V concludes the results and gives suggestions based on findings.

Review Of Previous Studies

A range of studies on working capital management have been carried out by various researchers in different industries. Selected studies are reviewed and presented.

Jaiswal, Nigam and Pandey (2010) examined the efficiency of WCM of Ranbaxy Laboratory Ltd. during 2002 to 2006 using ratio analysis as well as liquidity ranking. They found that, on an average 62% of the total asset was invested in current asset which was remarked to be a higher investment. Moreover, inventory with 32% was observed to be the major component of current asset. They found that liquidity position measured in terms of QR and ALR was satisfactory but debtors and inventory management were found to be inefficient.

Janakiramudu (2010) attempted to study the working capital structure, liquidity position and working capital turnover position of selected sample of five companies in Indian Commercial Vehicles Industry for a period of ten years from 1998 to 2007 and found that, of all the current assets, inventories formed highest percentage in two firms and trade receivables formed the highest percentage in the three firms. The study also revealed that variation between CATR and WCTR was very high indicating that the sample firms achieved higher level of sales with less working capital.

Joshi, Joshi and Gairola (2010) made a comparative study of TISCO and RINL to examine the differences if any among public sector unit and private sector unit with respect to their WCM over a period of four years from 2004-05 to 2007-08. The analysis revealed that RINL was more conservative about the liquidity relatively to TISCO. Also, it followed conservative credit policy as compared to TISCO. Cash generating capacity through operating activities declined for RINL. Composition of materials in stores to total inventory was found to be higher in RINL than TISCO thereby indicating a more efficient materials handling in TISCO. It was concluded that WCM of public sector enterprises is different from the private sector.

Kantawala and Joshi (2010) analyzed the components of current assets of 52 steel companies of Indian Steel Industry taking sixteen WCM ratios over a period of ten years from 1998-99 to 2007-08 through time series analysis. The analysis of structural ratios revealed that the fixed assets base in steel industry was high. Further, 68 percent of current assets were financed by current liabilities. The liquidity position of the industry was very good as it was above the standard norms throughout the study period. Time series analysis revealed that on the whole, WCM of steel industry has improved over the study period.

Chandrabai and Rao (2011) conducted a comparative study of WCM in Indian Electrical Equipment Manufacturing industry for two companies, viz, BHEL and ABB Ltd representing PSU and Private sector respectively over a period of 2005-06 to 2009-10 through ratio analysis. The liquidity position was found to be satisfactory in the sample units. They also found that the receivables and loans and advances formed the major share of current assets in both the companies and suggested improvement in debt collection policy.

Aljroub, Alrabei, Saleh and Alrawashdeh (2012) examined if differences existed between the WCM practices of selected 4 cement units of Rajasthan over the period of 5 years from 2006-2010 through ANOVA taking Size of Inventory and Receivables, Inventory to NWC, ITCAR, RTCAR and ITR. They found that there exist significant differences between companies with respect to the size of inventories, size of receivables as well as RTCAR whereas no significant differences were observed for ITCAR and ITR. They concluded that the companies significantly differed in size of inventory as well as receivables and maintained different proportion of receivables in the current asset structure.

Shroff (2013) examined the structure of current assets, efficiency of current asset management, the nature of current asset investment – financing policy and the overall working capital policy and working capital leverage of ITC Limited belonging to Indian Food and Beverages Industry over a period of 11 years from 2000-01 to 2010-11. It was found that the inventory management deteriorated whereas debtors' management improved over the study period.

Further it was found that ROTA was not very sensitive to change in current asset investment policy measured by WCL.

Shroff (2014) examined the structure of current assets, working capital policy comprising of current asset investment, financing, inventory policy, credit policy and working capital leverage of the Indian Steel Industry over a period of 12 years from 2000-01 to 2011-12. Further the impact of working capital leverage on Return on Total Assets was also examined. The analysis revealed that asset structure of steel industry is liquid with higher proportion of current assets. Receivables comprised of the major component in the current asset structure. The results of regression analysis revealed that the industry was pursuing a conservative current asset investment and aggressive current asset financing policy over the study period. A significant down trend was observed for CR and QR indicating deterioration of liquidity position in the Indian Steel industry.

Shroff (2014) examined current asset structure, liquidity, working capital policy and working capital management efficiency as represented by working capital ratios of the BSE Listed firms for a period of twelve years from 2000 to 2012. The analysis revealed that market leaders pursued a moderate working capital investment policy whereas an aggressive working capital financing policy. Loans and Advances had the highest share in their current assets structure. Market leaders enjoy sound liquidity position and manage their inventories and receivables in an efficient manner. The results of time trend analysis revealed a significant uptrend in CATAR, CLTAR, CLTDR, CASR, ALR, CBBTCAR, ITR and DTR whereas a significant downtrend in ITCAR, DTCAR, OC and NTC.

All the above research studies focused on listed firms across the globe as well as various industries belonging to manufacturing sector. However, it was difficult to find a specific study on WCM focusing the Service Industry in India or abroad. Also, the time frame of the studies reviewed ranged between 5 to 12 years. In context of the above, the current study examines the working capital policy of Service Industry over a period of 15 years in the Indian context.

Objectives of The Study

In the light of literature reviewed, the objectives of the present study are as follows:

a. To examine current asset investment and financing policy of service industry.

b. To examine the structure of current assets of service industry.

c. To analyze the liquidity position of the service industry.

d. To measure the working capital leverage.

e. To analyze trends, if any, in selected ratios related to working capital policy over the selected time frame.

Methodology of The Study

1. **Time Frame:** A period of fifteen years from 1995-1996 to 2009-10 is selected for the study.

2. **Data Source:** Financial data is collected from "PROWESS" – the database of Centre for Monitoring Indian Economy (CMIE).

3. **Sample Selection:** Taking the classification of Service Industries as prescribed by National Industrial Classification (NIC), Centre for Monitoring Indian Economy (CMIE) has further classified the Service Sector into Financial Services Sector and Non Financial Services Sector. The Non Financial Services Sector incorporates all those services which do not fall under the purview of Financial Services Sector. Thus, for the purpose of current study, the Service Industry would specifically mean and include the Non Financial Service Industry. After eliminating the outliers, the final sample comprised of 79 companies.

4. **Ratios Used:** For the purpose of analyzing the working capital policy, 24 ratios are selected divided into 4 groups to fulfill the objectives of the study.

a. **Working Capital Policy Ratios:** Current Asset to Total Asset Ratio (CATAR); Current Liabilities to Total Assets Ratio (CLTAR); Current Liabilities to Current Assets Ratio (CLCAR); Net Working Capital to Current Assets Ratio (NWCCAR).

   Further, two debt (Leverage – LEV) ratios viz, Long Term Debt to Total Asset Ratio (LTDTAR) and Total Debt to Total Asset Ratio (TDTAR) are also examined to have a better analysis of the financing approach of the service industry.

b. **Current Asset Structure Ratios:** Inventory to CA Ratio (ITCAR); Debtors to CA Ratio (DTCAR); Cash & Bank Balances to CA Ratio (CBBTCAR); Loans and Advance to CA Ratio (LATCAR); Prepaid Expenses to CA Ratio (PETCAR) and Marketable Securities to CA Ratio (MSTCAR).

c. **Current Liabilities Structure Ratios:** Trade Credit to CL Ratio (TCCLR); Deposits and Advances from Customers and Employees to CL Ratio (DACECLR); Provisions to CL Ratio (PCLR); Short Term Bank Borrowings to CL Ratio (STBBCLR); Current Financing Charge to CL Ratio (CFCCLR) and Other Current Liabilities to CL Ratio (OCLCLR).

d. **Liquidity Ratios:** Current Ratio (CR); Quick Ratio (QR); Absolute Liquidity Ratio (ALR)

e. **Working Capital Leverage:** Current Assets to Net Fixed Assets Ratio (CANFAR); Working Capital

Leverage (WCL) and Return on Total Assets (ROTA).

5. Statistical Tools Used: For the purpose of analysis various statistical tools have been applied to the above mentioned financial ratios. They are: Arithmetic Mean (referred to as Mean now on); Standard Deviation (SD); Coefficient of Variance (CV); Time Series Analysis using the Least Squares Method; R2; t-test; p- value; D-W Statistic, Quadratic Trend, Adjusted R2, F-test.

6. Specification of Model: For the purpose of time series analysis, the model adopted is:

$$Y = a + \beta 1X + ut. \quad \ldots\ldots\ldots\ldots (1)$$

In time series analysis, "Y" represents the trend value of the ratios of WCM, "X" variable represents time in number of years, 1β represents the slope of the trend line, α is the computed intercept of Y variable, when X =0.

Taking the same, the model adopted to examine if ROTA is being affected by WCL is:

$$ROTA = \alpha + \beta\ WCL + ut \quad \ldots\ldots\ldots\ldots (2)$$

The results of 'Linear Trend Model' along with 'D statistics' for each selected parameter is observed. There may be a possibility that a ratio does not follow a linear trend but a quadratic trend and therefore the 'Quadratic Trend Model' is also fitted to examine if the ratio follows the quadratic trend for all the selected ratios.

$$Y = \alpha + \beta 1X + \beta 2X2 + ut. \quad \ldots\ldots\ldots\ldots (3)$$

Where, β 1 represents the estimated linear effect on Y (the slope of the curve at origin) and β 2 represents the estimated quadratic effect on Y (the rate of change in slope),

Both 'Linear Trend Model' and the 'Quadratic Trend Model' are applied to find whether there is a linear trend or curvilinear trend in the WCM, LEV and PROF Ratios, over the period of study. The results of both 'Linear Trend Model' and the 'Quadratic Trend Model' are interpreted jointly.

7. **Hypothesis of the Study:** Five research hypotheses have been examined which are listed as follows:

i **Null Hypotheses (H01):** There is no significant linear trend in the current asset investment and financing policy ratios of the selected sample.

Alternate Hypotheses (Ha1): There is a significant linear trend in the current asset investment and financing policy ratios of the selected sample.

ii **Null Hypotheses (H01):** There is no significant linear trend in the current asset structure ratios of the selected sample.

Alternate Hypotheses (Ha1): There is a significant linear trend in the current asset structure ratios of the selected sample.

iii **Null Hypotheses (H01):** There is no significant linear trend in the current liabilities structure ratios of the selected sample.

Alternate Hypotheses (Ha1): There is a significant linear trend in the current liabilities structure ratios of the selected sample.

iv **Null Hypotheses (H01):** There is no significant linear trend in the liquidity ratios of the selected sample.

Alternate Hypotheses (Ha1): There is a significant linear trend in the liquidity ratios of the selected sample.

v **Null Hypotheses (H01):** There is no significant impact of WCL on the ROTA of the selected sample.

Alternate Hypotheses (Ha1): There is a impact of WCL on the ROTA of the selected sample.

The data presented in Table number 1 to 11 are computed and compiled. Hence, source is not mentioned each time.

Data Analysis & Interpretations

As mentioned in Para III, for the purpose of analysis 4 categories of WCM ratios, i.e. Current Asset Investment and Financing Policy, Current Assets Structure, Current Liabilities Structure and Liquidity, the descriptive statistical techniques and regression analysis are applied. The overall trends in working capital policy, current assets and liabilities structure and liquidity ratios is observed by taking industry average on yearly basis to understand the yearly movements in ratios as well as its nature in the Service industry.

A Leverage and Working Capital Policy Analysis

The outcome of computations on leverage and working capital policy (WCP) over the study period is presented in Tables 1, 2 and 3.

Findings based on Descriptive Statistics (Refer Table 1)

- LTDTAR of the service industry ranged between 16%

and 20% with 18% of the total assets of the Service Industry financed by long term debts on an average , which seems to be a reasonable policy of debt financing being pursued in the Service Industry .

- CLTAR ranged between 24% and 28% and on an average , 26% of the total assets of the service industry were financed by the current liabilities .It is interesting to note that in all the years CLTAR is greater than LTDTAR and indicates that firms in Service Industry had utilized more of short term debt as compared to long term debt to finance its total assets .
- On an average ,44% of the total assets of the Service Industry are financed by total debt ,which seems to be a conservative debt financing policy in the service industry .Also ,it is observed that of the total debt , current liabilities form the major portion Due to decline in LTDTAR and increase in CLTAR , TDTAR has remained in the range of 41% to 46% with lower fluctuations which is also evident from CV of 3 69% .

TABLE – 1: Yearly Mean of Working Capital Policy and Leverage Ratios

Year	Leverage Ratios		Working Capital Policy Ratios			
	LTDTAR	TDTAR	CLTAR	CATAR	CLCAR	NWCCAR
Mar-96	0.20	0.46	0.26	0.46	0.70	0.30
Mar-97	0.20	0.46	0.26	0.45	0.76	0.24
Mar-98	0.20	0.46	0.26	0.44	0.77	0.23
Mar-99	0.20	0.46	0.26	0.44	0.78	0.22
Mar-00	0.18	0.43	0.25	0.43	0.79	0.21
Mar-01	0.18	0.42	0.24	0.43	0.81	0.19
Mar-02	0.17	0.41	0.24	0.43	0.78	0.22
Mar-03	0.18	0.42	0.24	0.42	0.80	0.20
Mar-04	0.17	0.43	0.26	0.43	0.79	0.21
Mar-05	0.16	0.44	0.28	0.44	0.77	0.23
Mar-06	0.16	0.44	0.28	0.45	0.72	0.28
Mar-07	0.16	0.44	0.28	0.45	0.74	0.26
Mar-08	0.17	0.45	0.28	0.45	0.77	0.23
Mar-09	0.16	0.44	0.28	0.45	0.74	0.26
Mar-10	0.17	0.45	0.28	0.45	0.75	0.25
Mean	**0.18**	**0.44**	**0.26**	**0.44**	**0.76**	**0.24**
SD	**0.02**	**0.02**	**0.02**	**0.01**	**0.03**	**0.03**
CV (%)	**8.91**	**3.69**	**6.03**	**2.55**	**3.95**	**12.84**

- The ratio of current assets to total assets ranged between 42% and 46%. On an average, 44% of the service industry's funds are invested in current assets (CA) indicating that the industry is following a conservative current asset investment policy which is characterized with higher proportion of current assets and results to liquid asset structure with lower risk. Such high proportion of CA is generally found in manufacturing industries. However, this ratio is lower as compared to the results observed by Ansari (1985) for 11 manufacturing industry groups where this ratio was observed to be 50%. But it is very high when compared with the study of Kantawala and Joshi (2010) in Steel Industry where CATAR was observed to be 38%.
- It is observed that CLCAR ranged between 0.72 and 0.81 whereas NWCCAR ranged between 0.19 and 0.28 and overall it can be observed that the industry is operating with lower level of NWC. Thus the firms in industry are utilizing more of short term funds in the form of current liabilities to finance the current assets as compared to NWC which is in line with the analysis of LTDTAR and CLTAR in preceding para. Similar phenomenon was observed in the study of Ansari (1985). Lower values of SD and CV indicate that over a period of time the leverage position as well as the working capital policy of the Service Industry has not undergone high fluctuations.

Findings based on Inferential Statistics (Refer Tables – 2 and 3)

- Time trends in WCP and LEV ratios of Indian Non Financial Service Industry have been examined by fitting the Linear Trend Model and Quadratic Trend Model. The results of linear trend on time variable are presented in Table 2 whereas the results of quadratic trend are presented in Table 3 for all the ratios. The results of both the models are interpreted jointly.

- Both the leverage ratios viz, LTDTAR and TDTAR, follow a quadratic trend. The values of $\beta 1$ and $\beta 2$ indicate that the ratios are falling at an increasing rate over a period of time and the trend is likely to reverse after 14th year and 6th year respectively. From this it can be concluded that there is decline in utilization of long term as well as total debt for asset financing in the Non Financial Service Industry and is in line with the analysis made based on Table 1.

TABLE – 2: Linear Trend on Time Variable for LEV and WCP Ratios

Name of Ratio	R^2	Adj. R^2	Intercept	Slope$ß_1$	t-Statistic	p-value	D Statistic	Null Hypothesis
LTDTAR	**0.756**	0.737	0.202	-0.003	-6.349*	0.000	1.230	Rejected
TDTAR	0.051	-0.022	0.447	-0.0008	-0.837	0.418	**0.483**	Rejected
CLTAR	**0.401**	0.355	0.245	0.002	2.951**	0.011	**0.464**	**Accepted**
CATAR	0.020	-0.055	0.438	0.0004	0.517	0.614	**0.408**	Rejected
CLCAR	0.012	-0.064	0.771	-0.0008	-0.403	0.694	**0.871**	Rejected
NWCCAR	0.012	-0.064	0.229	0.001	0.403	0.694	**0.871**	Rejected

* Indicating **significant** results at **1% level of significance** ** Indicating **significant** results at **5% level of significance**

Critical Values of "t"

Degrees of Freedom	Probability (Alpha)	Table Value – t
13	0.01	3.010
13	0.05	2.160

Durbin – Watson Statistic (D-W Statistic), K = 1

N	Probability (Alpha)	D_L (Lower Critical Value)
13	0.01	0.738
13	0.05	1.010

Where, N = Sample size and K represents number of independent variables

- For the ratio CLTAR, a significant positive linear trend is observed which indicates that the ratio increases over the period of study and it is concluded that Service Industry utilizes higher short term funds to finance its total assets and are moving towards aggressive approach to assets financing which confirms the results observed for CLTAR from Table 1.

TABLE – 3: Quadratic Trend on Time Variable for LEV and WCP Ratios

Name of Ratio	R^2	Adj. R^2	Intercept	Slope	Slope β2	t-Statistic β1	t-Statistic β2	F-Statistic	D-Statistic	Null Hypothesis
LTDTAR	**0.857**	**0.833**	0.215	-0.008	0.00 0293	-4.692* (0.001)	2.914* (0.013)	36.008* (0.000)	1.986	**Accepted**
TDTAR	**0.589**	**0.521**	0.479	-0.012	0.001	-4.141* (0.001)	3.965* (0.002)	8.608* (0.005)	**1.012**	**Accepted**
CLTAR	0.589	0.521	0.264	-0.004	0.0004	-1.482 (0.164)	2.346** (0.037)	8.615* (0.005)	**0.667**	Rejected
CATAR	**0.662**	**0.605**	0.462	-0.008	0.001	-4.443* (0.001)	4.772* (0.000)	11.743* (0.001)	**0.883**	**Accepted**
CLCAR	**0.442**	**0.349**	0.718	0.018	-0.001	2.834** (0.015)	-3.038* (0.010)	4.747** (0.030)	1.325	**Accepted**
NWCCAR	**0.442**	**0.349**	0.282	-0.018	0.001	-2.834** (0.015)	3.038* (0.010)	4.747** (0.030)	1.325	**Accepted**

* Indicating **significant** results at **1% level of significance**. ** Indicating **significant** results at **5% level of significance**.

Critical Values of "t" and "F"

t-test			F-test: Degrees of Freedom = 2		
DF	Probability (Alpha)	Table Value – t	N	Probability (Alpha)	Table Value – F
12	0.01	3.055	12	0.01	6.93
12	0.05	2.179	12	0.05	3.88

Durbin – Watson Statistic (D-W Statistic), K = 2

N	Probability (Alpha)	D_L (Lower Critical Value)	D_U (Upper Critical Value)
12	0.01	0.569	1.274
12	0.05	0.812	1.579

Where, N = Sample size and K represents number of independent variables

- The remaining three working capital policy ratios are found to have quadratic trend for the period under study. CATAR is declining at an increasing rate over a period of time and the trend is likely to reverse in 4th year. These results signify that the Non Financial Service Industry is doing away with the excess liquidity by reducing investments in current assets leading to decline in CATAR and gradually adopting an aggressive working capital investment policy.
- The ratios CLCAR and NWCCAR are just two parts of current assets and therefore necessarily the behaviour of the same is bound to be opposite to each other. CLCAR is rising at decreasing rate over the period under study and reverse is the case for NWCCAR. Further, the trend is likely to reverse in 9th year for the period under study for both the ratios. These results indicate that over the period under study the Non Financial Service Industry is reducing its NWC for financing the current assets and relying more on CL. It is obvious also as "Long term interest rates normally exceeds short-term rates because of reduced flexibility of long term borrowing relative to short-term borrowing. In fact, the effective cost of long term debt may be higher than the cost of short-term debt, even when short-term interest rates are equal to or greater than long term rates" Bhalla (2010, p. 37). Further, "the justification of higher cost of long-term financing can be found in the liquidity preference theory which says that since lenders are risk averse and risk generally increases with the length of lending time (because it is more difficult to forecast the more distant future), most lenders would prefer to make short-term loans. The only way to induce these lenders to lend for longer periods is to offer them higher rates of interest" Pandey (2009, p. 591). Hence, it is concluded that the industry is pursuing aggressive current asset financing policy.
- The 'D Statistic' for CLTAR lies in inconclusive region for the linear trend model. However, quadratic trend for this ratio was not found to be significant. Similarly, the 'D Statistic' for TDTAR and CATAR lies in inconclusive region for the quadratic trend model. Further analysis was not carried out as it results to loss in degrees of freedom. But since, the 't statistic' is significant for all the ratios, the linear and quadratic trend observed in these ratios are considered to be significant and same is considered uniformly for all the ratios used in further analysis across the industries where autocorrelation has persisted in case of linear trend or quadratic trend.
- **B. Working Capital Leverage Analysis**
- Working Capital Leverage is a measure of sensitivity of ROTA (EBIT/TA) to changes in level of current asset investment and thus is affected by the asset structure. Therefore, for more appropriate understanding and interpretations, CANFAR and ROTA have been included in the overall analysis. The equation employed for calculation of WCL is:-

$$WCL = \frac{\triangle CA}{TA \pm \triangle CA}$$

The analysis of WCL is presented for 14 years due to loss of observations of 2 years in computation. And in the said context for the purpose of analysis of WCL and in order to maintain consistency in presentation and interpretation of results, the observations for CANFAR and ROTA is also considered for the period of 14 years ranging from March 97 to March 2010.

The outcome of computations on leverage and working capital leverage (WCL) over the study period is presented in Tables – 4, 5 and 6.

Findings based on Descriptive Statistics (Refer Table – 4)

- It is observed that mean WCL of the entire Service Industry (79 companies) is 0.48 on an average and has ranged between 0.44 and 0.52. Mean CANFAR of the entire Service Industry (79 companies) is 1.68, which ranged between 1.53 and 1.86.
- Banerjee, (1990, p. 90) observed, "The industries having low ratio of fixed assets to working capital are more responsive to working capital leverage than those having a high fixed assets to working capital ratio." Considering this, an industry having a high Current Asset to Net Fixed Asset ratio (CANFAR) can be understood to be more sensitive to WCL as compared to industries having low CANFAR. The CANFAR of the Non Financial Service Industry fluctuated until 2001 where after a consistently rising trend is observed indicating that there have been increased investments in Current Assets as compared to Net Fixed Assets over the study period. Thus, it can be inferred that the ROTA of the Non Financial Service Industry is moderately sensitive to variability in level of current asset investments. However, WCL is less than 1 for the Service Industry indicating that the decrease in ROTA is less than proportionate to increase in level of working capital investment, i.e., level of investment in current assets. Hyderabad (1999) observed, "WCL indicates the number of times the ROCE decreases for every one percent increase in working capital." And based on the same, it can be inferred that in the Non Financial Service Industry with 1% increase in current asset investment, the ROTA would decrease by 0.48% on an average and vice versa. Mean WCL of 0.48 indicates that, with 1% change in Current Assets, the ROTA will be affected by 0.48%.

TABLE – 4: Yearly Mean of WCL and Related Ratios			
Year	**WCL**	**CANFAR**	**ROTA**
Mar-97	0.52	1.75	13.93
Mar-98	0.50	1.53	11.91
Mar-99	0.49	1.53	11.25
Mar-00	0.48	1.55	12.02
Mar-01	0.48	1.54	10.49
Mar-02	0.45	1.57	7.39
Mar-03	0.44	1.58	7.87
Mar-04	0.46	1.61	8.98
Mar-05	0.48	1.74	11.25
Mar-06	0.49	1.80	14.97
Mar-07	0.50	1.80	15.69
Mar-08	0.49	1.82	15.10
Mar-09	0.48	1.86	11.79
Mar-10	0.48	1.86	10.25
Mean	**0.48**	**1.68**	**11.95**
SD	**0.02**	**0.13**	**2.79**
CV (%)	**4.30**	**7.91**	**30.56**

Findings based on Inferential Statistics (Refer Table – 5 and 6)

The results of linear trend on time variable are presented in Table 5whereas the results of quadratic trend are presented in Table 6.

- It is observed that WCL exhibits significant trend which is declining at increasing rate and like1y to reverse in 8th year. From this, it is concluded that there has been decline in sensitivity of ROTA due to change in level of current asset investment of firms in the Non Financial Service Industry over the period under study.

TABLE – 5: Linear Trend on Time Variable for Working Capital Leverage							
Name of Industry	**R^2**	**Adj. R^2**	**Intercept**	**Slope**	**t-Statistic**	**p-value**	**D Statistic**
Service (as a whole)	0.038	-0.042	0.489	-0.001	-0.690	0.503	**0.510**
Critical Values of "t"							
DF	**Probability (Alpha)**				**Table Value – t**		
12	0.01				3.055		
Durbin – Watson Statistic (D Statistic), K = 1							
N	**Probability (Alpha)**		**D_L (Lower Critical Value)**		**D_U (Upper Critical Value)**		
12	0.01		0.697		1.023		
Where, N = Sample size and K represents number of independent variables							

TABLE – 6: Quadratic Trend on Time Variable for Working Capital Leverage									
Name of Industry	**R^2**	**Adj. R^2**	**Intercept**	**Slopeβ1**	**Slopeβ2**	**t-Statistic β1**	**t-Statistic β2**	**F-Statistic**	**D Statistic**
Service (as a whole)	**0.484**	0.390	0.527	-0.015	0.001	-3.250* (0.008)	3.081* (0.010)	5.153** (0.026)	**0.819**
* Results significant at 1% level of significance. ** Results significant at 5% level of significance.									

Critical Values of "t" and "F"					
t-test			F-test: Degrees of Freedom = 2		
DF	Probability (Alpha)	Table Value – t	N	Probability (Alpha)	Table Value – F
11	0.01	3.106	11	0.01	7.21
11	0.05	2.201	11	0.05	3.98

Durbin – Watson Statistic (D-W Statistic), K = 2			
N	Probability (Alpha)	D_L (Lower Critical Value)	D_U (Upper Critical Value)
11	0.01	0.519	1.297
11	0.05	0.658	1.604
Where, N = Sample size and K represents number of independent variables			

C. Analysis of Current Assets Structure

In order to examine the structure of CA, the composition of CA with reference to various components of CA is studied. The computation for each ratio over the study period is presented in Table 7.

Findings based on Descriptive Statistics (Refer Table –7)

- Receivables formed the highest share in the current assets of Non Financial Service Industry with 50% on an average followed by Cash and Bank Balance at 20%; Inventories, Loans and Advances and Prepaid Expenses at 8% each and Marketable Securities at 6%.
- The lower ratio of inventory to CA necessarily distinguishes the Non Financial Service Industry from the Manufacturing Industries where inventory is generally noted to be very high proportion of current assets. For e.g. Kantawala and Joshi (2010) observed it to be 39% in Steel Industry; Alam and Hossain (2001) in their study in Ship building industry observed ITCAR to be 62%; Janakiramudu (2010) observed it to be 39.47% in Indian Commercial Vehicle industry; Kannadhasan (2007) observed ITCAR to be 31.75% in Public Limited companies; Khatik and Singh (2003) found it to be 26.42% in fertilizer industry; Mallick and Sur (1999) observed it to be 56% in HLL; Padachi et al (2008) observed it to be 48% in Mauritian Small Manufacturing firms; Reddy and Rao (1996) observed it to be 37% in PSUs; whereas Sarma and Chary (1999) observed to be 57% in Tobacco manufacturing company.

TABLE – 7: Yearly Mean of Current Asset Structure Ra tios

Year	ITCAR	RTCAR	CBBTCAR	PETCAR	LATCAR	MSTCAR
Mar-96	0.10	0.56	0.22	0.04	0.06	0.02
Mar-97	0.11	0.58	0.19	0.05	0.05	0.02
Mar-98	0.10	0.57	0.18	0.07	0.06	0.02
Mar-99	0.10	0.57	0.18	0.07	0.06	0.02
Mar-00	0.08	0.53	0.20	0.07	0.09	0.03
Mar-01	0.08	0.50	0.20	0.08	0.10	0.04
Mar-02	0.08	0.49	0.20	0.08	0.10	0.05
Mar-03	0.08	0.49	0.19	0.09	0.09	0.06
Mar-04	0.08	0.48	0.20	0.08	0.09	0.07
Mar-05	0.08	0.46	0.22	0.08	0.09	0.07
Mar-06	0.06	0.45	0.23	0.09	0.09	0.08
Mar-07	0.06	0.45	0.23	0.10	0.07	0.09
Mar-08	0.06	0.44	0.21	0.11	0.07	0.11
Mar-09	0.06	0.44	0.20	0.12	0.07	0.11
Mar-10	0.06	0.44	0.20	0.13	0.06	0.11
Mean	**0.08**	**0.50**	**0.20**	**0.08**	**0.08**	**0.06**
SD	**0.02**	**0.05**	**0.02**	**0.02**	**0.02**	**0.03**
CV(%)	**21.55**	**10.56**	**7.81**	**28.74**	**21.86**	**57.74**

- Receivables ranged between 44% and 58% of current assets with 50% of investment on an average in CA being in the form of receivables. The mean RTCAR of the Non Financial Service Industry is very high when compared with manufacturing industries. For e.g., Janakiramudu (2010) observed it to be 33.9%; Kannadhasan (2007) observed RTCAR to be 31%; Khatik and Singh (2003) found it to be 23.27%; Mallick

and Sur (1999)observed it to be 23.9%; Padachi et al (2008) observed it to be 34%; Reddy and Rao (1996) observed it to be 37% whereas Sarma and Chary (1999) observed to be 16.54%. Loans and advances ranged between 5% and 10% with the firms in Non Financial Service Industry having 8% of average Loans and Advances in their CA Structure.

- The share of cash and bank balance has ranged between 18% and 23% wherein fluctuations can be observed. The share of marketable securities has ranged between 2% and 11% which has shown an increasing trend throughout the study period. The mean share of cash assets i.e., [Cash and Bank Balance (CBB)+ Marketable Securities (MS)] of 26% indicates a good liquidity position of the Service Industry which can further be substantiated by the analysis of liquidity ratios.
- The share of prepaid expenses has increased which means increased blocking of funds in the form of Prepaid Expenses by the firms in the Service Industry over the period under study. The changes in current asset ratios have been progressive and with lower volatility throughout the study period as evidenced by the values of SD.

Findings based on Inferential Statistics (Refer Tables 10 and 11)

- A significant linear trend is observed for ITCAR, RTCAR as well as PETCAR. The trend in ITCAR as also RTCAR is declining which is thus, the major cause for decline in CATAR observed in Para A. 87% decline in ITCAR and 91.4% decline in RTCAR is explained by time factor indicating that there is decline in blockage of funds in inventory and receivables over the study period which means that inventory and receivables management of the Industry has improved and further signals increased efficiency in WCM. However, an increasing linear trend is observed for PETCAR with 89.5% increase explained by time factor thereby indicating that over the study period there is increased blocking of funds in the form of Prepaid Expenses in the Industry.
- However LATCAR and MSTCAR exhibited a significant quadratic trend. LATCAR is rising at decreasing rate and the trend is likely to reverse in the 9th year for the period under study. MSTCAR is observed to be rising at an increasing rate with 97% increase in ratio explained by time indicating that over the study period there is rising trend of investing idle excess cash in the Service Industry and implies systematic and efficient cash management in the industry. Further, no significant trend is observed for CBBTCAR.

D. Analysis of Current Liabilities Structure Ratios

In order to examine the structure of current liabilities, the composition of CL with reference to various components of CL is studied. The computation for each ratio over the study period is presented in Table 8.

Findings based on Descriptive Statistics (Refer Table –8)

- Trade Credit with 32% of the total CL is the major source of financing the current assets of the Service Industry, followed by Provisions at 22%, Other Current Liabilities (OCL) at 16%, Short Term Bank Borrowings (STBB) at 12%, Current Financing Charge (CFC) at 10%, Deposits and Advances from Customers and Employees (DACE) at 8%. Also, among the current liabilities, the Spontaneous source of short term finance (Trade Credit, CFC, Provisions and OCL) is dominating the current liabilities structure at 80% and balance 20% comprises of the negotiated sources of short term finance (STBB and DACE). TCCLR was also observed to be major source of financing current assets in the study of Padachi et al (2008). However in the study of Akon and Hossain (1997) and Khandelwal (1985) it was observed to be Bank Borrowings.
- DACECLR has increased over the study period whereas TCCLR, and OCLCLR has reduced over the study period whereas, STBBCLR has remained stable with 4.84% variation which is lowest amongst the CL Structure Ratios.

TABLE – 8: Yearly Mean of Current Liabilities Structure Ratios

Year	TCCLR	DACECLR	PCLR	STBBCLR	CFCCLR	OCLCLR
Mar-96	0.35	0.03	0.21	0.12	0.10	0.19
Mar-97	0.34	0.04	0.22	0.12	0.10	0.18
Mar-98	0.34	0.05	0.21	0.12	0.10	0.18
Mar-99	0.34	0.05	0.19	0.13	0.11	0.18
Mar-00	0.32	0.06	0.20	0.13	0.12	0.17
Mar-01	0.31	0.10	0.20	0.12	0.11	0.16
Mar-02	0.34	0.10	0.20	0.12	0.11	0.13
Mar-03	0.35	0.10	0.20	0.12	0.11	0.12

Mar-04	0.33	0.10	0.22	0.12	0.10	0.13
Mar-05	0.32	0.10	0.23	0.12	0.10	0.13
Mar-06	0.32	0.09	0.24	0.11	0.10	0.14
Mar-07	0.31	0.10	0.24	0.12	0.08	0.15
Mar-08	0.29	0.10	0.25	0.13	0.08	0.15
Mar-09	0.29	0.09	0.26	0.13	0.07	0.16
Mar-10	0.29	0.08	0.26	0.13	0.08	0.16
Mean	**0.32**	**0.08**	**0.22**	**0.12**	**0.10**	**0.16**
SD	**0.02**	**0.03**	**0.02**	**0.01**	**0.01**	**0.02**
CV(%)	**6.57**	**32.48**	**10.52**	**4.84**	**14.53**	**14.16**

Findings based on Inferential Statistics (Refer Tables 10 and 11)

- A significant negative linear trend is observed for TCCLR indicating that over the study period there is a decline of 66.2% in the share of trade credit to CL. However no significant trend is observed for STBBCLR thereby indicating that share of STBB in total CL has not undergone significant changes over the study period as also observed in findings of 8. For remaining CL Structure ratios a significant quadratic trend is found.
- DACECLR and CFCCLR are increasing at decreasing rate and the trend is likely to reverse in 11th and 5th year respectively whereas the ratios, OCLCLR and PCLR are falling at increasing rate and the trend is likely to reverse in 9th and 5th year respectively. Hence, it is concluded that over the study period there is preference for DACE and CFC as a source of financing current assets over Trade Credit, OCL and Provisions.

E. Liquidity Analysis

Findings based on Descriptive Statistics (Refer Table –9)

- The Service Industry's CR ranged between 1.68 and 2.03 whereas the QR ranged between 1.89 and 2.35. The yearly mean CR is above the thumb rule in all the years except, 2008 & 2009 whereas the yearly mean QR is above the thumb rule in all the years. Since the investment in inventories is only 8% of the current assets, it can be observed that the difference in the mean current ratio and quick ratio is also very less.
- The industry ALR ranged between 0.49 and 0.91 with yearly ALR being above the thumb rule in all years except 1997 & 1998. On an average the Non Financial Service Industry maintains ` 2.28 of current assets, ` 2.10 of quick assets and ` 0.70 as cash assets against ` 1 of current liabilities indicating a comfortable liquidity position in the industry.
- CR indicates that the industry is having a very good liquidity position which is also substantiated by the fact that that the industry is maintaining high level of current assets in proportion to total assets. However, as quick ratio is considered to be a more rigorous test of liquidity when compared with current ratio, it can be concluded that the Non Financial Service Industry enjoyed sound liquidity position for the selected time frame. ALR indicates liquidity position in absolute sense and the mean ALR of 0.70 indicates that the Non Financial Service industry is technically solvent, cash rich with very good short term liquidity. Further, a rising trend in ALR whereas a falling trend in CR and QR is observed. This phenomenon indicates that over the study period there is increase in cash assets whereas decline in receivables, inventories and other current assets.

TABLE – 9: Yearly Mean of Liquidity Ratios

Year	CR	QR	ALR
Mar-96	2.45	2.29	0.72
Mar-97	2.22	2.05	0.49
Mar-98	2.28	2.12	0.49
Mar-99	2.33	2.18	0.52
Mar-00	2.49	2.35	0.67
Mar-01	2.34	2.21	0.67
Mar-02	2.31	2.18	0.70
Mar-03	2.31	2.18	0.75

Mar-04	2.19	2.06	0.69
Mar-05	2.11	1.98	0.73
Mar-06	2.17	2.07	0.80
Mar-07	2.22	2.12	0.83
Mar-08	1.98	1.89	0.75
Mar-09	1.99	1.89	0.80
Mar-10	2.06	1.96	0.91
Mean	**2.23**	**2.10**	**0.70**
SD	**0.15**	**0.14**	**0.12**
CV(%)	**6.79**	**6.46**	**17.45**

Findings based on Inferential Statistics (Refer Tables 10 and 11)

- A significant rising trend observed for ALR indicates that over the period under study liquidity measured in terms of cash assets to CL has increased. Alternatively, it also signifies increase in cash assets over the study period which is in line with the significant quadratic trend observed for MSTCAR.
- However, CR and QR exhibit significant declining trend with 63.8% decline in CR and 51.2% decline in QR explained by time which indicates an improvement in liquidity management of the industry over the period under study. It also indicates that the industry is making efforts to do away with the excess liquidity as also evident by the yearly mean ratios as presented in Table 9. These results are also in line with the decline observed in CATAR in Para A. Further, the decline in CR and QR is attributable to decline in ITCAR and RTCAR in Para C.

TABLE – 10: Linear Trend on Time Variable for CA, CL Structure and Liquidity Ratios

Category & Name of Ratio	R^2	Adj. R^2	Intercept	Slope	t-Statistic	p-value	D Statistic
Current Asset Structure Ratios							
ITCAR	**0.872**	0.863	0.108	-0.004	-9.432*	0.000	1.711
RTCAR	**0.914**	0.907	0.586	-0.011	-11.741*	0.000	**0.864**
CBBTCAR	0.162	0.097	0.192	0.001	1.584	0.137	**0.907**
PETCAR	**0.895**	0.887	0.043	0.005	10.527*	0.000	**0.871**
LATCAR	0.029	-0.045	0.072	0.001	0.628	0.541	**0.473**
MSTCAR	0.964	0.962	0.000	0.008	18.787*	0.000	**0.906**
Current Liabilities Structure Ratio							
TCCLR	**0.662**	0.636	0.354	-0.004	-5.045*	0.000	1.102
DACECLR	0.544	0.509	0.045	0.004	3.940*	0.002	**0.502**
PCLR	0.662	0.636	0.188	0.004	5.046*	0.000	**0.514**
STBBCLR	0.046	-0.027	0.120	0.0003	0.795	0.441	1.053
CFCCLR	0.499	0.461	0.116	-0.002	-3.599*	0.003	**0.690**
OCLCLR	0.297	0.242	0.177	-0.003	-2.341**	0.036	**0.344**
Liquidity Ratios							
CR	**0.638**	0.610	2.446	-0.027	-4.786*	0.000	1.597
QR	**0.512**	0.474	2.276	-0.022	-3.693*	0.003	1.566
ALR	**0.661**	0.635	0.523	0.022	5.032*	0.000	1.548

* Indicating significant results at 1% level of significance.
** Indicating significant results at 5% level of significance.

Critical Values of "t"

Degrees of Freedom	Probability (Alpha)	Table Value – t
13	0.01	3.010
13	0.05	2.160

Durbin – Watson Statistic (D-W Statistic), K = 1

N	Probability (Alpha)	D_L (Lower Critical Value)	D_U (Upper Critical Value)
13	0.01	0.738	1.038
13	0.05	1.010	1.340

Where, N = Sample size and K represents number of independent variables

TABLE – 11: Quadratic Trend on Time Varia ble for CA, CL Structure and Liquidity Ratios

Category & Name of Ratio	R^2	Adj. R^2	Intercept	Slope	Slope β2	t-Statistic β1	t-Statistic β2	F-Statistic	D-Statistic
Current Asset Structure Ratios									
ITCAR	0.880	0.861	0.112	-0.005	8.88 8E-5	-3.053* (0.000)	0.894 (0.389)	44.193* (0.000)	1.832
RTCAR	0.935	0.925	0.607	-0.018	0.0005	-4.989* (0.000)	2.004 (0.068)	86.932* (0.000)	1.191
CBBTCAR	0.162	0.022	0.191	0.002	-1.293 E-5	0.406 (0.692)	-0.053 (0.959)	1.159 (0.347)	**0.909**
PETCAR	0.900	0.883	0.047	0.004	9.454 E-5	1.697 (0.115)	0.735 (0.477)	53.713* (0.000)	**0.913**
LATCAR	**0.728**	**0.683**	0.035	0.014	-0.000 8	5.663* (0.000)	-5.551* (0.000)	16.054* (0.000)	1.491
MSTCAR	**0.974**	**0.970**	0.008	0.004	0.00019 6	2.886** (0.014)	2.088** (0.059)	224.272* (0.000)	1.181
Current Liabilities Structure Ratio									
TCCLR	0.718	0.671	0.340	0.001	-0.000 3	0.264 (0.796)	-1.545 (0.148)	15.277* (0.001)	1.339
DACECLR	**0.890**	**0.872**	0.005	0.018	-0.00 088	7.789* (0.000)	-6.158* (0.000)	48.764* (0.000)	1.521
PCLR	**0.881**	**0.862**	0.217	-0.006	0.00063 8	-2.673** (0.020)	4.713* (0.001)	44.607* (0.000)	1.325
STBBCLR	0.176	0.038	0.126	-0.002	0.0001 24	-1.144 (0.275)	1.373 (0.195)	1.280 (0.313)	1.210
CFCCLR	**0.817**	**0.787**	0.095	0.005	-0.000 47	3.106* (0.009)	-4.567* (0.001)	26.797* (0.000)	1.839
OCLCLR	**0.770**	**0.732**	0.217	-0.017	0.001	-5.749* (0.000)	4.968* (0.000)	20.076* (0.000)	**0.838**
Liquidity Ratios									
CR	0.691	0.639	2.354	0.005	-0.002	0.232 (0.820)	-1.432 (0.178)	13.405* (0.001)	1.938
QR	0.582	0.513	2.181	0.012	-0.002	0.486 (0.636)	-1.420 (0.181)	8.361* (0.005)	1.892
ALR	0.670	0.615	0.554	0.012	0.001	0.594 (0.564)	0.565 (0.583)	12.159* (0.001)	1.530

Critical Values of "t" and "F"

t-test			F-test: Degrees of Freedom = 2		
DF	**Probability (Alpha)**	**Table Value – t**	**N**	**Probability (Alpha)**	**Table Value – F**
12	0.01	3.055	12	0.01	6.93
12	0.05	2.179	12	0.05	3.88

Durbin – Watson Statistic (D-W Statistic), K = 2

N	Probability (Alpha)	D_L (Lower Critical Value)	D_U (Upper Critical Value)
12	0.01	0.569	1.274
12	0.05	0.812	1.579

Where, N = Sample size and K represents number of independent variables

Conclusions and Suggestions

- From the analysis, it is concluded that even the Non Financial Service Industry is characterized with high CATAR.
- It is concluded that the Service Industry is following an aggressive approach of financing its current assets which was also observed in the study of Pradhan (1986) for 6 manufacturing industries. The reason can be assigned to the good reputation, established business and creditworthiness due to which the Service Industry has access to and is able to utilize more short term funds to finance its current assets.
- It is concluded that there is decline in utilization of long term as well as total debt for asset financing in the Non Financial Service Industry.
- The Non Financial Service Industry is doing away with the excess liquidity by reducing investments in current assets leading to decline in CATAR and gradually adopting an aggressive working capital investment policy.
- It is concluded that there has been decline in sensitivity

of ROTA due to change in level of current asset investment of firms in the Non Financial Service Industry over the period under study.

- Receivables formed the highest share in the current assets of Non Financial Service Industry with 50% on an average followed by Cash and Bank Balance at 20%; Inventories, Loans and Advances and Prepaid Expenses at 8% each and Marketable Securities at 6%.
- The lower ratio of inventory to CA necessarily distinguishes the Non Financial Service Industry from the Manufacturing Industries where inventory is generally noted to be very high proportion of current assets.
- The mean RTCAR of the Non Financial Service Industry was found to be very high when compared with manufacturing industries.
- It is concluded that there is decline in blockage of funds in inventory and receivables over the study period indicating improvement in inventory and receivables management of the Industry which further signals increased efficiency in WCM.
- It is concluded that there is increased blocking of funds in the form of Prepaid Expenses in the Industry.
- There is a rising trend of investing idle excess cash in the Service Industry and implies systematic and efficient cash management in the industry.
- Trade Credit with 32% share of the total CL is the major source of financing the current assets of the Service Industry. Also, among the current liabilities, the Spontaneous source of short term finance (Trade Credit, CFC, Provisions and OCL) is dominating the current liabilities structure at 80% and balance 20% comprises of the negotiated sources of short term finance (STBB and DACE).
- It is concluded that over the study period there is preference for DACE and CFC as a source of financing current assets over Trade Credit, OCL and Provisions.
- On an average the Non Financial Service Industry maintains ` 2.28 of current assets, ` 2.10 of quick assets and ` 0.70 as cash assets against ` 1 of current liabilities indicating a comfortable liquidity position in the industry.
- The Liquidity Management of Non Financial Service Industry has improved over the study period and is shedding excess liquidity in idle current assets.

References

Ansari S. A. (1985). Working Capital Management of Small Scale Industries – A Comparative Study of Certain Units. Unpublished Thesis, Department of Commerce and Business Administration. University of Allahabad – January 1985.

Alam Rabiul S. M. and Hossain Dr. S. Z. (2001). Aspects of Inventory Management in Shipbuilding Industry in Bangladesh. The Management Accountant. Vol 36(9), September 2001, pp. 699-706.

Alrjoub, A. M. S., Alrabei, A. M. A., Salesh, M. M. A. and Alrawashdeh, O. A. M. (2012), Working Capital Management in Cement Units in Rajhasthan, Middle Eastern Finance and Economics, Issue 16, pp. 110-121.

Banerjee, B. (1990) Financial Policy and Management Accounting, World Press Pvt. Ltd, Calcutta, p. 90.

Bhalla, V.K. (1997). Modern Working Capital Management. New Delhi: Anmol Publications Pvt Ltd.

Bhalla, V. K. (2010), Working Capital Management (Text and Cases), Eleventh Revised Edition, Anmol Publications Pvt. Ltd., New Delhi, p. 37.

Block, S. B. and Hirt, G. A. (1992). Foundations of Financial Management. Boston: Richard D. Irwin Inc., Mass, p. 138.

Chandrabai, T. and Rao, Dr. K. V. J. (2011), Working Capital Management of Indian Electrical Equipment Manufacturers – A Comparative Study, Zenith International Journal of Multidisciplinary Research, 1(8), December 2011, pp. 460-469.

Economic Survey, 2014-15, Government of India.

Hossain Dr. S. Z. and Akon Md. H. R. (1997) Financing of Working Capital: A Case Study of Bangladesh Textile Mills Corporation. Journal of Financial Management and Analysis, July – Dec 1997, Vol 10, No. 2, pp. 37 – 43.

Hyderabad, R. L. (1999), Working Capital Leverage Management: Case Analysis, Journal of Accounting and Finance, 13(1), March 1999, pp. 96-104.

Jaiswal, Dr. B., Nigam, N. and Pandey, S. (2010), Liquidity Management (A Case Study of Ranbaxy Laboratories Ltd.), Available on http://www.sherwoodindia.in/PDF%20ManagementToday%202010/LIQUIDITY%20MANAGEMENT.pdf.

Janakiramudu, Dr. P. (2010), Working Capital Structure and Liquidity Analysis: An Empirical Research of Indian Commercial Vehicles Industry, Journal of Accounting and Finance, Vol. 24 (1), October 2009-March 2010, pp. 44-59.

Joshi, A., Joshi S. and Gairola V. (2010), Comparison of Working Capital Management of Public and Private Sector Enterprises "Discussion based on

Comparative Case Studies of TISCO and RINL", Global Journal of Finance and Management, Vol. 2 (2), pp. 173-187.

Kannadhasan M. (2007). Working Capital Management in a Public Limited Company – A Case Study. The Icfaian Journal of Management Research, Vol 6 (5), May 2007, pp 20-33.

Kantawala, A. S. and Joshi, M. N. (2010), Analysis of Components of Current Assets With Reference to the Steel Industry in India, Management Trends, Vol. 7 (2) – September 2010, pp. 65-78.

Kantawala, A. S. and Shroff, S. J. (2012). A Study on Working Capital Management of Indian Hotel Industry. Management Trends, 9(1), 69-74.

Khatik S. K. and Singh P.K. (2003). Working Capital Management in Indo-Gulf Corporation Limited: A Case Study. International Journal of Management and Systems. Vol 19 (1), Jan- April 2003, pp. 91-100.

Khandelwal, N. M. (1985), Working Capital Management in Small Scale Industries, Ashish Publishing House, New Delhi.

Lamberson, M. (1995). Changes in Working Capital of Small Firms in Relation to Changes in Economic Activity. Mid-American Journal of Business, 10(2), 45-50.

Mallick A. K. and Sur D (1999), "Working Capital Management: A Case Study of Hindustan Lever Ltd.", Finance India. Vol XIII (3), September 1999, pp. 857-871.

Misra, R. K. (1975). Problems of Working Capital Management with reference to Selected Public Undertakings in India., New Delhi: Somaiya Publications Pvt Ltd.

Padachi, K., Narsimham M.S., Durbarry R. and Howorth C. (2008). An Analysis of Working Capital Structure and Financing Pattern of Mauritian Small Manufacturing Firms. Icfai Journal of Applied Finance, Vol 14, No. 7, July 2008, pp. 42-61.

Pandey, I. M. (2009), Financial Management, Ninth Edition, Vikas Publishing House Pvt Ltd., p. 591.

Pradhan R. (1986), Financing Pattern of Working Capital in Indian Industries, The Management Accountant, April 1986, pp. 205-206.

Reddy Dr. P.I. and Rao K. S. (1996). Working Capital Management in Public Sector Undertakings - A case study. The Management Accountant, September-1996, pp. 643-645.

Sagan, J. (1955). Towards a Theory of Working Capital Management. The Journal of Finance, May 1955, 121-129.

Sarma M. S. And Chary T. (1999). Working Capital Management in VST-An Appraisal. Finance India. Vol XII (1), March 1999, pp. 71-79.

Shroff, S. J. (2013). An Empirical Analysis of Working Capital Policy, Risk and Leverage. Pakistan Business Review, 14(4), pp. 712-731.

Shroff, S. J. (2014), Working Capital Management in Indian Steel Industry, Gitam Journal of Management, 12 (2), pp. 69-84.

Shroff, S. J. (2014), Working Capital Management of Market Leaders, Pacific Business Review International, 6(11), pp. 79-86.

Weston J. F. & Brigham E. F. (1962). Managerial Finance. New York: Holt Rine, Hart & Winston, p-123.