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Working Capital Management in Respect of Automobiles Industry in India

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<< *Abstract*

In the paper we have made an attempt to examine the practice in working capital management especially profitability ratios, traditional liquidity ratios and cash flow based ratios of the seven selected automobile companies which are large manufacturing and trading public limited companies in the private sector in India. This paper made use of secondary data procured from annual reports of selected Indian automobile companies for the financial year 2008-09. Supplementary information has also been collected from different newspapers, journals, reference books, articles and concerning websites. Statistics was used to analyze the efficiency of the various liquidity measures such as arithmetic mean, standard deviation, correlation, related factors matrix, transformation matrix and canonical discriminant functions. The study is based on hypothesis which are tested by the factor analysis of all three sets of ratios. The result of the study reveals that cash flow based ratios have a better predictive power than other traditional financial ratios.

1. INTRODUCTION

Working capital is that part of total capital which is used for meeting routine and respective expenses of day to day business operation. Working capital may be defined as the difference between current assets and current liabilities. Current assets includes cash in hand and cash at bank ; accounts receivables (debtors and bills receivables) ; stock of raw-materials, semi-finished goods, finished goods, stores, supplies and sundries; marketable securities; prepaid expenses; and accrued incomes. Current liabilities includes bank overdrafts; short-term loans; accounts payables (creditors and bills payables); out standing expenses; advance incomes; and provision for tax.

The working capital is needed for many purposes like - for the purchase of raw-materials, components and spares; to pay wages and salaries ; to incur day-to-day expenses and overhead costs such as fuel, power and office expenses; to meet the selling costs as packing, advertising etc; to provide credit facilities to the customers; and to maintain the inventories of raw-material, work-in-progress, stores, spares and finished goods.

Management of working capital is concerned with the problems that arise in attempting to manage the current assets, current liabilities and the interrelationship that exist between them. It refers to all aspects of the administration of both current assets and current liabilities. Working capital management has a great effect on firm's profitability, liquidity and its structural

health. Management of working capital has basically two functions i.e. analyzing of working capital and estimating working capital requirements. There are two techniques to analyze the working capital i.e. ratio analysis and schedule of working capital changes.

Proper management of working capital is very important for the success of business enterprises. It aims at protecting the purchasing power of assets and maximizing the return on investment. To have adequate healthy and efficient circulation of working capital, it is necessary that working capital be properly determined and allocated to its various segments, effectively controlled and regularly reviewed.

The automobile industry in India is the ninth largest in the world and is expected to become one of the major global automotive industries in the recent years. The present paper is intended to examine the industry practice especially automobile industry in India in working capital management and to evaluate management performance in this regard. The efficiency of the working capital management is determined by analyzing profitability ratios, traditional liquidity ratios and cash flow based ratios of selected automobile units in India.

2. RELEVANT LITERATURE

The manner of administration of working capital determines to a large extent the success or failure of over all operations of an enterprise. In nineties, industries in India have been finding it increasingly difficult to provide working capital due to continuous draining out of finances by the banks-the main financing agencies for providing working capital-under the credit squeeza policies by the Reserve Bank of India. The Indian industries have, therefore, to optimize the use of the resources available at their disposal through efficient management of working capital. The information about the industry practice relating to the management of working capital and its components, particularly in the private sector, is largely lacking.

A successful intensive research study carried out at the Delhi school of economics of doctorate degree of the University of Delhi, for the first time, attempted a detailed examination of the management of working capital in aggregative and disaggregative terms in the private sector in India.

A few years back (in 1996), a study of the "Structure of Working Capital" was made by the NCAER (National Council of Applied Economic Research). The study was devoted mainly to the analysis of the composition of the working capital with special reference to the three industries : fertilizers, cement and sugar.

It is, thus, obvious that the information about the industry practice relating to the management of working capital and its components in the private sector is largely lacking. This paper is an attempt in this direction.

3. SCOPE

This paper is a study of working capital management in respect of certain selected large manufacturing and trading public limited companies in the private sector. The study covers the following seven automobile companies in India :-

1. Ashok Leyland;
2. Bajaj Auto;
3. 3Hero Honda Motors Limited;
4. Hindustan Motors Limited;
5. Maruti Udyog Limited;
6. Mahindra & Mahindra Limited; and
7. TVS Suzuki Limited.

4. OBJECTIVES

The main objectives of this paper are :-

- To examine the practice in working capital management especially profitability ratios, traditional liquidity ratios and cash flow based ratios of the selected seven automobile companies in the private sector in India ;
- All the three ratios (profitability ratios, traditional liquidity ratios, and cash flow based ratios) be clubbed into three categories as operational liquidity index, financial liquidity index and firm's liquidity index; and
- Out of the three ratios (profitability, traditional liquidity and cash flow based) which one is the better indicator of the financial health of the firm.

5. HYPOTHESIS

The paper is based on the following two hypothesis :-

- There is insignificant correlation among the three sets of ratios and all the three sets of ratios can not be clubbed into the separate categories; and
- Cash flow based ratios out of the three sets of ratios (profitability ratios, traditional liquidity ratios and cash flow based ratios) are not better indicators of firm's health.

6. PERIOD

The paper covered the period of the financial year i.e. from1st April, 2008 to 31st March. 2009 of the automobiles industry in India.

7. METHODOLOGY

The paper is based on the secondary data which have been procured form the published annual reports of seven selected automobile companies in India. Besides, supplementary information has been collected from different newspapers, journals, reference books, articles etc. Statistics has been used to analyze and to test the efficiency of the various liquidity measures such as arithmetic mean, standard deviation, correlation, related factors matrix, transformation matrix and canonical discriminant functions.

Every business needs funds for two purposes - for its establishment and to carry out its day-to-day operations. Long term funds which are blocked on a permanent basis are required for firm's establishment. Short term funds which are required for the purchase of raw-materials, payment of wages and other day-to-day expenses are known as working capital. Therefore, working capital management is carried out effectively, efficiently and consistently, will assure the health of an organization. At present, analysis and interpretation of financial statements through ratios plays an important role in the process of decision making. Hence, ratios are the most popular and effective tool of financial analysis especially the planning of working capital. The present paper is a study of working capital management in respect of automobile industry in India. The procured data of all the seven Indian automobile companies has been analyzed into three sets of ratios i.e. profitability ratios, traditional liquidity ratios and cash flow based ratios.

8. DATA ANALYSIS

Every business unit works to earn maximum profit. The existence, continuance and expansion of the business depends on its capacity to earn a good amount of profits every year. The ability to earn profits is called profitability. The efficiency and the success of a concern can be measured with the help of profitability ratios. In this paper, we have used two profitability ratios i.e. return on assets (RA) and return on capital employed (RCE).

Table 1 shows, Hero Honda Motors Limited has earned maximum return on assets (0.2875 times) and return on capital employed (0.4510 times) during this financial year in

Table-1
PBDIT, TA, CE, Return on Assets and Return on Capital Employed of seven Indian Automobile industries for the financial year 2008-09.

Name of Automobile Companies	PBDIT Rs. (in crores)	TA Rs. (in crores)	CE Rs. (in crores)	RA(PBDIT/TA) in times	RCE (PBDIT/CE) in times
Ashok Leyland	469.44	6546.39	4071.02	0.0717	0.1153
Bajaj Auto	1202.32	6042.04	3439.69	0.1990	0.3495
Hero Honda Motors Ltd.	1749.52	6085.14	3879.24	0.2875	0.4510
Hindustan Motors Ltd.	(67.44)	377.75	212.46	(0.1185)	(0.3174)
Maruti Udyog Ltd.	1832.06	13675.4	10043.80	0.1340	0.1824
Mahindra & Mahindra Ltd.	1092.63	14082.4	9284.64	0.0776	0.1177
TVS Suzuki Ltd.	200.55	2560.68	1719.11	0.0783	0.1167
			Mean (a)	**0.0957**	**0.1450**
			Standard Deviation (s)	**0.1338**	**0.2245**

(Source : Annual Reports of Seven Indian Automobile Companies for the financial year 2008-09)

comparison to all other automobile companies. Ashok Leyland is the least earning return on assets (0.0717 times) and return on capital employed (0.1153 times) during this financial year. While Hindustan Motors Limited has negative return on assets (-0.1185 times) and return on capital employed (-0.3174 times) due to negative PBDIT (-67.44 crores)

The meaning of traditional liquidity ratios refers to the composition of short term sources of funds as net current assets. These ratios are calculated to check the present short term solvency of the company. In this paper we have used two traditional liquidity ratios i.e. current ratio (CR) and quick ratio (QR). Current ratio compares the total current assets of the business unit to its current liabilities. A current ratio of 2:1 is considered satisfactory. Quick ratio is concerned with the relationship of liquid assets and current liabilities. The ideal level of quick ratio is 1:1.

Table 2 explains Maruti Udyog Limited has maximum current ratio (1.5338 times) which is just lower than ideal and liquid ratio (1.3823 times) which is more than ideal in comparison to all other automobile companies. Hero Honda Motors Limited has the miniumu current ratio (0.4634 timer) and liquid ratio (0.4171 times).

Cash flow based ratios are calculated to show the impact of various transactions on the cash position of the firm. These ratios are useful for the management in accessing the capability of business to meet its short term commitments towards sales, total assets and debts. In this paper we hve used three cash flow based ratios i.e. cash flow from operations based on sales (CFO/S), cash flow from operations based on total assets (CFO/TA) and cash flow from operations based on debts. (CFO/D).

Table 3 depicts, Hindustan Motors Limited has maximum CFO/S i.e. 0.1478 times, CFO/TA

Table-2

CA, CL, LA, CR and QR of seven Indian Automobile Companies for the financial year 2008-09.

Name of Automobile Companies	CA Rs. (in crores)	CL Rs. (in crores)	LA Rs. (in crores)	CR (CA/CL) in times	QR (LA/CL) in times
Ashok Leyland	3195.70	2475.37	2875.70	1.2910	1.1698
Bajaj Auto	2401.45	2602.35	2161.45	0.9228	0.8306
Hero Honda Motors Ltd.	1022.14	2205.90	920.14	0.4634	0.4171
Hindustan Motors Ltd.	11022.14	2205.90	920.14	0.4634	0.4171
Maruti Udyog Ltd.	5570.00	3631.60	5020.00	1.5338	1.3823
Mahindra & Mahindra Ltd.	5081.20	4797.76	4581.20	1.0591	0.9549
TVS Suzuki Ltd.	971.27	841.57	881.27	1.1541	1.0472
			Mean (a)	**1.0421**	**0.9412**
			Standard Deviation (s)	**0.3151**	**0.2851**

(Source : Annual Reports of Seven Indian Automobile Companies for the financial year 2008-09)

Table-3

CFO, Sales, TA, Debts, CFO/S, CFO/TA and CFO/D of seven Indian Automobile Companies for the financial year 2008-09.

	Rs. (in crores)				in times		
Name of Automobile Companies	**CFO**	**S**	**TA**	**D**	**CFO/S**	**CFO/TA**	**CFO/D**
Ashok Leyland	525.58	5981.07	6546.39	4437.35	0.0879	0.0803	0.1184
Bajaj Auto	6.62	9423.08	6042.04	4172.35	0.0007	0.0011	0.0016
Hero Honda Motors Ltd.	141.42	12356.88	6085.14	2284.39	0.0144	0.0232	0.0619
Hindustan Motors Ltd.	88.43	598.26	377.75	294.31	0.1478	0.2341	0.3005
Maruti Udyog Ltd.	61.04	20852.52	13675.4	4330.5	0.0029	0.0045	0.0141
Mahindra & Mahindra Ltd.	151.75	13093.68	14082.4	8850.52	0.0116	0.0108	0.0171
TVS Suzuki Ltd.	161.56	4008.91	2560.68	1747.55	0.0403	0.0631	0.0924
				Mean (a)	**0.0432**	**0.0596**	**0.0866**
				Standard Deviation (s)	**0.0511**	**0.0765**	**0.0961**

(Source : Annual Reports of Seven Indian Automobile Companies for the financial year 2008-09)

i.e. 0.2341 times and CFO/D i.e. 0.3005 times during this financial year. Bajaj Auto has minimum CFO/S i.e. 0.0007 times, CFO/TA i.e. 0.0011 times and CFO/D i.e. 0.0016 times in comparison to all other companies during this financial year.

- PBDIT stands for Profit Before Depreciation, Interest and Tax.
- TA stands for Total Assets
- CE stands for Capital Employed
- CA stands for Current Assets
- CL stands for Current Liabilities
- LA stands for Liquid Assets i.e. Current Assets minus Stock
- CFO stands for Cash Flow from Operations.
- S stands for Sales.
- D stands for Debts.

Factor analysis is a statistical method used to describe variability among observes variables in terms of a potentially lower number of unobserved variables called factors. Factor analysis searches for such joint variations in response to unobserved latent variables. The observed variables are modeled as linear combination of the potential factors, plus error terms. The information gained about the interdependencies between the observed variables can be used later to reduce the set of variables in a dataset. Factor analysis originated in psychometrics, and is used in behavioral sciences, social sciences, marketing, product management, operation research and other applied sciences that deal with large quantities of data. Under this paper, we have analyzed the final statistics of factor analysis of all three sets of ratios. We have also used rotated factor matrix of factor analysis and factor transformation matrix of factor analysis of all three sets of ratios.

Table-4
Rotated Factor Matrix of Factor Analysis of all three sets of ratios.

Variables	Factor 1	Factor 2	Factor 3
PBDIT/TA	0.84512	0.01332	(0.17995)
PBDIT/CE	0.88009	(0.28681)	(0.12445)
CFO/S	(0.14648)	(0.16046)	0.93226
CFO/TA	0.52881	0.21253	0.61856
CFO/D	0.49061	(0.44952)	0.52311
CR	0.07741	0.87244	(0.04373)
QR	(0.017321)	0.92939	(0.05314)

15. FINDINGS

1. Testing Hypothesis First : Factor analysis has been conducted with all the ratios as the variables for same companies. The factors were examined to club the ratios into groups. Factors analysis provided for three factors. The factors with the variables are :

Factor 1 - PBDIT/TA (0.84512), PBDIT/CE (0.88009)

Factor 2 - CR (0.87244), QR (0.92939)

Factor 3 - CFO/S (0.93226), CFO/TA (0.64586), CFO/D (0.52311) .

From the analysis it is noticed that the ratios have been grouped into three distinct factors based on the high correlation. Based on the results, first hypothesis i.e. there is insignificant correlation among the ratios and the ratios cannot be clubbed into separate categories, is rejected.

Table-5
Correlation between the factors

	Factor 1	Factor 2	Factor 3
Factor 1	0.82222	-0.56021	0.10064
Factor 2	0.56914	0.80735	-0.15578
Factor 3	0.00602	0.18536	0.98265

2. Testing Hypothesis Second : Assuming that the profitability ratios are good indicators for classifying companies, the seven samples companies have been grouped into two categories :

- Group 1 : ROCE > Industry Average (The "good" companies) and
- Group 0 : ROCE < Industry Average (The "bad" companies)

Bad Companies : Ashok Leyland, TVS-Suzuki Limited, and Hindustan Motors Limited.

Good Companies : Bajaj Auto, Hero Honda Motors Limited, Maruti Udyog Limited and

Mahindra & Mahindra Limited.

The researcher has categorized bad and good automobile companies out of the sample companies on the basis of PBDIT.

To check the predictive power of the traditional ratios a discriminant analysis has been

conducted. A similar discriminant analysis has been done with the cash flows based ratios. The classification statistics has been used to see which of the two sets is a better discriminator.

For the traditional ratios the statistics are as follows:-

Eigen Values 0.1202

Correlation 0.3276

Wilks Lambda 0.8927

Groups correctly classified 64.29%

For the cash flow based ratios the statistics are:-

Eigen Values 0.3001

Correlation 0.4805

Wilks Lambda 0.7692

Groups correctly classified 71.43%

From the analysis it is observed that the cash flow based ratios classify the companies better than the traditional ratios.

Based on the results, second hypothesis i.e. cash flow measures are not better indicators of firm's health, is also rejected but cash flow based ratios are a better indicator of the financial health of a company.

Therefore, the cash flow based ratios taking together have a better predictive power than the other traditional financial ratios and traditional liquidity ratios. Both hypothesis are rejected.

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