

Abstract of Doctoral Dissertation

Working Capital Management of Indian Automobile Industry¹

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I. Introduction

DEVELOPING ECONOMIES ARE confronted with the problem of inefficient utilization of resources available to them. Capital is the limited productive resource in such economies and proper utilization of these resources promotes the rate of growth, cuts down the cost of production and above all improves the efficiency of the productive system. The total capital of a country comprises fixed capital and working capital. Fixed capital investment generates production capacity whereas working capital makes the utilization of that capacity possible. Thus, the study of working capital occupies an important place in financial management. Funds are needed in every business for carrying on day-to-day operations. A firm can exist and survive without making profit but cannot survive without working capital funds. If a firm is not earning profit, it may be termed as 'sick', but not having working capital may cause it bankruptcy and closure over a period of time. In addition, working capital has acquired a great significance and sound position for the twin objects of "Profitability and Liquidity". It consumes a great deal of time to increase profitability as well as to maintain proper liquidity at minimum risk. All the above factors clearly indicated the crucial importance of working capital in the management of finance. Thus, need for skilled working capital management has become very essential in recent years. Viewed in this perspective, the study devoted to working capital management may be a very rewarding one.

Automobile industry is a major constituent of surface transport. Automobile as a commodity includes passenger cars, commercial vehicles, three wheelers and two wheelers. India has growing market potential for

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automobiles due to rise in demand. As a result more and more manufacturers are bringing in new forms of the existing product because diffusion of a new product depends upon demand statistics. Therefore, automobile industry has been selected for this study in order to determine its working capital performance during the study period.

II. The Study: Data and Methodology

2.1 Objectives of the study

The present study in general aims at making a comparative study of working capital management performance in commercial vehicles, passenger cars and multiutility vehicles and two and three wheelers sectors of Indian automobile industry. The specific objectives of the study are:

- i. To examine the structure, source and utilization of working capital and its components;
- ii. To estimate the risk-return analysis of working capital position;
- iii. To assess the liquidity position;
- iv. To assess the impact of working capital ratios on profitability; and
- v. To estimate transactions demand functions of working capital and its various components on efficiency in utilization of working capital in the selected units of the automobile industry in India.

2.2 Selection of sample

There are 26 companies operating in the Indian Automobile Industry. The companies under automobile industry are classified into three sectors namely; commercial vehicles, passenger cars and multiutility vehicles and two and three wheelers. For the purpose of the study all the three sectors have been selected. Out of 26 companies, 5 are under commercial vehicles, 8 under passenger cars and multiutility vehicles and 13 under two and three wheelers sector. Out of 26 companies of the selected sectors, 15 years data is available for 17 companies only. Therefore, all the 17 companies are included in the sample. It accounts for 69.23 per cent of the total companies available in the Indian automobile industry. The sample company represents 98.74 percentage of market share in commercial vehicles, 87.08 percentage in passenger cars and multiutility vehicles and 99.81 percentage in two and three wheelers. Thus, the findings based on the occurrence of such representative sample may be presumed to be true representative of automobile industry in the country.

2.3 Period of study

The period 1992-93 to 2006-07 is selected for this study of Indian automobile industry. This 15 years period is chosen in order to have a fairly long, cyclically well balanced period, for which reasonably homogenous, reliable and up to-date financial data would be available.

2.4 Source of data

The study is mainly based on secondary data. The major source of data analyzed and interpreted in this study related to all those companies selected is collected from "PROWESS" database, which is the most reliable on the empowered corporate database of Centre for Monitoring Indian Economy

(CMIE). Besides prowess databases, relevant secondary data have also been collected from BSE Stock Exchange Official Directory, CMIE Publications, Annual Survey of Industry, Business newspapers, Reports on Currency and Finance, Libraries of various Research Institutions, through Internet etc. The study required variety of data therefore, websites like <http://indiainfoline.com>, www.indiastat.com and www.google.com have been comprehensively searched.

2.5 Tools of Analysis

For the purpose of the study, researcher has used the following tools for analysis of data.: Ratio Analysis, Mean, Standard deviation, t' Test, Co-efficient of Variation, Compound Annual Growth Rate, Correlation Co-efficient, Liner Multiple Regression, Analysis of Variance, Discriminant Analysis, ANOVA, Trend Indices and Chi-Square Test

III. Findings and Conclusion

3.1 Size of working capital

The analyses of size of working capital lead to the conclusion that during the period under study, passenger cars and multiutility vehicles sector units having enjoyed comparatively sound liquidity position and also effective utilization of working capital funds, seem to have achieved a trade off in their liquidity and profitability.

3.2 Composition of working capital

Receivables, Inventory, cash and bank and other current assets averaged 48.84 per cent, 35.61 per cent, 9.51 per cent and 5.96 per cent respectively of working capital in the automobile industry of India. These proportion were almost the same, with slight ups and down, in all the selected units in automobile industry. Among the selected units, Ashok Leyland Ltd in commercial vehicles sector units, Maruti Udyog Ltd in passenger cars and multiutility vehicles sector and Maharastra Scooter Ltd in two and three wheelers sector have been able to make some reductions in inventory percentage to the total current assets as their average trend has been found to be the lowest.

3.3 Circulation of working capital

An analysis of the circulation of various current assets disclosed that different units have utilized their working capital with the varying degrees of efficiency in the selected automobile industry of India. It has been found from analysis that two units (Tata Motors Ltd and Eicher Motors Ltd) in commercial vehicles sector, two units (Mahindra and Mahindra Ltd and Maruti Udyog Ltd) in passenger cars and multiutility vehicles sector and four units (Bajaj Auto Ltd, Maharastra Scooters Ltd, TVS Motor company Ltd and Hero Honda Motors Ltd) in two and three wheelers sector, have better inventory control than any other unit during the study period. As far as receivables management is concerned, the two and three wheelers sector units have better performance than the commercial vehicles sector and passenger cars and multiutility vehicles sector units.

3.4 Growth of working capital

The growth that has taken place in the size of current assets in relation to sales, points out that automobile industry in India was recorded lower growth rates in current assets than in sales. This is an indication of sound working capital management. Further, the two and three wheelers sector have more average growth in current assets than in sales compared to commercial vehicles sector and passenger cars and multiutility vehicles sector units. However, such growth has been higher in the two and three wheelers sector than in the commercial vehicles sector and passenger cars and multiutility vehicles sector units. It is inferred from the analysis that in the case of Ashok Leyland Ltd, Tata Motors Ltd, Bajaj Tempo Ltd and Eicher Motors Ltd among commercial vehicles sector units, all the units of passenger cars and multiutility vehicles sector and LML Ltd, TVS Motor Company Ltd, Hero Honda Motors Ltd and Scooters India Ltd among two and three wheelers sector units, relatively good improvement in the working capital management has been noticed.

3.5 Adequacy of working capital

The operational adequacy of the working capital of the selected units has also been assessed by employing the discriminant analysis based on the size of working capital in terms of monthly operational requirements and sales requirements as independent variables. The construction of discriminate function suggests that the size of net working capital in terms of monthly operational requirements appeared to be stronger than sales requirements in all the years. The discriminate Z values were estimated and the good risk and poor risk enterprises may also be identified by computing the cut-off values. The comparison of good and poor risk units as per the current ratio and as per the discriminant score shows that the misclassification of units is noticed in all the years. It can be concluded that in the years 1992-93 to 2006-07 Ashok Leyland Ltd in commercial vehicles sector, Mahindra and Mahindra Ltd in passenger cars and multiutility vehicles sector and Bajaj Auto Ltd in two and three wheelers sector units' maintained adequate size of the working capital throughout the period under study.

3.6 Working capital trend

To analyze the working capital trend, the indices for different years, taking 1992-93 as base year, have been calculated for each unit of the automobile industry separately. The indices of the working capital showed an erratic trend in all the selected Indian automobile industry. Analyzing the working capital trend, it has been assumed that the working capital trend will conform to the straight line calculated by the method of least squares. On the basis of Chi-square test, it has been calculated that the progress of automobile industry with regard to working capital requirements cannot be approximated by the straight line method because the difference between the actual values and trend values of the working capital is significant in all the selected automobile industries of India. It is concluded that the performance of individual automobile companies is significantly differs from the standards of industry.

3.7 Risk-Return analysis

In order to test the hypothesis of E.W.Walker of negative relationship between return on investment and working capital in relation to fixed capital, simple correlation in between these two has been computed. It was observed that there were negative correlations in Ashok Leyland Ltd and Eicher Motors Ltd under commercial vehicles sector and Bajaj Auto Ltd in two and three wheelers sector, which had satisfied the hypothesis of E.W.Walker. However, this negative correlation is significant only in Ashok Leyland Ltd in commercial vehicles sector.

3.8 Assessment of liquidity position

The liquidity position of the selected automobiles industries of India has also been assessed by employing the discriminate analysis based on current and liquid ratios. The construction of the discriminant function suggests that current ratios appeared to be stronger than liquid ratios from 1992-93 to 2006-07 except in the years 1993-94, 1994-95, 1995-96 and 1997-98. The good risk and poor risk units may also be identified by computing the cut-off values. The number of good risk and poor risk units as per the current and liquid ratio and as per the discriminant score are compared. Misclassification of industries is noticed in all the years except in the year 2004-05. For the purpose of establishing definite relationship between liquidity and profitability, Karl Pearson's correlation co-efficient can be applied. It has been found from the analysis that the liquidity and profitability of the automobile industry of India were adversely correlated. In a nutshell, it can thus be concluded that Ashok Leyland Ltd and Eicher Motors Ltd among commercial vehicles sector units, Mahindra and Mahindra Ltd in passenger cars and multiutility vehicles sector units and among two and three wheelers sector units, 4 out of 9 units namely Bajaj Auto Ltd, Maharastra Scooters Ltd, Majestic Auto Ltd and Scooters India Ltd growth in liquidity had reverse impact on profitability. These units satisfy the proposition of Van Horne of "Higher the liquidity, lower the profitability".

3.8 Impact of working capital on profitability

The impact of the working capital on profitability has been examined by computing co-efficient of correlation and regression between profitability ratio (PBT to total assets ratio) and working capital ratios (CR, LR, WTR, ITR, RTR and CTR). The study of the impact of working capital ratios on profitability of Indian automobile industry showed both negative and positive impacts. All the working capital ratios have shown positive association with profitability. In the commercial vehicles sector CR and LR, in the passenger cars and multiutility vehicles sector CTR have shown negative correlation and in the two and three-wheelers sector all the working capital ratios have shown positive correlation with profitability ratio.

3.9 Estimating demand function of working capital

In all the sectors of automobile industry, the pooled regression results of this study contradicts unitary or more than unitary sales elasticity hypothesis of Friedman, Meltzer, Whalen, De Alessi and Bhole L.M with respect to the demand for cash. The presence of economics of scale in cash holdings is

consistent with the conclusion of Baumol, Tobin, Frazer, Nadiri, Kamta Prasad and Ashok Kumar Lahiri. The demand for inventories holdings showed economics of scale thereby supporting the findings of Irvine and contradict to the unitary or more than unitary sales elasticity's noticed in some of the equation of Lieberman. The study also showed the presence of economics of scale with respect to investment in working capital and its components. The regression results also shows that the level of working capital and its components of an enterprise's desire to hold depend not only on sales but on holding cost also. The capital cost co-efficient are all statistically significant except gross working capital and net working capital elasticity in the automobile industry of India with the theoretically correct signs. In all the selected sector of automobile industries also, the capital cost co-efficient are all statistically significant with the theoretically correct signs except cash elasticity in the commercial vehicles sector and cash and gross working capital in the passenger cars and multiutility vehicles sector.

IV. Suggestions

Keeping in view the above observations relating to the study, the following measures are suggested which would go a long way to improve management of working capital in the automobile industry of India.

- The problem of surplus investments in inventory and receivables in the selected units can largely be tackled through improved co-ordination in the functioning of some strategic departments such as purchase, production, marketing and finance. For co-ordination, strengthening up of management information system in the units is essential. The organizations need to adopt weekly reporting system in respect of inventory and receivables. Moreover, the responsibility for arranging funds to meet the working capital requirements should not be thrust upon the finance managers only, rather it should be made a collective responsibility of all the departmental managers.
- There is an urgent need to bring about a change in the attitude of the management towards the working capital. During the course of the investigation, it has been found that the managements normally consider the liquidity aspects of the working capital managements to be important and do not play much attention to the profitability of funds employed in it. That is why the main problem of the working capital in the automobile industry of India is over investments in various current assets. To overcome this difficulty, the managements should regard both the facts of working capital as equally important and realize that only proper balancing of liquidity and profitability would ensure efficient working capital management.
- With a view to lowering investments in receivables, the selected units should administer their receivables on a well established principle of receivables management. Allocation of authority pertaining to credit and collection to some specific departments, selection of proper credit terms and laying down of sound collection policies and procedures would go a long way to improve collections.

- Cash management in the selected units can be streamlined by proper planning and control of cash. The firms must increasingly adopt objective methods rather than intuitive methods of cash forecasting. Moreover, cash inflows and outflows must be assiduously regularized. Quick disposal of documents and letters relating to sales would surely speed up the inflow of money. For efficient performance of this function, it is suggested that cash section can be placed under the charge of finance experts.
- As the management of working capital involves frequent decision-making, it is proposed that every organization should set up a separate 'cell' to keep an eye on the environmental conditions and economic trends. So far, no unit under study has been able to create such a section in the organization.
- To deal with overstocking in stores and spares components of inventory, ancillary units should be developed, internal repair facilities created and classification of stores and spares made according to the nature of consumption such as fast-moving, slow-moving and non-moving items.
- The Automobile industry is impeded by the poor state of the road infrastructure in the country. The poor state is manifest in the fact that the National and State highways which constitute 8 per cent of the total road length in our country carry 80 per cent of the total road traffic. The loss by way of higher operating costs on account of bad road conditions has been estimated at Rs.15000 crores per annum. Because of the road condition the penetration level of commercial vehicles in India would have been much above its current level of 3 vehicles / 1000 persons which are very low compared to other developing countries even. It is suggested to take road building seriously and start massive project for roads in the next 10 years is imperative. The automobile market will stagnate soon if this is not done.
- The cost of fuel is an impediment for the user of automobiles. Altering of fuel ratio will go a long way in encouraging the demand of vehicles. Not only is the cost of fuel is high but also quality is low and this is not only detrimental for the engine of car but also for the environmental health. The high prices of fuel prevent the people from buying new cars despite the availability of attractive financial schemes. Under these circumstances scrapping of old vehicles in favour of new ones will become difficult. It suggested that Indian cost of fuel is important and at the same this fuel quality needs to be improved in terms of gumming tendency and dust contamination.
- The Indian automobile industry production is based on the assembly of different components in a knock down condition. The MNC's have not been improving the quality of produce in India rather they have been in a sense "importing" high quality products into the country. It is suggested that the inverted duty structure of customs duty on raw materials, components and finished goods needs to be corrected. This is pending for more than 5 years.
- The government failed to realize that by allowing the assembly of vehicles, i.e., employment is created in Europe, Australia, Korea or Japan. So as to say that one manufacturing creates one jobs in India and 10 in Korea or

Japan. It suggested that the country has already permitted too many companies to come here for the limited market of passenger cars. Therefore, to create employment local manufacturer has to be encouraged.

- Our economy was indiscriminately opened up to give a chance to one per cent of Indians to choose from 16 or more different models of passenger cars. Wastage of capital due to overcapacity in the passenger cars and auto component industry has meant loss of not only foreign capital but much more of domestic capital in the form of bad loans given by Indian financial institutions and banks. It is suggested that the prices of cars are high in terms of the purchasing power of the people, in spite of finance schemes being available. This will make scrapping of old vehicles, in favour of new ones, rarer if the price of vehicle is high.

V. Conclusion

To conclude the study it may be said that the adoption of above measures will undoubtedly help the selected units improve their overall performances in the management of the working capital. A lot of funds now invested in inventory and receivables can be released for alternative uses. Ultimately liquidity and profitability of the concerns will be promoted. The industry will be able to generate funds increasingly from internal sources, thus breaking the vicious circle of financial stringencies. It is common knowledge that the function of fixed assets is to create capacity and that of current assets to make the utilization of capacities possible. The problem of under utilization of capacities of the industry will be solved to a large extent with the improvement in the management of the working capital. Thus, the dream of our planners to accelerate the economic growth in the country by effecting increased automobile vehicles production at reasonable costs are still possible to be translated into reality.