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Research paper



Factors influencing short-term solvency in Indian automobile industry

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Abstract

The automobile industry in India occupies a vital role in the economic progress of the nation. The reputation of any industry depends on its liquid position, which helps a company in settling their dues in time. Liquidity denotes to the firm's capacity to pay their outstanding dues. The article considers liquidity position of automobile industry by employing correlation and regression test. The data required for the study is secondary in nature. The required data are collected from Capitaline database for the period ranging between 2008 and 2017. The collected data is analyzed by making use of correlation and regression. The result reveals that liquidity position of a company depends on age, inventory turnover ratio, dividend payout ratio and leverage.

Keywords: *Liquidity, short-term solvency, automobile industry, current ratio.*

1. Introduction

The efficient management of cash leads to maximization of profit. Profit maximization of any company is an ultimate aim in order to get due market share also. This aim is also meant for automobile companies too. In addition, the profit maximization capabilities help the automobile companies to improve wealth maximization criteria. Therefore, it is needed at present to measure and monitor the profit earning capacity of automobile companies by optimum working capital management. Automobile firms in India are becoming more popular day by day because of their quality of service, accuracy and performance of products created and excellent customer support service. Automobile industry is a relatively high-investment, environment friendly, high growth global industry and a good target growth industry for many countries. Automobile industry has reached its height almost in all the industrial fields. Hence, it is essential on the part of any researcher to understand the present management strategies that have been followed in automobile companies.

Working capital management (WCM) is one of the imperative constituent of corporate finance, as it directly disturbs the solvency and earning capacity of the company. WCM deals with current assets and current liabilities of the firms. WCM is essential for the excessive level of current assets which may result in low rate of return on its investment. However, the firm's shortages and difficulties should be rectified for the smooth flow of operation. Effective WCM requires appropriate estimation and effective utilization of current assets and current liabilities in a manner that reduces inability to meet up the short-term commitments on the one hand and evade too much investment in these assets on the other hand. The significance of the WCM is a different constituent and its consequence on profitability may lead us to frame the statement of the problem under this study.

Proficient administration of Working Capital (WC) is one of the prerequisite for the victory of an enterprise. Well-organized administration of WC indicates better administration of a range of constituents of WC in such a method that sufficient quantity of WC is retained for effective functioning of a firm and realization of two goals of short-term solvency and profitability. Whereas, the paucity quantity of WC damages the firm's short-term solvency, the holding of surplus WC leads to decrease in company's profitability. However, accurate assessment of WC is an intricate job for the management because the quantum of WC differs across the time based on the type of business, extent of operation, product life cycle, credit policy of management, availability of raw materials, for the significant amount of funds and it is essential to invest permanently in the form of various current assets. Working capital is constantly required for maintaining the desired level of sales. Thus, short-term solvency of a firm depends on Cash Conversion Cycle (Eljelly, 2004), Inventory Turnover Ratio (Mukhopadhyay, 2004), Age of the firm (Chiou and Cheng, 2006), Return on Assets (Nazirmian Sajid and Nazirmian Sajid, 2008), Cash flow (Ranjith Appuhami, 2008) and Size of the Company (Palombini and Nakamura, 2012). Thus, in this study factors determining liquidity position of automobile industry as a whole is ascertained.

2. Review of literature

Sen and Oruc (2009) in their study find that working capital of a company depends on period required for cash conversion cycle. Solanki Ashvinkumar H.(2009) in his study observes that quantum of working capital is found to be associated with size of the company. Hill, Kelly, and Highfield (2010) in their study ascertain that working capital positively related with firm's cash flow and negatively related with fiscal crunch. Karamjeet Singh Firew Chekol Asress (2010) in their study identifies that sales and cash conversion cycle are the highly significant variable in determining working capital requirement. Negi, Pushpa Sankpal, Shilpa Chakraborty, Anindita Mathur, Garima (2010) in their study finds that Total Debtors to Total Asset, Current Asset to Total Asset, and Inventory Days are related working capital management. Zariyawati et al. (2010) in their study finds that size of the firm, debt ratio, and growth in sales have a inverse relationship with the Cash Conversion Cycle. They also observe that firms with

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excessive debts require less working capital, as the cost of external financing is higher for these firms.
Gill (2011) in his study observes that working capital requirements positively correlated to the operation cycle, return on assets. Moreover, working capital requirement negatively correlated to the firm size. Mauleshkumar N. Joshi (2011) in his study ascertains that cash conversion cycle significantly influences working capital. Ebrahim Manoori and Datin Dr Joriah Muhammad (2012) in their study ascertain that firm size, operation cash flow to sales, and capital expenditures to total sales are correlated to working capital. Also, they find that gross domestic product is inversely correlated to the working capital management. Palombini and Nakamura (2012) in their study find that level of debt, firm size and growth rate may influence the WCM of companies. Palani A. and Yasodha P (2012) in their study identify that working capital depends on capital employed and current ratio. Farai Kwenda and Merle Holden (2014) in their study identify that financial leverage, short-term finance and fixed investment significantly influences the level of working capital. Namita Srivastava (2014) in her study finds that there exists negative relationship between firm size, growth, profitability and liquidity. Fidel Anake Atseye, James Ike Ugwu and Samuel Menyo Takon (2015) in their study observes that working capital of a firm depends on size of the firm, firm's age, earning potential, market share (power), growth in sales and firm's cash flow.

3. Statement of the problem

Corporate firms' have to maintain adequate funds to remit all lawful bills and outstanding. The firm that has not paid its dues denotes that firm's financial position deteriorates. Financial managers find it hard to accurately ascertain the Short-term solvency. Liquidity management is extremely significant subject in the growth and business sustainability and the capability to manage the trade-off between the two a source of concern for financial managers. As a result, liquidity must be managed in order to get a most favorable level, (i.e.) a point that evade surplus liquidity which may translate to poverty of ideas by management. As well liquidity level should not drop beneath minimum standard as it will result in inability of the organization to meet short-term obligations. One of the chief factors that influence liquidation is illiquidity and inability to generate sufficient profits. These are some of the fundamental components of determining the "going concern" of an establishment. This is so, even if the firm is presently earning sufficient profits, when cash run out, the firm's management has lost the power to make independent decisions, An outside agency, such as an unpaid creditor or financial institution whose loan has not been paid, will determine the destiny of the firm. The fate could be bankruptcy, a forced reconstruction, an involuntary takeover, or the firm could be allowed to continue is some altered form. The reality is that management has lost its authority. It is also likely that the owners have lost their entire investment.

Objective of the study

- To identify factors influencing short-term solvency of Indian Automobile Industry

Research methodology

The present study is analytical in nature. Secondary data required for the study.

Source of data

Data used for the study are secondary in nature. Secondary data are collected from Capitaline Plus data base. The variables used in the study have been selected after a detailed survey of the available literature on the subject and discussions with several knowledgeable persons in the field of finance.

Sampling

The first step in selecting companies has been the identification of a global set from which all further selections have been performed. A list of companies that constitutes the population has been drawn from the Capitaline plus database. The present study is based on a composite sample of 55 companies with five sectors ranging in size from four to six companies. The sample has been chosen on the basis of purposive sampling. Companies for which information relating to profit and loss account and balance sheet is available for most of the years under study have been included in the sample. Initially, 55 companies, comprising of 11 Commercial Vehicles, 5 Motor Cycles/Mopeds, 15 Passenger Cars, 14 Scooters and Three Wheelers and 10 Tractor, have been identified. But, on scrutiny, it has been found that some companies have data for the entire study period, while the others do not. The inclusion of companies having data for a heterogeneous period of time would undoubtedly distort the method of analysis. As such, the sample finally holds 23 companies for which the much-needed financial information is available for the entire study period. Thus, companies selected for the study are:

S.No.	Company Name
Light Commercial Vehicle	
1	Ashok Leyland Ltd.,
2	Eicher Motors Ltd.,
3	Force Motors Ltd.,
4	SML ISUZU Ltd.,
5	Tata Motors Ltd.,
Scooters and Three Wheelers	
1	Scooters India Ltd.,
2	Atul Auto Ltd.,
3	LML Ltd.,
4	Maharashtra Scooters Ltd.,
Passenger Cars	
1	Hindustan Motors Ltd.,
2	Honda Siel Cars
3	Hyundai Motor India Ltd.,
4	Maruti Suzuki India Ltd.,
Motorcycles / Mopeds	
1	Hero Motocorp Ltd.,
2	Kinetic Engineering Ltd.,
3	Majestic Auto
4	TVS Motor Company Ltd.,
Tractors	
1	Escorts Ltd.,
2	HMT Ltd.,
3	International Tractors Ltd.,
4	Mahindra and Mahindra Ltd.,
5	Tractors and Farm Equipment Ltd.,
6	VST Tillers Tractors Ltd.,

Period of study

The study covers period of ten years from 2008 to 2017.The financial year runs from 1st April to 31st March every year.

Framework of Analysis

The statistical tools used to analyze the data include (i) Correlation and (ii) Multiple Regression.

4. Limitations of the study

Financial data collected for the study is secondary in nature. As a result, the study bears all the problems intrinsic with the secondary data. The study is restricted to select companies for the period of ten years. While calculating the data for the sake of analysis, the estimation of decimal places leads to minor deviations in ratios as well as percentage analysis and hence these are bound to exist in the present study. Further, the annualized data are unlikely to

reveal the true financial performance of the sample companies. The hidden inconsistencies of the financial statements are not probed into. While extending the results of the study, one should be careful to use the same judiciously by taking the limitations into consideration.

5. Findings

Nature of association of selected variables with liquidity

In order to examine the nature and quantum of association of variables with liquidity, correlation analysis is used. Current ratio has introduced as Dependent Variable, for measuring liquidity position of the company. Size, Age, Return on Investment, Inventory Turnover Ratio, Dividend Payout Ratio, Growth in Sales, Leverage and Asset Turnover Ratio are introduced as Independent variables. Data of Light Commercial Vehicle, Motor Cycle Companies, Passenger Car Companies, Scooter Companies and Tractor Companies are pooled together and named as Automobile Industry. Out of eight variables selected for correlation analysis, two variables have been found to be significant. Inventory Turnover Ratio is found to be significant at one per cent level and Dividend Payout Ratio is found to be significant at five per cent level. The result of the study is related to the study results of Mukhopadhyay (2004), Amit K. Chakraborty (2005) and Singh, (2008).

Table 1: Variables associated with Liquidity –Automobile Industry - Correlation Analysis

Variables	r	r^2
Size	-0.002	0.000
Age	-0.083	0.007
Return on Investment	0.086	0.007
Inventory Turnover Ratio	0.264**	0.070
Dividend Payout Ratio	-0.151*	0.023
Growth in Sales	0.028	0.001
Leverage	0.121	0.015
Asset Turnover Ratio	-0.063	0.004

*** Significant at five per cent level **Significant at one per cent level**

i. Inventory turnover ratio

Inventory Turnover Ratio and liquidity are positively correlated. This shows that level of liquidity is more with companies, which sell their finished products at an earliest. The coefficient of determination (r^2) shows that Inventory Turnover Ratio accounts for 07.00 per cent of the variation in the liquidity.

ii. Dividend payout ratio

Dividend Payout Ratio and liquidity are negatively correlated. This shows that level of liquidity is more with companies, which pays lower rate of dividend. The coefficient of determination (r^2) shows that Dividend Payout Ratio accounts for 02.30 per cent of the variation in the liquidity.

6. Determinants of liquidity

In order to find out the variables that determine Liquidity, all the variables included for correlation analysis have been regressed on Current Ratio. The following regression equation has been framed to ascertain the impact of the variables on Liquidity:

$$CR = a + b_1 S + b_2 AG + b_3 ROI + b_4 ITR + b_5 DPR + b_6 Gr + b_7 LEV + b_8 ATR + e$$

Where,

CR	=	Current Ratio
a	=	Intercept Term
$b_1 \ldots b_8$	=	Regression Coefficients
S	=	Size
AG	=	Age
ROI	=	Return on Investment
ITR	=	Inventory Turnover Ratio
DPR	=	Dividend Payout Ratio
GIS	=	Growth in Sales
LEV	=	Leverage
ATR	=	Assets Turnover Ratio
e	=	Error Term

The results of regression analysis are consolidated in the following Table. Out of eight independent variables introduced, only four variables are found to be significant. Return on Investment and Inventory Turnover Ratio are found to be significant at one per cent level, whereas age and leverage are found to be significant at five per cent level. Result of the present study correspond with the study results of Chiou and Cheng (2006), Nazirmian Sajid and Nazirmian Sajid (2008), Mian Sajid Nazir and Talat Afza (2009), Nazir and Afza (2009), Farai Kwenda and Merle Holden (2014).

Table 2: Determinants of Liquidity – Automobile Industry - Multiple Regression Analysis

Variables	Regression coefficient	Standard error	t
Size	0.000	0.000	1.740
Age	-0.005*	0.002	-2.064
Return on Investment	0.014**	0.003	4.919
Inventory Turnover Ratio	0.031**	0.006	5.224
Dividend Payout Ratio	0.000	0.000	-1.662
Growth in Sales	0.000	0.001	0.212
Leverage	-0.047*	0.019	-2.421
Asset Turnover Ratio	-0.053	0.029	-1.842

*** Significant at five per cent level **Significant at one per cent level**

Constant: 1.534, Std. Error of Estimate: 0.129, R^2: 0.189, R^2: 0.221**

i. Age

The regression coefficient indicates that Age negatively influences the liquidity. The value of regression coefficient indicates that newly promoted companies are with high level of leverage.

ii. Return on investment

The regression coefficient indicates that Return on Investment positively influence the liquidity. The value of regression coefficient indicates that a unit of increase in Return on Investment shall increase liquidity by 0.014 units. Increase in Return on Investment leads to increase in liquidity.

iii. Inventory turnover ratio

The regression coefficient indicates that Inventory Turnover ratio positively influences the liquidity.

The value of regression coefficient indicates that a unit of increase in Inventory Turnover Ratio shall increase liquidity by 0.031 units. Increase in Inventory Turnover Ratio will raise the liquidity position of the company,

iv. Leverage

The regression coefficient indicates that leverage negatively influences liquidity. The value of regression coefficient indicates that a unit of decrease in leverage shall increase liquidity by 0.047 units. Companies with low leverage may have high liquidity.

The value of R^2 is found to be significant at one per cent level. This shows that the regression equation framed is a good fit. Around 22.10 per cent of variation in level of liquidity is due to the selected independent variables.

7. Suggestions

- Automobile companies should take necessary steps to reduce their cost of production, which assist them to increase their sales and profit volume too. Further, automobile companies may procure necessary capital at cheaper cost (i.e.) to reduce cost of capital. Moreover, automobile companies may invest additional funds, if any available after procuring fixed assets, in profitable risk free securities.
- In order to increase the liquidity position, automobile companies should initiate necessary steps to increase their sales by arranging cheap finance facilities to the buyers, offering attractive discounts (i.e.) finished goods may not be kept idle for longer run, thereby, liquidity position may be increased
- Profit making automobile companies should declare dividend optimally, without affecting their liquidity and profitability
- Companies based on their earning potential should determine optimum Debt Equity Mix; thereby they may keep their cost of capital at minimum level and increase their earnings to a maximum extent.

CONCLUSION

The result of analysis disclose that age, return on investment, inventory turnover ratio and leverage are the factors that influences short-solvency position of the firm. Automobile companies occupies an unique position in India by offering ample employment opportunities to the unemployed youth must maintain sufficient cash and bank balance and invest surplus funds in easily convertible securities thereby they may settle their dues in time and sustain in the long run without impairing their reputation.

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