

# Impact of Working Capital Management on Firm's Profitability & Liquidity: An Empirical Study of TATA Motors Pvt. Ltd.

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## Abstract

*Working capital is the funds required for the day to day working of any organization. So it should be managed in effective way to ensure profitability, solvency and survival of the company. Every organization has to manage its working capital in such a way that it does not result in blockage of funds and is able to cater the needs of the organization. In this paper I have tried to show the impact of the mismanagement of working capital on profitability and liquidity of the firm. For this purpose I have taken Tata Motors Pvt. Ltd for the s*

**Key Words:** Firm's Profitability, Liquidity, Working capital

## I. Introduction

The concept of working capital was evolved by Karl Marx. Capital required by a company can be categorized as: fixed capital and working capital. Funds required to create production facilities for purchase of fixed asset is called as fixed capital whereas, working capital refers to part of firm's capital which is required for financing short term or current assets such as cash, marketable securities, debtors and inventories. The components of working capital are required to be managed judiciously targeting at future growth of the organization. The management of working capital is just like continuous yoga for long life.

Study of working capital can be done by two aspects i.e. balance sheet concept and operating

cycle concept. Balance sheet concept can be again classified as gross working capital and net working capital. Gross working capital means the investment made by company in current assets and the net working capital explains the concept by subtracting current liabilities from current assets. All the elements of working capital require intensive monitoring for effective working capital management. Some organizations are also of the view that keeping working capital blocks the funds of organization and this blockage results in shortage of fund for production.

Requirement of working capital depends on the number of factors but operating cycle is the most important. Operating cycle can also be termed as cash conversion cycle that includes the number of

activities that are to be performed to convert the raw material into cash again after sales and the time involved in such process.

The working capital is required to maintain liquidity in day-to-day operations to ensure its smooth flow and meet obligations (El Jelly, 2004). Management of working capital is not a simple task it should be managed in such a way that the business should run in efficient and profitable manner. Negligence can result in mismatch of current asset and current liability. If this happens and firm's manager cannot manage it properly then it will affect firm's growth and profitability, and can lead to financial distress and finally firm can become bankrupt.

## II. Research Methodology

In this study sample is taken from Tata Motors Pvt. Ltd. to analyze the position of working capital. Data used in the study is secondary which is taken from the annual reports of company and are edited, classified and tabulated as per the requirements of the study. This study covers 10 year data from 2003 to 2012 for analyzing the working capital position of Tata Motors Pvt. Ltd.

## III. Objectives of Study

1. To compare position of working capital of the organization.

2. To compare the effect of liquidity on profitability, year on year basis.
3. To compare the effect of risk on profitability year on year basis.

## IV. Hypothesis

**H<sub>0</sub>:** There is no significant relationship between liquidity and profitability Tata Motors during the period of study.

**H<sub>1</sub>:** There is no significant relationship between risk and profitability of Tata Motors during the period of study.

## V. Company Profile

Tata Motors Limited is India's biggest automobile company, having overall revenues of INR 1,88,818cr in 2012-13. The company has flagship in all segments of commercial vehicles, and stands among the top in passenger vehicles with award winning products in the compact, midsize car and utility vehicle segments. It is also the world's fifth largest truck manufacturer and fourth largest bus manufacturer.

Established in 1945, presence of Tata Motors cuts across the length and breadth of India. Over 8 crores Tata vehicles ply on Indian roads, since the first rolled out in 1954. Company's manufacturing base in India is spread across Jamshedpur (Jharkhand), Pune (Maharashtra), Lucknow (Uttar Pradesh), Pantnagar (Uttarakhand), Sanand

(Gujarat) and Dharwad (Karnataka). Following a strategic alliance with Fiat in 2005, it has set up an industrial joint venture with Fiat Group Automobiles at Ranjangaon (Maharashtra) to produce both Fiat and Tata cars and Fiat power trains. Company's dealership, sales, services and spare parts network comprises over 6,600 touch points.

Company launched the first indigenously developed LCV in 1986. In 2005, they created a new segment by launching the Tata Ace, India's first indigenously developed mini-truck. In 2009, company launched its globally benchmarked Prima range of trucks and in 2012 the Ultra range of international standard LCV. In the areas of power, speed, carrying capacity, operating economy and trims, they are self-record breakers. Tata Motors also introduced India's first SUV in 1991 and, in 1998, the Tata Indica, and India's first fully indigenous passenger car. In January 2008, Tata Motors launched car for all "Tata Nano".

## VI. Literature Review

Most of the studies already done were to find out whether there is any relationship between the working capital and profitability. The study recommends that manufacturing companies should adopt efficient and effective working capital management policies to maintain working capital at optimal level. It looks like working capital

management has not been effective and efficient for the manufacturing industry (Agyemang Badu Ebenezer Geb 2013).

The study done by Hayajneh and Yassine ( 2011 ); Quayyum (2011) revealed that profitability of the firm will definitely hamper if the components of working capital are not managed at optimum level.

Working capital management involves the identification of sources of finance and then selecting the best among them and also to continuously manage current assets of the firm which requires taking a lot of decisions like how much inventory is to be carried and how to get the funds to pay for it (Block and Hirt 2000). Unlike long-term decisions, there can be no deferral of actions. While long term decisions involve plant and equipment's or market strategy, may well determine the eventual success of the firm, short term decisions on working capital on the other hand will determine whether the firm gets to the long term.

Deloof (2003) had revealed a strong and significant relationship between the measures of working capital management and organization's profitability. Their finding revealed that managers can increase profitability by reducing the number of days of accounts receivable and stocks. This is particularly important for small growing firms

who need to finance increasing amounts of debtors. Gill, Biger and Mathur (2010) analyzed the relationship between working capital management and profitability by using Pearson's Bivariate Correlation Analysis and Weighted Least Squares (WLS) Regression techniques and found significant relationship between the cash conversion cycle and profitability, and suggested that managers can create profits for their companies by handling correctly the cash conversion cycle and by keeping accounts receivables at an optimal level.

Shanmugam, R. and Poornima, S. (2001), revealed in their study that the management of working capital is very crucial in an organization which was done on 28 medium and large scale spinning mills in Coimbatore in the state of Tamil Nadu.

Eminent work of Shin & Soenen, 1998 emphasized that efficient working capital management was very important for creating value for the shareholders. The way in which working capital was managed had a significant impact on both profitability and liquidity. The relationship between length of Net Trading Cycle, corporate profitability and risk adjusted stock return was examined using correlation and regression analysis, by industry and capital intensity. They found a strong negative relationship between lengths of the firm's net -trading Cycle and its profitability. In

addition, shorter net trade cycles were associated with higher risk adjusted stock returns.

Mekonnen (2011) showed that there is statistically significant negative relationship between profitability and average collection period. This result suggested that firms can improve their profitability by reducing the number of day's accounts receivable outstanding. This can also be interpreted as less the time it takes for customers to pay their bills, the more cash is available to replenish inventory; hence, higher the sales realized higher the profitability of firm.

Working capital management comprises the effective management of all components of working capital such as, cash management, debtors and inventory management, etc (Pandey, 2007). Importance of the gross working capital management function of firm is crucial to the firm because it involves time, investment as well as growth prospect of the firm. According to Abdual (2007), liquidity and profitability of the companies have a great relationship with each other. Garcia Terual et. al. (2007) examined the impact of working capital management on SME profitability based on 8872 SMEs of Spain using the panel data methodology for a period of 1996 to 2002. Empirical results showed that vigorous existence of endogeneity, confirmed that managers could create value by reducing their inventories and the

number of days for which their accounts are outstanding. In addition, restricting the cash conversion cycle moreover perks up the firm's profitability. Bagchi and Khamrui (2012), in their study investigated the relationship between working capital management and firm profitability and to identify the variables that most affect profitability. As the CCC increases, profitability of the firm decreases, and managers can create a positive value for the shareholders by reducing CCC to a possible minimum level. There is also a stumpy negative relationship between debt used by the firm and its profitability.

Raheman and Nasr (2007) studied the effect of different variables of working capital management including the average collection period, inventory turnover in days, average payment period, cash conversion cycle and current ratio on the net operating profitability of Pakistani firms and found a inverse relationship between cash conversion cycle and profitability. Bhagchi, Kamrui (2012) studied the effect of working capital management on profitability of FMCG sector in India. The study was conducted on a sample of ten FMCG firms over a period of ten years 2000-01 to 2009-10. Main objective of the authors was to understand the impact of working capital management on profitability and to see the impact of various components of working capital management on profitability. After conducting normality tests, Pearson's Correlation

and panel data regression, the authors concluded that there was a significant negative relation between working capital management and firm profitability.

**Table 1: Comparative Position Of Working Capital**

| Year      | Current Assets | Current Liabilities | Net Working Capital |
|-----------|----------------|---------------------|---------------------|
| 2003-04   | 3695.7         | 4654.94             | (959.24)            |
| 2004-05   | 7146.19        | 6600.83             | 545.36              |
| 2005-06   | 9661.31        | 7115.36             | 2545.95             |
| 2006-07   | 10141.82       | 7357.77             | 2784.05             |
| 2007-08   | 19267.35       | 13644.56            | 5622.79             |
| 2008-09   | 9691.69        | 10835.51            | (1143.82)           |
| 2009-10   | 11537.98       | 17372.59            | (5834.61)           |
| 2010-11   | 14,090.61      | 16,255.24           | (2164.63)           |
| 2011-12   | 13,712.92      | 22,177.47           | (8464.55)           |
| 2012-13   | 10,134.96      | 21,104.61           | (10969.65)          |
| A.M. ( X) | 109080.53      | 127118.88           | -18038.35           |
| Compound  | 12%            | 18%                 | 31%                 |
| S.D       | 4198.66        | 6332.90             | 5233.93             |
|           |                |                     |                     |

*Source: Annual reports of Tata Motors (2003-2004 to 2012- 2013)*

### Interpretation

Table 1 reveals position of working capital of the organization. During the period of study position of working capital is very fluctuating .We can observe that highest and lowest value of working capital in the year 2007-08 i.e 5622.79 crores and (959.24) crores in the year 2003-04 respectively. Net working capital average value of 18038.35 crores and the gross working capital of organization had a mean value of 109080.53 crores respectively. Gross working capital was highest in 2006-07 i.e. 10141.82 and lowest in year 2003-04 i.e. 3695.7 crores. Current liability

of the firm was highest in the year 2011-12 i.e. 22177.47 crores and least in year 2003-04 i.e. 4654.94. Gross working capital had compound annual growth rate of 12% and standard deviation of 4198.66 crores. Net working capital of the organization had a compound annual growth rate of 31% and a standard deviation of 5233.93.

## VII. Current Ratio

This ratio acts as an indicator of a company's ability to meet short term debt obligations; the

higher current ratio indicates the good liquidity position of the company. Current ratio is calculated by dividing current assets by current liabilities. Current ratio of 2:1 is considered as the ideal ratio which means company has good short term financial strength. If current liabilities are more than current assets, then the company may have problems meeting its short-term liabilities. It can be calculated as follows:

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

**Table 2: Statement Showing Current Ratio**

| Year      | Current Assets | Current Liabilities | Current Ratio |
|-----------|----------------|---------------------|---------------|
| 2003-04   | 3695.7         | 4654.94             | 0.79          |
| 2004-05   | 7146.19        | 6600.83             | 1.08          |
| 2005-06   | 9661.31        | 7115.36             | 1.36          |
| 2006-07   | 10141.82       | 7357.77             | 1.38          |
| 2007-08   | 19267.35       | 13644.56            | 1.41          |
| 2008-09   | 9691.69        | 10835.51            | 0.89          |
| 2009-10   | 11537.98       | 17372.59            | 0.66          |
| 2010-11   | 14,090.61      | 16,255.24           | 0.87          |
| 2011-12   | 13,712.92      | 22,177.47           | 0.62          |
| 2012-13   | 10,134.96      | 21,104.61           | 0.48          |
| A.M. ( X) | 10908.05       | 12711.89            | 0.95          |
| C.A.G.R   | 12%            | 18%                 | -5%           |
| S.D       | 4198.66        | 6332.90             | 0.34          |

*Source: Annual reports of Tata Motors (2003-2004 to 2012- 2013)*

### Interpretation

Table 2 shows the current ratio as a measure of liquidity position of organization. During the period of study it was observed that current ratio was below 1 in most of the year but it remained above 1 from 2004-05 to 2007-08. Highest ratio

1.41 times was marked in the year 2007-08 and the minimum of 0.48 in 2012-2013. Current assets and current liabilities showed a fluctuating trend during the period of study. Compound annual growth rate of current assets and current liabilities was 12% and 18% respectively. Current ratio showed a varying trend with an average ratio of

9.55 times with a compound annual growth rate of -5%. Standard deviation of current ratio was low with a value of 0.34.

### VIII. Quick Ratio

Quick ratio (also known as “acid test ratio” and “liquid ratio”) is used to check the firm’s ability to pay its short-term debts. It measures the relationship between liquid assets and current liabilities. Liquid assets are calculated by total current assets minus inventories and prepaid expenses. The ideal quick ratio is 1:1.

$$\text{Quick Ratio} = \frac{\text{Liquid Assets}}{\text{Current Liabilities}}$$

$$\text{Liquid Assets} = \text{Current Assets} - (\text{Inventories} + \text{Prepaid Expenses})$$

**Table 3: Statement Showing Quick Ratio**

| Year    | Liquid   | Current   | Liquid |
|---------|----------|-----------|--------|
| 2003-04 | 1168.67  | 4654.94   | 0.25   |
| 2004-05 | 1626.18  | 6600.83   | 0.25   |
| 2005-06 | 2041.4   | 7115.36   | 0.29   |
| 2006-07 | 2551.04  | 7357.77   | 0.35   |
| 2007-08 | 2481.54  | 13644.56  | 0.18   |
| 2008-09 | 2364.5   | 10835.51  | 0.22   |
| 2009-10 | 2559.23  | 17372.59  | 0.15   |
| 2010-11 | 3,956.47 | 16,255.24 | 0.24   |
| 2011-12 | 4,627.88 | 22,177.47 | 0.21   |
| 2012-13 | 4,518.61 | 21,104.61 | 0.21   |
| A.M. (  | 2789.55  | 12711.89  | 0.23   |
| C.A.G.R | 16%      | 18%       | -2%    |
| S.D     | 1185.87  | 6332.90   | 0.06   |

*Source: Annual reports of Tata Motors (2003-2004 to 2012- 2013)*

### Interpretation

Table 3 represents liquidity position of the organization during period of study. Ratio had the highest value of 0.35 times in the year 2006-07 and the lowest of 0.15 times in 2009-10. During the period of study quick ratio also revealed a fluctuating tendency. Liquid assets of the firm were highest in 2011-2012 and lowest in 2003-2004 with values of 4627.88 crores and 1168.67 crores respectively. The liquid assets had an average value of 27895.52 crores with compound annual growth rate of 16 %. Liquidity ratio had an average value of 0.23 times with a compound annual growth rate of -2%. Standard deviation of the ratio was very low with a value of 0.06.

### IX. Level of Cash to Total Assets

This ratio shows the level of cash that should be maintained by the firm. Higher the values of this ratio lower the risk but less profit because that money can’t be invested to earn profit. It can be calculated as:

$$\text{Level of Cash to Total Assets} = \frac{\text{Cash} + \text{Cash Equivalents}}{\text{Total Assets}}$$

**Table 4: Statement of Cash To Total Assets (in**

| Year  | Cash + Cash | Total    | Level of |
|-------|-------------|----------|----------|
| 2003- | 770.49      | 10000.27 | 0.08     |
| 2004- | 2005.04     | 13754.76 | 0.15     |
| 2005- | 1119.43     | 16497.69 | 0.07     |
| 2006- | 826.76      | 19013.4  | 0.04     |
| 2007- | 2397.31     | 25743.62 | 0.09     |

|        |          |           |      |
|--------|----------|-----------|------|
| 2008-  | 1141.42  | 37259.13  | 0.03 |
| 2009-  | 1753.26  | 50472.61  | 0.03 |
| 2010-  | 2,428.92 | 54,190.45 | 0.04 |
| 2011-  | 1,840.96 | 54,519.28 | 0.03 |
| 2012-  | 462.86   | 52,184.77 | 0.01 |
| A.M. ( | 1474.65  | 33363.60  | 0.06 |
| C.A.G. | -6%      | 20%       | -21% |
| S.D    | 701.71   | 18325.01  | 0.04 |

Source: Annual reports of Tata Motors (2003-2004 to 2012- 2013)

### Interpretation

Table IV displays firm's capacity of generating cash shows from total assets of the firm. Cash position ratio also showed similar fluctuating tendency as in previous calculated ratios. It had a mean value of 0.06 times with an average compound growth rate of -21%. The highest ratio of 0.15 times was observed in 2004-2005 and least of 0.01 in 2012-2013. Firm maintained the highest cash of 2428.92 crores in 2010-11 and the least of 462.86 in 2012-13. Cash had an average value of 1474.65 crores with compound annual growth rate of -6%. Total Assets of the firm had a mean value of 33363.60 crores with a compound annual growth rate of 20%. Total Assets of the firm was

highest in 2011-12 and least in 2003-04 with values of 54519.28 crores and 10000.27 crores. The ratio had a very low degree of S.D with value of 0.04.

## X. Working Capital Turnover Ratio

Working capital turnover ratio is used to measure how a company is utilizing its working capital to support given level of sales. Working capital is calculated by current assets minus current liabilities. A high turnover ratio means that management is being extremely efficient in using a firm's short-term assets and liabilities to support sales. Whereas a low ratio reflects that a business is investing in too many accounts receivable and inventory assets to support its sales, which could later on lead to an excessive amount of bad debts and obsolete inventory.

Working Capital Turnover Ratio

$$= \frac{\text{Annual Sales}}{\text{Average Working Capital}}$$

**Table 5: Statements of Annual Sales To Working Capital ( in Crores)**

| Year    | Av. Annual Sales | Working capital | WCTR ( Times) |
|---------|------------------|-----------------|---------------|
| 2003-04 | 13282.12         | -959.24         | -13.85        |
| 2004-05 | 17585.22         | 545.36          | 32.25         |
| 2005-06 | 20891.31         | 2545.95         | 8.21          |
| 2006-07 | 27535.24         | 2784.05         | 9.89          |
| 2007-08 | 28730.8          | 5622.79         | 5.11          |
| 2008-09 | 25660.79         | -1143.82        | -22.43        |
| 2009-10 | 35593.05         | -5834.61        | -6.10         |



|           |          |           |        |
|-----------|----------|-----------|--------|
| 2010-11   | 48040.46 | -2164.63  | -22.19 |
| 2011-12   | 54306.56 | -8464.55  | -6.42  |
| 2012-13   | 44765.72 | -10969.65 | -4.08  |
| A.M. ( X) | 31639.13 | -1803.84  | -1.96  |
| C.A.G.R   | 14%      | 31%       | -13%   |
| S.D       | 13669.94 | 5233.93   | 16.58  |

*Source: Annual reports of Tata Motors (2003-2004 to 2012- 2013)*

### Interpretation

Table 5 shows the sales generated due to working capital of the firm. This ratio also reflected a fluctuating tendency during the period of study. This ratio had an average value of -1.96 times with a negative average annual growth rate of -13%. Net working capital turnover ratio observed the highest value of 32.25 times in 2004-05 and least of -4.08 times in 2012-2013. Highest average sales of 54306.56 crores was in 2011-2012 and the least of 13,282.12 crores in 2003-2004. Compound annual sales had a mean value of 31639.13 crores with the compound annual growth rate of 14%. Ratio had a high standard deviation of 13669.94.crores.

### XI. Analysis of Liquidity, Risk and Profitability Using Pearson's Correlation and Student t-Test

**Profitability:** It indicates the firm's return on the capital employed. Pearson's correlation coefficient is used to find and check the strength of a relationship between two sets of data. It is often used as a statistical method to aid with either accepting or rejecting a hypothesis.

Student t- test distribution is used for testing of hypothesis of sample size less than 30 items. If the calculated value of t is less than the table value, null hypothesis will be accepted and vice versa. It can be calculated as under.

Profitability liquidity & profitability analysis of CIL using Student t-test is calculated as follows:

$$\text{Profitability} = \frac{\text{Operating Profit}}{\text{Capital Employed}} \times 100$$

**Table 6: Profitability**

| Year                        | Total Assets | Current Liabilities | Capital Employed (TA-CL) | Operating Profit | ROCE% |
|-----------------------------|--------------|---------------------|--------------------------|------------------|-------|
| 2003-04                     | 10000.27     | 4654.94             | 5345.33                  | 1881.8           | 35.20 |
| 2004-05                     | 13754.76     | 6600.83             | 7153.93                  | 2171.09          | 30.35 |
| 2005-06                     | 16497.69     | 7115.36             | 9382.33                  | 2579.69          | 27.50 |
| 2006-07                     | 19013.4      | 7357.77             | 11655.63                 | 3313.72          | 28.43 |
| 2007-08                     | 25743.62     | 13644.56            | 12099.06                 | 3092.32          | 25.56 |
| 2008-09                     | 37259.13     | 10835.51            | 26423.62                 | 1752.44          | 6.63  |
| 2009-10                     | 50472.61     | 17372.59            | 33100.02                 | 4178.28          | 12.62 |
| 2010-11                     | 54,190.45    | 16,255.24           | 37935.21                 | 4771.31          | 12.58 |
| 2011-12                     | 54,519.28    | 22,177.47           | 32341.81                 | 4411.8           | 13.64 |
| 2012-13                     | 52,184.77    | 21,104.61           | 31080.16                 | 2143.74          | 6.90  |
| A.M. ( X)                   | 33363.60     | 12711.89            | 20651.71                 | 3029.62          | 19.94 |
| Compound annual growth rate | 20%          | 18%                 | 22%                      | 1%               | -17%  |
| S.D                         | 18325.01     | 6332.90             | 12604.93                 | 1106.59          | 10.52 |

*Source: Annual reports of Tata Motors (2003-2004 to 2012- 2013)*

### Interpretation

Table 6 shows that during the period of study operating profit ratio revealed a fluctuating trend. Operating profit ratio had the highest value of 35.20% in 2003-04 and the lowest of 6.63% in 2008-09.

Operating profit ratio had an average value of 19.94% and compound annual growth rate of –

17%. Standard deviation of the ratio is high with a value of 10.52. Organization employed the highest amount of capital 37935.21 crores in 201-11 and least of 5345.33crores in 2003-04. Capital employed of firm had a mean value of 20651.71 crores with a compound annual growth rate of - 17%.

**Table 7: Relationship between Liquidity and Profitability**

| Year    | Current Ratio | ROCE% | Correlation Value |
|---------|---------------|-------|-------------------|
| 2003-04 | 0.79          | 35.20 | 0.62              |
| 2004-05 | 1.08          | 30.35 |                   |

|         |      |       |
|---------|------|-------|
| 2005-06 | 1.36 | 27.50 |
| 2006-07 | 1.38 | 28.43 |
| 2007-08 | 1.41 | 25.56 |
| 2008-09 | 0.89 | 6.63  |
| 2009-10 | 0.66 | 12.62 |
| 2010-11 | 0.87 | 12.58 |
| 2011-12 | 0.62 | 13.64 |
| 2012-13 | 0.48 | 6.90  |

Source: Annual reports of Tata Motors (2003-04 to 2012-13)

### Interpretation

Current ratio is used as an indicator of liquidity and return on capital employed for measuring profitability. The Pearson's coefficient of correlation (r) between current ratio and return on capital employed has been shown for which the relevant formula has been used as shown in table VII. The test used for determining significance of r is "t" test. Pearson's coefficient of correlation (r) between ROCE & liquidity has been calculated. "t" test is used for determining significance of r. Then computed value of 't' has been compared with the tabulated value of 't'. In the above table r = 0.62 and value of t = 3.85. Table value of 't' at 10% level of significance for 8 D.O.F. (Where

n=10) is equal to 1.830. Since the computed value of t is more than the table value the null hypothesis (Ho) is rejected which means there is significant relationship between the two variables.

### Profitability and Risk Analysis of CIL

The risk associated can be calculated by:

$$R_k = \frac{(E + LTL) - FA}{CA}$$

Where,  $R_k$  = Risk, L = Long Term Loan, CA = Current Assets, E = Equity + Reserve % Surplus, FA = Fixed Assets.

There are various approaches of working capital financing, if the company is following aggressive approach the current assets of the firm will be financed by short term source of finance and if the company is following conservative approach then the current assets are financed by both long as well as short term sources of finance.

The risk faced by the firm can be calculated by,

$$R_k = \frac{(E + LTL) - FA}{CA}$$

Table 8: Profitability and Risk Analysis of CIL

| Year     | Equity+ Reserves & Surplus (E) Rs. in Crores | Long Term Loans (L) in Crores | Fixed Assets (FA) | Current Assets (CA) | Risk (Rk)% |
|----------|--|-------------------------------|-------------------|---------------------|------------|
| 2003-04  | 3593.6                                       | 1259.77                       | 2333.83           | 3695.7              | 68.17      |
| 2004-05  | 4111.39                                      | 2495.42                       | 1615.97           | 7146.19             | 69.84      |
| 2005-06  | 5537.07                                      | 2936.84                       | 2600.23           | 9661.31             | 60.80      |
| 2006-07  | 6869.75                                      | 4009.14                       | 2860.61           | 10141.82            | 79.06      |
| 2007-08  | 7839.5                                       | 6280.52                       | 1558.98           | 19267.35            | 65.19      |
| 2008-09  | 12230.15                                     | 13165.56                      | -935.41           | 9691.69             | 271.69     |
| 2009-10  | 14965.47                                     | 16625.91                      | -1660.44          | 11537.98            | 288.19     |
| 2010-11  | 20,013.30                                    | 15,898.75                     | 4114.55           | 14,090.61           | 225.66     |
| 2011-12  | 19,626.01                                    | 8,004.50                      | 11621.51          | 13,712.92           | 116.74     |
| 2012-13  | 19,134.84                                    | 8,051.78                      | 11083.06          | 10,134.96           | 158.89     |
| A.M. (X) | 11392.11                                     | 7872.82                       | 3519.29           | 10908.05            | 140.42     |
| Compound | 20%  | 23%                           | 19%               | 12%                 | 10%        |
| S.D      | 6639.30                                      | 5613.19                       | 4472.56           | 4198.66             | 90.19      |

Source: Annual reports of Tata Motors (2003-2004 to 2012- 2013)

### Interpretation

Table VIII shows the position of liquidity. During the period of study company's highest risk of 288.19% generated a return of 12.62% and the least risk of 60.80% generated a return of 27.50%. Risk taken by the company showed a variation in its value with deviation of 90.19. The average risk taken by the company was 140.42% with a compound annual growth rate of 10%.

|         |        |       |
|---------|--------|-------|
| 2006-07 | 79.06  | 28.43 |
| 2007-08 | 65.19  | 25.56 |
| 2008-09 | 271.69 | 6.63  |
| 2009-10 | 288.19 | 12.62 |
| 2010-11 | 225.66 | 12.58 |
| 2011-12 | 116.74 | 13.64 |
| 2012-13 | 158.89 | 6.90  |

Source: Annual reports of Tata Motors (2003-04 to 2012-13)

Table: Testing of II Null Hypothesis

| Year    | Risk (Rk)% | ROCE% | Correlation Value |
|---------|------------|-------|-------------------|
| 2003-04 | 68.17      | 35.20 | - 0.8             |
| 2004-05 | 69.84      | 30.35 |                   |
| 2005-06 | 60.80      | 27.50 |                   |

### Interpretation

't' Test is used to determine significance of r. The computed value of 't' is being compared with tabulated value. In the above table  $r = -0.08$  and computed value of t is 0.000127. Table value of 't' at 10% level of significance for 8 degrees of freedom ( $n=10$ ) = 1.830. Since computed value of

't' is less than tabulated value, so  $H_0$  is accepted. It means that there is significant relationship between the two variables.

## XII. Findings and Suggestions

Net working Capital of Tata Motors during the period of study was not satisfactory as it showed a decreasing trend. Company must try to improve this position in future. Company should try to keep regular check, whether its current liabilities are exceeding the gross working capital of the firm. Liquidity position of the firm was not adequate because the average value of this current ratio was 0.98 times which is not near to the ideal ratio of 2:1 times. This indicates that, it is not in a position to meet its short term obligations with the existing current assets. So the firm must stabilize the position of its current assets to maintain a current ratio of at least the ideal value.

Cash position ratio of the firm was satisfactory as it was able to generate adequate amount of cash from its assets. Average value of the ratio was only 0.06 times. Firm must try to keep regular check on its assets to identify whether they are staying idle or obsolete. Only the liquid cash will help the firm to face any uncertainties at the times of depressions. During FY 2012-13, Indian economy experienced a low growth rate of 5%. Financial distress and slowdown of economy as witnessed globally; this economic situation impacted Tata

Motor's international volumes this year. Profitability of the company remained subdued due to lower volumes. General economic slowdown adversely impacted the volumes. In spite of lower volumes, company was able to achieve proportionately increased benefits on account of exemptions from levy of excise duty and income tax. Company managed to contain material cost at about the previous year levels and granting increases only for unavoidable reasons like power tariff increases, etc. Pearson's coefficient of correlation (r) between ROCE & liquidity has been calculated. "T" test is applied for determining significance of correlation then computed value of 't' has been compared with the tabulated value of 't'. Since the computed value of t is less than the table value the null hypothesis ( $H_0$ ) is rejected. So, there is significant difference between liquidity and profitability of the firm during the period of study.

Similar procedure is adopted for testing second hypothesis and the result is that since computed value of 't' is less than the table value the null hypothesis ( $H_0$ ) is accepted. So, there is significant relationship between risk and profitability of the firm during the period of study. While analyzing the company's performance it is clear that, the firm gives little importance to the issues related with working capital. It may be of the reason that amount and risk involved in capital

investment decision are very high. But from the above study we can say that Tata motors should give due consideration to improve the working capital management policies irrespective of the economic slowdown. Company must improve its present liquidity position to remain stable at the time of discrepancies or recession. It should also try to generate higher returns from its assets. The company must keep an optimum balance between liquidity and profitability for efficient use of its working capital. At the same time it should not stop formulating certain policies to keep a well-monitored working capital for better profitability, stability, reliability, growth and consistency.

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