

# IMPACT OF INTERNAL FINANCIAL DETERMINANTS ON FINANCIAL PERFORMANCE

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**Abstract** *The study is an attempt to measure the impact of internal financial determinants on financial performance of select automobile firms listed at BSE, India. The study is based on secondary data and data has collected from annual reports of the firms for a period of ten financial years from 2007-08 to 2016-17. Multiple Regression analysis has been used to measure the impact of internal financial determinants on the financial performance of the automobile firms in India. The study concluded that the internal financial determinants had significant impact on both of the measures of financial performance (ROA and Tobin's Q).*

**Keywords:** *Financial Performance, Return on Assets, Tobin's Q, Profitability, Internal Financial Determinants*

## INTRODUCTION

Performance word has been derived from word 'perforumen' which means 'to do', 'to carry out' or 'to render' (Hershman and Mazero, 2008). As stated by Frich Kohlar that performance refers to the conduction of activities of an organization and matching the present performance with past performance or with the projected future performance. Many economists consider organizations and institutions like an engine in determining the economic, social and political progress. Continuous performance of the organizations is helpful in growth and progress of the nation. The organizational performance is one of the most important variables in the management research and arguably the most important indicator of the organizational performance (Corina Gavera *et. al.* 2011). Hansen and Moven (2005) explained in their research study about the financial performance and non-financial performance of the firms. Though a firm's performance can be analyzed along multiple dimensions, the study will be confined to the financial aspect. Financial performance of firms plays an important role for better understanding of financial health of the firm. Analysis of financial performance helps in understanding the financial position of the company, level competition in the industry and detailed knowledge about the cost and profit centers within the firms. The accounting information provided by financial analysis can then be applied by managers, investors, and creditors in their strategic planning and investment decisions. The management of the company has special importance for analysis of financial performance

as it shows the company's stability and helps in future planning. The present study is an attempt to explore the internal financial determinants and their impact on financial performance; where financial performance was measured in terms and accounting, and in terms of marketing. This is a moderate and modest attempt to extend contribution towards financial performance of the automobile firms and impact of key determinants on the same. The importance of automobile industry was well demonstrated by Muhammad Aqil *et. al.* (2014), Mohd. Rosil (2008) in their research study and showed that Automobile industry has considered as the mother of all industries. Automotive industry is one of the key drivers of any growing economy. Its role is important in industrial and economic development in any country.

India, one of the world's most crowded nations and followed by China, in recent years has attracted wide spread attention for it rapidly growing economy. India is one of the most attractive investments destinations for most of the biggest global players. This sector contributes a noteworthy share of the total GDP and employment (Kushalappa *et. al.* 2013), which is the backbone of country's economic growth and development. Automotive industry occupies an important place in the Indian economy (Nag B. *et. al.* 2007).

## LITERATURE REVIEW

The previous research studies were reviewed in reference with the manufacturing and non-manufacturing industries for financial performance. The review and results thereof are discussed chronologically as under:

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A study by Rooh Ollah (2015) analyzed the financial performance of the listed firms in Steel Industry in India and the performance was measured with respect to liquidity, solvency, activity and profitability. The liquidity analysis was measured by Current ratio, quick ratio and acid test ratio. The solvency of the units was measured through Debt-Equity Ratio, Total Assets to Debt Ratio, Proprietary Ratio and Interest Coverage ratio. The activity ratios were measured through various turnover ratios. The Profitability was measured through various profitability ratios. The technique of ANOVA was applied and the results of the study showed that there was significant difference in the financial performance of selected units in reference with the liquidity, solvency, activity and profitability. Another study by Janthorn Sinthupundaja *et. al.* (2015) studied the public firms' characteristics and financial strategies towards financial performance improvements for Thai manufacturing companies listed in Stock Exchange of Thailand during the period of 2006-2010. The study applied Structural Equation Modeling (SEM) where firms' characteristics were represented by Growth, Size and Age of the firm whereas the financial strategies were represented by level of leverage and liquidity of the firm. Firm size had a negative impact on the level of leverage but it positively affected the liquidity of the firm. Liquidity negatively affected the firm financial performance's improvement and the level of leverage positively affected the liquidity. The results also showed that there was no significant direct effect of firm's growth to the level of leverage and firm financial performance's improvement. The level of leverage and age of the firm had no impact on the firm's financial performance improvement. The study concluded that the success or failure was not much depended merely on the debt policy but other factors like Size and liquidity also had the impact on the improvement on the firm's financial performance.

Growth of BSE listed Automobile Sector in India has been studied by C. GopalaKrishna *et. al.* (2013) investigated the growth and profitability position of listed automobile sector for the period of 2001-02 to 2011-12. The regression analysis, Analysis of Variance and Linear growth model has been used for finding the growth and profitability of the listed automobile sector. Net Sales, Total Income, Expenses, Raw material Usage, Working Capital, Operating Profit and Net Profit were taken as variables. The trend values were compared with the actual values. Dr. Pratibha Jain *et. al.* (2013) used accounting ratios and analyzed the profitability position of the selected automobile companies during the period of 2009-2013. The study applied Ratio analysis as an accounting technique and ANOVA as a statistical technique. The major profitability ratios were used for analysis and interpretation such as Operating Profit ratio, gross profit ratio, Net Profit ratio, Return on Capital Employed ratio

and Return on Net worth ratio. The result indicted that the performance of the companies of automobile industry was not similar in terms of their profits.

Subhrabaran Das *et. al.* (2012) studied the role of research and development in Indian Automobile Industry during the period of 1990 to 2008 based on secondary data. The objective of the study was to examine the role of Research & Development and its impact on the performance (employees) in the industry on the basis of level of firm viz. small scale, medium scale, and large scale. The study resulted that R&D plays a vital role both for reducing cost and promoting market performance. Study by Bana Abuzayed (2012) examined the effect of working capital management on firms' performance for listed firms on Amman Stock Exchange during the period of 2000-2008. The working capital was measured in terms of Cash Conversion Cycle and the components of working capital like Receivables, inventories, payables. The firm's performance was measured by Gross Operating income and Tobin's Q ratio. The techniques of correlation and regression analysis were applied and two models were regressed using different estimation methods, first OLS was used; Lagrange multiplier as well as Hausman tests were applied for choosing the preferred model. The study found that the cash conversion cycle and working capital components were not significantly affecting Jordanian firms' profitability.

Sidra Ali Mirza *et. al.* (2013) examined the possible association between financial performance of the firm and economic indicators, corporate governance, ownership structure, capital structure and risk management. The research has been done on sixty Pakistani corporate firms in terms of profitability and its association with multiple determinates for the firms which are listed in Karachi Stock Exchange for the period of 2007 to 2011. The financial performance has been measured by Return on Equity (ROE) and Shareholder Return (SHR). The other independent variables were Economic condition, Corporate Governance, Ownership structure, Block holding, Inside Ownership, Capital Structure, Risk management, firm policies and characteristics. The result showed that economic factors, ownership structure and risk management had shown a major impact in determination of financial performance of firms in Pakistan, if ROE is considered as performance measure. Corporate Governance, Ownership Structure, Capital Structure and Risk Management had shown major influence on firm's financial performance when it is measured in terms of Shareholder's returns.

Zahid Bashir *et. al.* (2013) studied & found out the different factors which were significantly affecting firm's performance in food sector of Pakistan during the period of Year 2005-2010. The firms' performance was measured by Return on Investment (ROI) and the independent factors were

Leverage, Growth, size, tangibility, liquidity, risk, tax and non-debt tax shield. The regression analysis were applied by the researchers and concluded that firm's performance in Food sector of Pakistan was significantly affected by long term leverage; size, risk, tangibility and non-debt tax shield were the important and significant determinants of firm's performance.

Obehioye U *et. al.* (2013) investigated the corporate profitability in Nigerian context for forty randomly selected companies listed on Nigerian stock exchange for the period of five years. The study analyzed the relationship between capital structure, firm size, cash liquidity, financial leverage and corporate profitability. The technique of Regression and Correlation analysis was used to analyze the relationship among dependent and independent variables. The study found that size of the firm and corporate profitability, leverage and corporate profitability were positively correlated. The negative relationship was found between Capital structure and corporate profitability and cash liquidity with corporate profitability. Zhihong Wang *et. al.* (2013) studied US based companies from various segments like manufacturing, agriculture and service sector and found out the association between companies' environmental and social supply chain activities with their financial performance. The financial performance had been measured by Return on Assets and Return on Equity. The study applied the multiple regression models and found that integrated sustainable supply chain management, jointly including social and environmental supply chain management; efforts were positively associated with corporate financial performance. Nirajini, A and Priya KB (2013) studied the impact of capital structure on financial performance of the listed trading companies in Sri Lanka for the period of five years. The capital structure of the company has been measured by Debt Asset Ratio, Debt Equity Ratio and long term debt and the financial performance has been measured in terms of Gross Profit Margin, Net Profit Margin, Return on Capital Employed, Return on Assets and Return on Equity. The researcher applied the Correlation and multiple regression analysis and concluded that capital structure had shown significant impact on the financial performance of the firm.

Dr. Amal Yassin Almajali *et. al.* (2012) investigated the factors that affect financial performance of Jordanian Insurance companies enlisted at Amman stock Exchange during the period of 2002-07. This research study identified the effect of leverage, age, size, liquidity, management competence index on the financial performance of the companies. It has been found that the leverage, Age, Size, liquidity and management competence index had significant impact on financial performance. Prof. Dr. Hong Yuh Ching *et. al.* (2012) identified the factors and correlated indicators that have impact on corporate financial performance and

determined the indicators that affect most to the profitability of Brazilian cyclic consumer goods industry during 2005-2009. Profitability was measured by ROS, ROA and ROE. Multiple regression analysis was applied and the result of the study identified the existence of five factors that affected the financial performance viz. firm size, working capital management, liquidity, margin and financial debt. The results concluded that gross margin and the amount of equity were the indicators that affect profitability positively, while financial leverage positively affected the firms return on equity. Reza Tehrani *et. al.* (2012) evaluated the financial performance of selected private organizations by Data Envelopment Analysis (DEA) during the period 2005-09. The results of the study showed that only nine firms were measured as efficient firms as per the model generated by the author. Omo Aregbeyen (2012) studied the determinants of firms' growth listed at Nigeria Stock exchange for ninety four listed public firms during the period of 1994-2005. The growth of the firm was depended variable an independent variables were size, age, capital intensity, foreign direct investment, vertical integration, Tobin's Q, governance structure, operating efficiency, managerial efficiency and financial constraints. The econometrics model of the study showed that the previous year growth rate of the firms, age, capital intensity and vertical integration had negative relationship with growth; while size, management efficiency and inflation had positive relationship with growth of the firm.

Suvarun Goswami *et. al.* (2011) analyzed the financial performance of Tata Steel during the period of 2000-01 to 2009-10. The study measured the liquidity and profitability position of Tata Steel by calculated various ratios based on the working capital and measured Operating Risk, Financial risk and total risk by calculated the Leverages. The profitability has been measured by return on capital employed (ROCE) and returns on equity (ROE). The results of the study showed that some of the ratios of working capital management showed the negative association with profitability and some of the ratios showed positive association with the profitability of the company. Theiri Saliha *et. al.* (2011) assessed the determinants of financial performance specifically focused on the link between performance, form of control and debt. The sample of the study comprised of forty Tunisian listed and unlisted companies. The technique of Simultaneous Equations was used for assesses the financial performance. The financial Performance of the companies was measured by Operating Income divided by equity (REFP) and Ratio of Value Added Sales (VACA). The result declared that the existence of significant interaction between performance, debt and shape control. In adding up this the result showed that the listed companies characterized by growth and profitability than those of unlisted companies.

Jasim Al-Ajmi *et. al.* (2009) assessed and explained the leverage of Saudi companies during the period of 2003-2007 and investigated empirically the effect of Profitability, Growth opportunities, firm size, tangibility, ownership structure, business risk, dividend payment, liquidity on the financial leverage. The result showed that capital structure choice was positively affected by profitability, size, growth opportunities, and institutional ownership. It was negatively affected by tangibility, government ownership, family ownership, business risk, dividend payment and liquidity. A study by Sridhar *et. al.* (2009) focused on the market based capabilities of the firm and its impact on the market performance and financial performance. The study focused on the better understanding of Market Based Capabilities and its impact on the market performance and value of the firm. A sample of two hundred firms was selected from four big cities in the mid-western and southern parts of the country. Financial performance had been measured by the return on assets, net profits, sales and market share. The technique of multiple regression analysis has been applied by the study to measure the impact of market based capabilities to the performance of the firm.

Joshua Abor (2005) has been analyzed the effect of capital structure on profitability of the firms which were listed at Ghana Stock Exchange (GSE). It was found that a significant positive correlation between the ratio of short-term debt to total assets and ROE. However, a negative relationship between the ratio of long-term debt to total assets and ROE was found. The results of the study showed that positive significant relationship existed between the ratio of total debt to total assets and return on equity.

Ram Kumar Kakani *et. al.* (2001) studied the financial performance of Indian listed firms during the period of 1992-2000. The firm's financial performance was studied through various dimensions, viz. Shareholders value, accounting profitability and its components, growth and risk of the firms. The other independent variables taken by the study were size, age, leverage, domestic financial institutional investor, minority public shareholders, net exports, international diversification, marketing expenditure, working capital ratio, industry effects, and business group affiliation. The study concluded that size, marketing expenditure and international diversification of a firm had a positive relation with its shareholder value. The results also showed that international diversification (and exports) offered several advantages to the studied firms. It allowed firms to take advantage of new market possibilities and provide broader base of markets in order to obtain returns from innovation.

## OBJECTIVE OF THE STUDY

The objective of the study is to explore internal financial determinants and evaluating their impact on the financial

performance of selected automobile firms in India in recent past. To achieve this broad objective following sub objectives has been framed:

- To measure the impact of internal financial determinants on financial performance of Indian automobile firms listed at BSE, India when accounting based financial performance was measured and represented by Return on assets (ROA).
- To measure the impact of internal financial determinants on financial performance of Indian automobile firms listed at BSE, India when marketing based financial performance was measured represented by Tobin's Q Ratio (TQ).

## METHODOLOGY

The present study adopted the causal research design which involves the investigation of cause-and-effect relationships. The study is based on secondary data and data has collected from annual reports of the considered automobile manufacturer firms listed at BSE, India. The study is an attempt to measure the impact of internal financial determinates on financial performance of the firms. The technique of multiple regression analysis was used to measure the impact of internal financial determinants on the financial performance of the selected automobile firms in India in recent past.

## Sample Selection

The study covers the companies selected from Indian Automobile manufacturers listed at BSE, India. The universe of the study is all the Automobile manufacturers firms listed at Bombay Stock Exchange in India. There were forty two companies which were registered at BSE with various industry segment namely, 2/3 wheelers, cars and utility vehicles and commercial vehicles as on 31<sup>st</sup> March 2016. In the list of 42 companies; the delisted companies, bicycle manufacturer companies, EOT cranes and earth moving equipment manufacturer companies and auto parts manufacturers were removed as it would have been difficult to match statistics of these companies due to technical and financial differences and hence the selected sample were consists of total fourteen automobile manufacturers. So, finally, the sample of the study comprised of 7 companies from 2/3 wheelers segment, 3 from cars and utility segment and 4 from commercial vehicle segment.

## Hypotheses Framing

Following hypotheses has been framed to achieve the objective of the study.

**H1:** There is an insignificant impact of internal financial determinants on financial performance of selected automobile firms in India measured in terms of accounting measure.

**H2:** There is an insignificant impact of internal financial determinants on financial performance of selected automobile firms in India measured in terms of marketing measure.

## Model Specification

Followings are the multiple regression models used to analyze the impact of internal financial variables on financial performance of respondent firms measured in terms of Accounting measure (Return on Assets) and Marketing measure (Tobin's Q).

## Dependent Variables

The present study measured the financial performance of selected automobile firms in two different measures; accounting measure and marketing measure. The accounting measure is represented by Return on Assets (ROA) and marketing measure is represented by Tobin's Q (TQ). ROA was measured as the ratio of operating profit to total assets and Tobin's Q was measured as the ratio total of market value of equity, book value of preferred stock and book value of debts to book value of total assets.

## Independent Variables

The independent variable is the cause to have change in dependent variable during the experiment or study. The present study selected 17 variables as independent variables.

**Table 1: Measures of Independent Variable**

Independent variables	Measures
Size (SIZE)	Natural Logarithm of Total Assets (Log TA)
Profitability Ratio (PR)	Net Profit x 100/Sales
Liquidity Ratio (LR)	Current Assets/Current Liabilities (CA/CL)
Operating Efficiency (OEF)	Operating Profit/Net Profit
Growth (GRT)	Compound Annual Growth Rate of Sales (CAGRS)
Leverage (LEV)	Total Debt to Total Assets (TD/TA)
Capital Structure (CS)	Total Debts (TD) /Equity (E)
Dividend Payout Ratio (DPOT)	Dividend Per Share (DPS)/Earnings Per Share (EPS)

Independent variables	Measures
Research and Development Intensity (RDI)	Research and Development Expenses (R&D)/Total Sales
Asset Tangibility (TANG)	Fixed Assets/Total Assets
Operating Profit Ratio (OPR)	Operating Profit x 100/Sales
Working Capital Ratio (WCR)	(Current Assets-Current Liabilities)/Sales
Tax (TAX)	Current year tax/Earnings before tax (CYT/EBT)
Non-Debt Tax Shield (NDTS)	Depreciation and Amortization/Total assets
Capital Intensity (CIN)	Total Assets/Total Sales (TA/TS)
Interest Coverage Ratio (ICR)	Earnings Before Interest and Tax/Interest (BEIT/I)
Export Intensity (EXIN)	Net Exports x 100/Total Sales

## Multiple Regression Model

### Model 1: Return on Assets (ROA)

**Model specification for accounting based financial performance of selected Indian automobile firms listed at BSE, India (represented by Return on Assets).**

$$ROA = \beta_0 + \beta_1 SIZE + \beta_2 PR + \beta_3 LIQ + \beta_4 OEF + \beta_5 GRT + \beta_6 LEV + \beta_7 CS + \beta_8 DPOT + \beta_9 RDI + \beta_{10} TANG + \beta_{11} OPR + \beta_{12} WCR + \beta_{13} TAX + \beta_{14} NDTS + \beta_{15} CIN + \beta_{16} ICR + \beta_{17} EXIN + ut$$

### Model 2: Tobin's Q (TQ)

**Model specification for marketing based financial performance of selected Indian automobile firms listed at BSE, India (represented by Tobin's Q ratio)**

$$TQ = \beta_0 + \beta_1 SIZE + \beta_2 PR + \beta_3 LIQ + \beta_4 OEF + \beta_5 GRT + \beta_6 LEV + \beta_7 CS + \beta_8 DPOT + \beta_9 RDI + \beta_{10} TANG + \beta_{11} OPR + \beta_{12} WCR + \beta_{13} TAX + \beta_{14} NDTS + \beta_{15} CIN + \beta_{16} ICR + \beta_{17} EXIN + ut$$

## Assessment of Data Quality

The present study collected secondary data and analyzed using SPSS 21.0 and Stata 10.0 software for windows. Normality of data checked by descriptive statistics, Heteroscedasticity was checked by homoscedastic Breusch-Pagan / Cook-Weisberg test. Autocorrelation checked by Durbin-Watson test and multicollinearity checked by VIF. Multicollinearity was measured through Variance Inflation

Factor (VIF) and it was found that in regression model the multicollinearity exists and VIF for Operational Efficiency (OEF, VIF=77.152) and Operating Profit Ratio (OPR, VIF=68.007) were not under the accepted value. It was necessary to take corrective action as these two independent variables are based on operating profitability of a firm. So, on removing OEF and keeping OPR as independent variable, the results were found to be under accepted value.

**Regression Model 1: Accounting Measure (ROA)**

The below mentioned table shows the Regression model when measuring the financial performance in terms of accounting measure and the variable is Return on Assets (ROA) as a dependent variable and all financial determinants are independent variables.

**Table 2: Regression Model Summary of Model 1: Accounting Measure (ROA)**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.925 <sup>a</sup>	.856	.837	.10546	.856	44.355	16	119	.000	1.025

a. Predictors: (Constant), EXIN, GRT, CS, PR, RDI, LIQ, NDTs, ICR, TAX, DPOT, CIN, TANG, LEV, SIZE, WCR, OPR  
 b. Dependent Variable: ROA

The above table depicted that the value of R square is 0.856 that is; 85.6% variation in dependent variable; ROA, is

explained by the considered independent variables. This implies that model so applied is good and statistically fit.

**Table 3: Analysis of Variance (ANOVA) Model 1 : Accounting Measure (ROA)**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.892	16	.493	44.355	.000 <sup>a</sup>
	Residual	1.323	119	.011		
	Total	9.216	135			

a. Predictors: (Constant), EXIN, GRT, CS, PR, RDI, LIQ, NDTs, ICR, TAX, DPOT, CIN, TANG, LEV, SIZE, WCR, OPR  
 b. Dependent Variable: ROA

The above mentioned ANOVA table for model 1 indicates that p-value associated with F-value (44.355) is smaller than 0.05 ( $\alpha = 0.05$ ). On the basis of p-value ( $p=0.000$ ) it has been found that independent variables jointly explained variation in dependent variable, ROA and statistically it is significant. Hence the model is statistically good fit model to test the variability of dependent variable. So, the null hypothesis that there is a significant impact of internal financial determinants on financial performance of selected automobile firms in India measured in terms of accounting measure was accepted.

The Regression Model 1 is as follows:

$$ROA = 0.018 - 0.038 SIZE - 0.253 PR - 0.034 LIQ + 0.002 GRT - 0.315 LEV + 0.067 CS + 0.018 DPOT - 1.298 R\&D + 0.298 TANG + 2.233 OPR - 0.019 WCR + 0.03TAX + 0.542NDTS + 0.117 CIN + 0.000ICR + 0.053 EXIN + ut$$

As per table of Coefficients of Regression Model 1, Accounting Measure ROA, analysis showed that Non-Debt Tax shield (NDTS) (0.542 at 5% level of significance with

p-value 0.008), Capital Intensity (CIN) (0.117 at 5% level of significance with p-value 0.000), Tangibility (TANG) (0.298 at 5% level of significance with p-value 0.000), Operating Profit Ratio (OPR) (2.233 at 5% level of significance with p-value 0.000) and Capital Structure (CS) (0.067 at 5% level of significance with p-value 0.000) had shown significant positive impact on Return on Assets (ROA).

Size of the firm (SIZE) (-0.038 at 5% level of significance with p-value 0.021), Profitability Ratio (PR) (-0.253 at 5% level of Significance with p-value 0.022), Research and Development Intensity (RDI) (-1.298 at 5% level of significance with p-value 0.040), Leverage (LEV) (-0.315 at 5% level of significance with p-value 0.000) had shown significant and negative impact on ROA.

Interest Coverage Ratio (ICR) (0.000 at 5% level of significance with p-value 0.769) showed insignificant and almost negligible impact on Returns on Assets (ROA). Export Intensity (EXIN) (0.053 at 5% level of significance with p-value 0.126), Tax payments (TAX) (0.030 at 5% level of significance with p-value 0.397), Dividend Payout

(DPOT) (0.018 at 5% level of significance with p-value 0.599) and Growth in terms of sales (GRT) (0.002 at 5% level of Significance with p-value 0.402) had shown insignificant positive impact on Return on Assets (ROA). Liquidity of the

firm (LIQ) (-0.034 at 5% level of significance with p-value 0.176) and Working Capital Ratio (WCR) (-0.019 at 5% level of significance with p-value 0.667), had shown insignificant negative impact on ROA.

## Regression Model 2: Marketing Measure (TQ)

**Table 4: Regression Model Summary of Model 2 Marketing Measure (TQ)**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.643 <sup>a</sup>	.414	.335	3.30466	.414	5.255	16	119	.000	.889

a. Predictors: (Constant), EXIN, GRT, CS, PR, RDI, LIQ, NDTs, ICR, TAX, DPOT, CIN, TANG, LEV, SIZE, WCR, OPR

b. Dependent Variable: TQ

The above table depicted that the value of R square is 0.414 so 41.4% variation in dependent variable; Tobin's Q Ratio

(TQ), is explained by the considered independent variables. This implies that model so applied is good and statistically fit.

**Table 5: Analysis of Variance (ANOVA) for Model 2 Marketing Measure (TQ)**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	918.192	16	57.387	5.255	.000 <sup>a</sup>
	Residual	1299.569	119	10.921		
	Total	2217.762	135			

a. Predictors: (Constant), EXIN, GRT, CS, PR, RDI, LIQ, NDTs, ICR, TAX, DPOT, CIN, TANG, LEV, SIZE, WCR, OPR

b. Dependent Variable: TQ

The above mentioned ANOVA table for model 2 indicates that p-value associated with F-value (5.255) is smaller than 0.05 ( $\alpha = 0.05$ ). On the basis of p-value ( $p=0.000$ ) it has been found that independent variables jointly explained variation in dependent variable, TQ and statistically it is significant. Hence the model is statistically good fit model to test the variability of dependent variable. So, the null hypothesis that there is a significant impact of internal financial determinants on financial performance of selected automobile firms in India measured in terms of marketing measure was accepted.

The Regression Model 2 is as follows:

$$TQ = 12.178 - 1.909 \text{ SIZE} - 1.971 \text{ PR} - 3.311 \text{ LIQ} - 0.022 \text{ GRT} - 0.025 \text{ LEV} - 0.158 \text{ CS} + 2.353 \text{ DPOT} - 15.897 \text{ RDI} - 3.418 \text{ TANG} + 15.183 \text{ OPR} + 0.246 \text{ WCR} - 0.039 \text{ TAX} + 9.565 \text{ NDTs} + 0.859 \text{ CIN} + 0.000 \text{ ICR} + 1.823 \text{ EXIN} + ut$$

Dividend Payout (DPOT) (2.353 at 5% level of significance with p-value 0.010) and Operating Profit Ratio (OPR) (15.183 at 5% level of significance with p-value 0.009) had shown positive and significant impact on Tobin's Q (TQ). Size of the firm (SIZE) (-1.909 at 5% level of significance with p-value 0.000) and Liquidity of the firm (LIQ) (-3.311 at 5% level of significance with p-value 0.000) had shown significant negative impact on TQ.

Working Capital Ratio (WCR) (0.246 at 5% level of significance with p-value 0.856), Non-Debt Tax shield (NDTs) (9.565 at 5% level of significance with p-value 0.129), Capital Intensity (CIN) (0.859 at 5% level of significance with p-value 0.249) and Export Intensity (EXIN) (1.823 at 5% level of significance with p-value 0.096) had shown insignificant positive impact on Tobin's Q (TQ). Interest Coverage Ratio (ICR) (0.000 at 5% level of significance with p-value 0.479) had shown insignificant and negligible impact on Tobin's Q (TQ).

Profitability Ratio (PR) (-1.971 at 5% level of Significance with p-value 0.567), Growth in terms of sales (GRT) (-0.022 at 5% level of Significance with p-value 0.714), Leverage (LEV) (-0.25 at 5% level of significance with p-value 0.859), Capital Structure (CS) (-0.158 at 5% level of significance with p-value 0.515), Tangibility (TANG) (-3.418 at 5% level of significance with p-value 0.102), Tax payments (TAX) (-0.039 at 5% level of significance with p-value 0.972) and Research and Development Intensity (RDI) (-15.897 at 5% level of significance with p-value 0.418) had shown insignificant negative impact on TQ.

## FINDINGS AND DISCUSSIONS

Impact of internal financial determinants on financial performance (accounting and marketing bases) of selected Indian automobile firms listed at BSE, India has been evaluated and findings of the study supported other research studies that there is difference in impact with regard to two different measures (see V. Taghizadeh Khanqah 2012; Lev and Radhakrishnan, 2003). The findings of the study in this regard and corresponding discussions have been put forth herein under:

There was significant and negative impact of size of the firm (SIZE) on financial performance measured in accounting measure (ROA) and marketing measure (TQ). It is evident that the considered automobile firms were not efficiently generated the profitability from the available assets. Results indicated that larger firms of this industry were unable to utilize its assets to maintain the financial performance. Singh & Whittington (1968), Banz (1981), Zahid Bashir (2013) also reported the same results in their studies where size had negative impact on firm's performance. Another finding of the study is that the Profitability Ratio (PR) showed negative impact on accounting measure (ROA) as well as on marketing measure (TQ), but it was found to be insignificant in case of marketing measure (TQ). Due to the variations in the profitability ratios, firms were not able to create the faith of the investors and had negative effect on the market value of the firm.

Liquidity (LIQ) had shown negative impact on both the measures of firms' performance. The results shown are in line with the results reported by Zeitun *et. al* (2007) that liquidity had significant negative impact on firm's performance. It has been found that higher liquidity resulted into lower profitability and vice versa. One more finding of the regression results showed that Growth in terms of sales has shown insignificant positive impact on accounting based measure (ROA) and insignificant negative impact on marketing based measure (TQ). The higher sales increased the accounting based measure but higher sales had not much relevance for the investors.

Another finding of the study is that Leverage (LEV) had significant negative impact (see Theiri Saliha, 2011, A. Vijaykumar 2011) on Accounting measure (ROA) and insignificant negative impact on marketing based measure (TQ). It has been found from the results that the selected automobile firms were not able to create profitability when debts increased rather it created negative impact on ROA. In reference with the marketing measure the higher leverage created more financial risk in the eyes of the investors and ultimately negatively affected the market value of the firm. The results of the study also showed that Capital Structure (CS) had shown significant positive impact on return on

assets of the firm and insignificant negative impact on Tobin's Q. Capital structure is ratio of debt to equity which shows that if debts in the firm increase it saves tax payments of the firm and there is positive impact on ROA. CS had shown insignificant negative impact on Tobin's Q of the firm which depicts that when control of ordinary equity shareholders was diluted, it created negative impact on financial performance. The previous research studies also found similar results that Capital structure had negative impact on shareholders' return (see Sidra Ali Mirza *et. al* 2013, Ram Kumar Kakani *et. al*, 2012, Nirajini 2013).

Another finding of the study showed that Dividend Pay Out had shown insignificant positive impact on ROA and significant on TQ. Payments of dividend reflect that firms were profitable and able to distribute dividends which created positive impact on performance. The results showed that the DPOT had shown positive impact but it is insignificant in case of ROA and significant in case of TQ. So, Dividend Pay Out has shown positive impact on financial performance. Similar results were shown by Sidra Ali Mirza *et. al* in year 2013. Research and Development Intensity (RDI) had shown negative impact on financial performance. RDI had shown significant negative impact on ROA and insignificant impact on TQ. The R&D expenses; both capital and revenue; of the firm were not able to produce profitability for the firm. Similarly increment in RDI was not able to create positive impact on market value of the firm. Similar results were supported by Chandan Sharma *et. al* (2012) that RDI had not shown significant impact in Indian Transport Manufacturing firms. Tangibility (TANG) had shown positive impact on ROA and TQ but it is insignificant in case of TQ; similar to the results Ali Abbas *et. al* 2013, Zeitun and Tian (2007). The results revealed that when Tangibility (FA/TA) increased neither profitability nor market value enhanced. So, Tangibility had negative impact on financial performance for selected automobile firms in India.

Another finding of the study showed that the Operating Profit Ratio (OPR) had shown positive and significant impact of on both of the measures of financial performance. Operating profits showed the operational efficiency of the firms and level of operating margin created by the firms. It shows that if firms are operational efficient it has positive impact on financial performance of the firms. Working Capital Ratio (WCR) had shown negative impact on accounting measure and positive impact on marketing measure but insignificant in both of the cases. Similar results were supported V. Taghizadeh Khanqah *et. al* (2012) that working capital has negative impact on financial performance. It indicated that funds are blocked in the form of current assets and it hampers the profitability and hence have negative impact on accounting measure of financial performance. On the other hand it had positive impact on TQ but insignificant.

Another finding of the study showed that TAX had shown positive insignificant impact on accounting measure and negative impact on marketing measure. When firm pays its taxes it creates positive effect on financial performance. The results indicated the same; the Tax payments (TAX) showed positive effect on ROA as similar results were supported by Ali Abbas *et. al* 2013. Non-Debt Tax shield (NDTS) had shown significant positive impact on accounting measure and insignificant positive impact on marketing measure (TQ). NDTS (Depreciation and amortization/Total Assets) indicated that if amortization and depreciation amount increases the firms were able to save taxes and it created lesser tax payments to the government. Similar results were found by Zahid Bashir *et. al*, 2013. Capital Intensity (CIN) had shown positive impact on both of the measures of financial performance but it is insignificant in case of marketing measure. The results showed that Investment in total assets was efficient enough to produce the sales and ultimately had positive impact on investors mind and hence had enhanced the market value. The results of the study were supported by JooH Lee (2012). Interest Coverage Ratio (ICR) had shown that there was almost negligible impact of interest Coverage ratio on both the measures of financial performance for the selected automobile firms. Export Intensity (EXIN) had shown positive impact on accounting measure (ROA) and marketing measure (TQ) both but statistically insignificant. The revenues generated from exports supported the firms' revenues. When firm goes into international boundaries it created positive effect on investors' mind and hence able to create positive effect on market value of the firm. Similar results were found by other studies Rosane Gertner, Alokesh Barua (2012) found that export had positive and insignificant impact on firm's performance.

## CONCLUSION

Impact of internal financial determinants on financial performance of selected automobile firms was measured through multiple regression analysis. Financial performance has been measured in terms of accounting and marketing measures. Results indicated that financial performance was affected by selected internal financial determinants and these internal financial determinants had varying impacts on each measure of financial performance.

The results evidenced that financial performance of selected automobile firms had been affected by internal financial determinants. *Capital Structure, Asset Tangibility, Operating Profit* along with *Non-Debt Tax Shield* and *Capital intensity* had positive impact on accounting measure of financial performance. On the employed fixed assets the firms were operating efficiently and enjoyed Non-Debt Tax Shield, relying more on equity rather than debts.

*Profitability Ratio* indicated that non-operating expenses reduced the profitability, thereby creating negative impact on performance. Along with the profitability; *Size of the firm, leverage, Research and Development Intensity* had negative impact on financial performance measured on accounting measure. It indicated that capital expenditure on Research and development increased the fixed assets base; increase the size of the firms; but matching with expenditure the firms were unable in generating profitability. Levering of the firm did not create profitability, rather high cost of debt generated negative impact on performance. Marketing measure of financial performance has been found to be positively affected by *Operating Profit Ratio* and *Dividend Payout Ratio*. The results evidenced that operating margin of the firm and dividend payout capacity of the firm created good faith of investors and hence increased the market value of the firm. On the other hand *Liquidity* and *Size* had negative impact on performance and evidenced that it is the belief of the investors that firms should increase the profitability on employed fixed assets rather only increasing the size of the firm.

The selected automobile firms in India are well established firms and some of them have their existence since before independence. Implementation of liberalization, privatization and globalization policy in India and later permission of 100% Foreign Direct Investment (FDI) made this industry more complex and has enhanced the competition. With this backdrop, the Indian firms are struggling and trying to improve their performance as their products and services are facing competition from global players existing in Indian market.

## LIMITATIONS AND FUTURE SCOPE OF THE STUDY

The study measured the impact of internal financial determinants on the financial performance of the selected automobile firms listed at BSE, India. The non-financial determinants had not considered in the study. The present study did not consider the unlisted Automobile firms for the research work. The results of the study are limited to the considered firms only; it can't be generalized.

There are many private companies entered in India through FDI route and do not listed at BSE, India. The future research studies may take in the sample for more comprehensive results. The future scope may extended to the various categories of firms such as; small scale, medium scale and large scale automobile firms, etc. for more comprehensive picture of comparative financial performance of automobile industry.

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