

INFLUENCE OF LIQUIDITY ON THE PROFITABILITY OF AUTOMOBILE SECTOR IN INDIA- A STUDY

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Abstract: Liquidity is the financial position of a company that measures the ability of a firm to pay its short-term liabilities. Profitability is the earning capacity of a company. The paper is focusing on how the liquidity position influences the profitability of the select companies under the Automobile sector listed in the National Stock Exchange (NSE) of India. The sample of 8 companies over 15 years from 2006-07 to 2020-21 is considered in this paper. To find out the influence of liquidity on profitability, Acid Test Ratio (ATR), Dividend Payout Ratio (DPR) considered as exploratory variables (Liquidity), and Debt to Equity (DE), growth (GROW) factors considered as a control variable and Return On Assets (ROA) is considered as dependent variable (profitability). To fulfill the objective of the study Pearson's' Correlation has been run for testing the Collinearity and simple Regression Analysis was run to examine the influence of Liquidity on the Profitability of the companies. The Result of the Regression analysis reveals that the liquidity factors Acid Test Ratio (ATR) has no influence on Profitability, on the other hand, Dividend Payout Ratio (DPR), Debt to Equity (DE) and Growth factors have a significant influence on the Return on Assets (ROA).

Keywords: Dividend Pay-out Ratio, Acid Test Ratio, National Stock Exchange.

Introduction

Liquidity is the financial position of a company that measures the ability of a firm to pay its short-term debt and current liabilities. It is a crucial area for financial management to maintain adequate liquid assets for the smooth operational activities of the business. It meets expenses for the day-to-day activities of the firm. The Management of the companies involved plans and controls the assets of the business concern. Profitability is the enhancement of the value of equity and reserve of a company which indicates the prospects and growth. Liquidity and profitability are two vital areas in the business life cycle. Without sufficient Liquid assets, a business cannot perform their day-to-day operational activities, which results in difficulties in earning the profit. It is essential to maintain a sufficient liquid fund for the smooth running of the business activities. The liquid assets of the business concern should be neither excessive nor inadequate. Liquidity indicates the firm's ability to meet the short-term needs of the fund. Efficient financial management has a vital and significant role in maintaining a moderate amount of liquid funds for the running of smooth business activities of the company. The objective of the study is to examine the influence of Liquidity on the Profitability of the Automobile sector in India listed in the stock exchange of India (NSE). To fulfill the objective

of the study, the Acid Test Ratio (ATR) and Dividend Payout Ratio (DPR) are taken as the exploratory variables, Debt equity (DE) and Growth (GROW) are the control variables, on the other hand, Return on Assets (ROA) is Profitable variable, presents the Dependent Variable.

Review of Literature

EIHEDU, Victor Chukwunweike (2014) examined the correlation between Liquidity and Profitability of the companies. The sample population draws from two companies named Beta Glass of Nigeria Plc and Vita Foam Nigeria Plc listed in the Nigerian Stock Exchange (NSE). To analysis, the data, run the Correlation Model. The study found that there is no relation between Acid Test Ratio and ROA. And also return on Capital Employed and ROA.

Tran, Lin, & Nguyen (2016) studied to find out the interrelation among liquidity creation, regulatory capital, and Profitability of the USA group of a bank. The Quick Ratio (QR) is considered liquidity, and ROA is considered Profitability. To analysis, the data, run the Vector Regression Model. The regression analysis reveals that Regulatory capital has a negative relation with the Bank profitability for higher capitalized banks, on the other hand, the Quick Ratio does have a significant and positive relationship with ROA.

Rafiqu Ahmed (2016) provided a study to examine the relationship between Liquidity and Profitability of Standard Chartered Banks of Pakistan. The study was based on the financial statement of Standard Chartered Bank of Pakistan from 2004 to 2013. Current Ratio, Quick Ratio, and Net Working Capital are the factors of Liquidity. Correlation and Regression analysis Model used. The result of the study found that there is a weak and positive relationship between Liquidity and the Profitability of the Standard Chartered Banks of Pakistan.

Naim Salamehi Al-Qadi et al. (2018) studied to examine the relation between Liquidity and Profitability of the Jordanian trade companies listed in the Amman Stock Exchange. The study based on 11 trade companies for the period from 2008 to 2015. Current Ratio (CR) and Quick Ratio were Liquidity on the other hand, ROA was Profitability. The result of the study indicated that the current ratio (CR) and Quick Ratio have a significant relation with ROA.

Ali Raza Sattar (2019) had studied the Textile Industry of Pakistan, taking 124 companies of 2014 and 2015. The objective of this study was to find out the impact of Liquidity on the Profitability of the said companies. The Current Ratio (CR) was the independent variable, on the other hand, Return on Capital Employed (ROCE), Return on Equity (ROE) were the dependent variable. A simple regression analysis use for the data analysis. The current ratio (CR) has a positive impact on Return on Capital Employed (ROCE) and Return on Equity (ROE).

Research Gap

A lot of studies have been done on the Liquidity and Profitability of firms in various sectors. Yet, there is no indisputable explanation on what factors of liquidity influence the Profitability of the companies. Few studies have been done in the Indian context but no one considered the factors together of Acid Test Ratio (ATR) and Dividend Payout Ratio (DPR) considered as exploratory variables (Liquidity) Debt to Equity (DE), and Growth (GROW) considered as control variables and Return on Assets (ROA) was as dependent variable (Profitability) of Automobile sector listed in the National Stock Exchange (NSE) of India.

Objective of the Study

The study is to find out the influence of Liquidity on the Profitability of the Automobile sector in India listed in the stock exchange of India (NSE).

1. Identify the factors of Liquidity that have a significant influence on the profitability of the companies.
2. Examine the influence of the Liquidity on the Profitability of the Automobile sector in India listed in the stock exchange of India (NSE).

Significant of the study: The creditors, Lenders while making credit policy and financial decisions. The study also helps the management can set appropriate policies accordingly.

Methodology

Data collection and study design

The study is analytical in nature and using secondary data to examine the influence of liquidity on the profitability of the companies under the Automobile sector listed in the stock exchange of India (NSE).

- a) **Study design:** The study is based on the secondary data available in the Annual Reports of the companies. And the data sources: [www. moneycontrol.com](http://www.moneycontrol.com)
- b) **Study Location:** The Companies under the Automobile sector.
- c) **Study Duration:** Period of 15 years during 2006-07 to 2020-21.
- d) **Sample size:** 120 observations of 8 listed companies.
- e) **Sample Calculation** Variables are calculated through EXCEL and the nature of the research is Static Panel Data analysis. The data analysis was done through STATA 12.00.

Steps for the Data Analysis

- i. To know the Mean, Maximum value, minimum value, and the Deviation of the data range: **Descriptive Statistics.**
- ii. For testing the Collinearity: **Pearson's Correlation**
- iii. To test the normality: **Shapiro-Wilk test**
- iv. Result by: **Regression Analysis**

Hypothesis

a) Null hypothesis assumed that: -

H01: Acid Test Ratio (ATR) has no influence on Profitable variable.

H02: Dividend Payout Ratio (DPR) has no influence on Profitable variable.

H03: Debt Equity (DE) has no influence on the Profitable variable.

H04: Growth (GROW) has no influence on the Profitable variable.

b) Alternative hypothesis assumed that: -

H11: Acid Test Ratio (ATR) has an influence on Profitable variables.

H12: Dividend Payout Ratio (DPR) has an influence on Profitable variable.

H13: Debt Equity (DE) has an influence on the Profitable variable.

H14: Growth (GROW) has an influence on the Profitable variable.

Regression model

The Regression model used in this research can be written as:

$$ROA_{it} = \beta_0 + \beta_1 ATR_{it} + \beta_2 DPR_{it} + \beta_4 DE_{it} + \beta_5 GROW_{it} + \epsilon_i$$

Where ROA= Return on Assets of the firm i in period t

ATR= Acid Test Ratio

DPR= Dividend Payout Ratio

DE= Debt-Equity

GROW=Growth

ϵ_i = Standard Error

The factors calculation and their hypothesis

Name of factors	Formula	Hypothesis	Impact
Return On Assets	$ROA = \frac{\text{Net Margin}}{\text{Average Assets}}$	Profitability	
Acid Test Ratio	$ATR = \frac{\text{Current Assets}-\text{Closing Inventories}}{\text{Current Liabilities}}$	Liquidity	Positive (+)
Dividend payout ratio	$DPR = \frac{\text{Dividend per share}}{\text{Earning per Share}}$	Liquidity	Positive (+)
Debt to Equity	$DE = \frac{\text{Debt}}{\text{Equity}}$	Capital Structure	Negative (-)
Growth	$GROW = \frac{\text{Total Assets for current year}}{\text{Total assets for previous Year}}$	Growth	Positive (+)

Result and Discussion

Descriptive Statistics

The descriptive statistic shows the mean, standard deviations, minimum and maximum value of all variables and also variance of the variables.

Table -1: Summarized Table

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sum ROA ATR GROW DPR DE

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Variable	Obs	Mean	Std. Dev.	Min	Max
ROA	120	11.39467	8.544189	-11.64	36.12
ATR	120	.8803333	.595202	.08	3.29
GROW	120	1.14075	.1608341	.423	1.589
DPR	120	27.222	21.78651	-39.26	97.42
DE	120	.3774167	.4072752	0	1.42

Sources: Author’s Calculation through STATA-12.00

Discussion: Table no 1: Shows the mean value of Profitable variable ROA is 11.39% where the highest at 36.12% and the lowest value is -11.64%. Standard Deviation shows the variation with the least value of Standard Deviation at 8.54% implying the Return on Assets variation.

Normality Test

To test the normality of the variables, we use the Shapiro & Wilk test. Shapiro-wilk test was preferred because of its good power properties. If the value of W lies between zero and one, the small values of W lead to rejection of normality.

Table-2. Shapiro-wilk test

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. swilk ROA ATR GROW DPR DE
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Shapiro-Wilk W test for normal data

Variable	Obs	W	V	z	Prob>z
ROA	120	0.98892	1.066	0.144	0.44268
ATR	120	0.83156	16.208	6.241	0.00000
GROW	120	0.90148	9.480	5.039	0.00000
DPR	120	0.91312	8.360	4.757	0.00000
DE	120	0.86540	12.952	5.738	0.00000

Sources: Author's calculation through STATA-12.00

Discussion: On the basis of the results above, W ranges from 0.83156 and 0.98892. This showed an indication of normality of the variables

Pearson's Correlation Coefficient

Correlation is a technique that is used for investigating the relationship between two quantitative variables. It has been examined the correlation between the exploratory variables by using the covariance matrix. If an absolute correlation value exceed 0.8 which indicates that there is a strong correlation exist and this circumstance indicates removing one of the variables.

Table-3: Pearson's Correlation

```
correlat ROA ATR GROW DPR DE
obs=120)
```

	ROA	ATR	GROW	DPR	DE
ROA	1.0000				
ATR	0.4032	1.0000			
GROW	0.2624	0.0785	1.0000		
DPR	0.3081	0.1801	0.0831	1.0000	
DE	-0.7175	-0.4838	-0.1340	-0.1093	1.0000

Sources: Author's Calculation through STATA-12.00

Discussion: Table no 3 shows that the correlation between the exploratory variables, shows less than 80% i.e., quite small. Higher correlation value is between DPR and ATR (18.01%). We can conclude from the result table that there is no collinearity exists between the explanatory variables.

Regression Result

The Regression Analysis examines the impact of liquidity such as Acid Test Ratio (ATR), Dividend Payout Ratio (DPR), Debt to Equity (DE), Growth (GROW) on Return On Assets (ROA) of the Automobile sector listed in the stock exchange of India.

Table-4: Regression Result

regress ROA ATR GROW DPR DE						
Source	SS	df	MS			
Model	5145.33549	4	1286.33387		Number of obs =	120
Residual	3542.0415	115	30.8003609		F(4, 115) =	41.76
Total	8687.37699	119	73.003168		Prob > F =	0.0000
					R-squared =	0.5923
					Adj R-squared =	0.5781
					Root MSE =	5.5498

ROA	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
ATR	.4927096	.987321	0.50	0.619	-1.462983 2.448402
GROW	8.164065	3.199761	2.55	0.012	1.825954 14.50218
DPR	.0852706	.0238028	3.58	0.001	.0381217 .1324194
DE	-13.77431	1.436297	-9.59	0.000	-16.61934 -10.92928
_cons	4.525181	3.926046	1.15	0.251	-3.251561 12.30192

Sources: Author's Calculation through STATA-12.00

Discussion

Table no 4 shows that the Coefficient of determination (R²) measures the overall fitness and explains how well a model predicts future outcomes. Regression Analysis (Table 3) reveals that the value of R² was 59.23%, the Adjusted (R²) is 57.81%. The result of the regression analysis indicates that Acid Test Ratio (ATR), Dividend Payout Ratio (DPR), Debt to Equity (DE), Growth (GROW) explain 59.23% of the profitability variable (ROA). It can conclude that the overall fitness of the model is good.

1. H01 (ATR): P is (0.619) which is greater than 0 .05 in the 5% significant level. It indicates that the Acid Test Ratio does not influence Profitable variable ROA.
2. H02 (GROW): P is (0.012) which is less than 0 .05 in the 5% significant level. It indicates that the Grow has a Positive influence on the Profitable variable ROA. The result table shows that if the Growth factor increased by 1 unit, the Return on Assets increased by (8.16%).
3. H03 (DPR): P is (0.001) which is less than 0 .05 in the 5% significant level. It indicates that the Dividend payout Ratio has a positive influence on Profitable variable ROA. The result table shows that if the Dividend payout Ratio increased by 1 unit, the Return on Assets increased by (.085%)
4. H04 (DE): P is (0.000) which is less than 0 .05 in the 5% significant level. It indicates that the Debt to Equity has a negative influence on Profitable variable ROA. The result table shows that if the Debt Equity Ratio increased by 1 unit, the Return on Assets decreased by (13.77%).

Conclusion

The present study attempts to find out the influence of the factors of liquidity on the profitability of the companies under the Automobile sector in India over 15 years from 2006-07

to 2020-21. The liquidity Acid Test Ratio (ATR), Dividend Payout Ratio (DPR), and Return on Assets (ROA) is the Profitability variable where Leverage (DE) and Growth (GROW) is the control variable considered in the regression analysis.

From the results of this regression analysis, we observed that the Dividend Payout Ratio (DPR), Debt to Equity (DE), and (GROW) are the factors that influence the Return on Assets (ROA) of the companies under the automobile sector listed in the Stock Exchange of India over the entire period of study.

The empirical result suggested that Acid Test Ratio (ATR) does not have a significant influence on ROA, on the other hand, the Dividend Payout Ratio (DPR) and growth (GROW) have a positive and significant but Debt to Equity (DE) has a negative influence on Profitability factor Return on Asset of the companies under the Automobile sector listed in the Stock Exchange of India over the entire period of study.

Recommendation

The study provides information to the creditors, investors can use the factors that influence the Return on Assets of the firm to decide which firms have the chance a good profit and giving the credit facilities accordingly. Also, the managers can use the significant elements of liquidity to enhance the profitability to set an appropriate liquidity management policy for the company.

Further Study

On the area of the share market by considering internal and external factors which influence the stock prices of other sectors in India.

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