

Financial Structure Analysis and its Impact on Profitability: A Study of Passenger Cars and Tyres Industry in India

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ABSTRACT

This research investigates the intricate relationship between financial structure and profitability within the Indian Passenger Cars and Tyres Industry. By analysing the capital and finance structures of selected companies over a ten-year period, the study aims to unveil the impact of fixed assets, investments, current assets, long-term capital, and current liabilities on profitability. Utilizing accounting techniques and statistical analyses, the research tests multiple hypotheses related to the impact of these structures on company performance. The findings fostering a deeper understanding of the financial dynamics in the rapidly growing Indian automobile market, offering valuable insights for stakeholders, decision-makers, and future research endeavours.

KEYWORDS: Finance, Financial Structure, Capital Structure, Capital structure ratios, Asset structure ratios, Profitability Ratios

Introduction

The book value of a company's common stock, preferred stock, and bonds or fixed liabilities has traditionally been defined as its capital structure. These items are considered as 'long term' financing for the company. However, putting too much emphasis on them may lead to mistakes in financial analysis. Thus, a company with only common shares in its capital structure is often described as conservatively or safely financed; however, a company with significant outstanding trade debt, owes on a bank loan, or is tied up in long-run rental contracts may not be considered as 'safely' financed. The financial structure of an operating company, which consists of all the items on the liability side of the balance sheet that represent equity, debt and all the other long term liability items, is incomplete without the due recognition given to the current liabilities present in the given balance sheet.

Traditionally, fixed liabilities like equity stock, preferred stock, bonds, debentures, bank loans, etc., are used to finance fixed assets. Current assets are typically purchased with the surplus of fixed liabilities over fixed assets. The fact that current liabilities occasionally exceed current assets suggests that some of the amounts of current liabilities are used to finance fixed assets, indicates that it is not only the fixed capital structure but it is including working capital structure, i.e., financing of fixed assets with current liabilities is also important. This fixed capital structure and current liabilities structure used to finance the assets of the business is termed as 'Finance Structure' of the business.

Finance is the lifeblood of any company. It is as crucial in business as blood circulation is in the human body. Every step of a business requires funding. A commercial activity cannot exist in the absence of finance. The primary role of the financial manager is to obtain finances at the lowest possible cost and in the appropriate amount. Furthermore, the financial manager is solely responsible for properly managing these finances. The financial structure of the company is critical to the firm's performance.

The study and interpretation of the financial structure results in the presentation of information that assists business managers, investors, creditors, and other parties interested in the financial stakes and operating performance in making decisions.

Problems with creditor financing of fixed assets may jeopardize the business. To finance long-term assets such as fixed assets, businesses must use long-term borrowings (i.e., money) rather than working capital funds. Because working capital is necessary for day-to-day operations, it should never be used to finance long-term assets such as fixed assets. As a result, the company must have the appropriate amount and assets to run each type of commercial activity. The company's success is heavily reliant on this. As a result, the financial management should devise an optimal capital structure. It is considered to be gained when the Market Price per Share is at its highest.

Finance and its availability throughout the life of the business at an adequate level which will determine the wealth of company's owners.

Financial plays a very important role to plan and control financial resources of company and thereby maximise the wealth of owners of company

Financial structure consists of Fixed Capital structure and Current liabilities structure.

Capital structure includes long-term borrowings where financial structure includes long-term and short term borrowings both.

It can be observed that many organisations finance their fixed assets through short term borrowings like current liabilities. So financial structure gains importance over capital structure.

The capital structure is determined by a number of things. They are as follows: asset structure, firm profitability, and firm size. Many researches are carried out to study the impact of these parameters on capital structure.

However, a review of the literature reveals that the bulk of studies are conducted over a lengthy period of time or with more indicators of capital structure, etc.

In view of the foregoing, it is thought worthwhile to do research on '**Financial Structure Analysis and its Impact on Profitability: A Study of Passenger Cars and Tyres Industry in India.**'

India has developed at a very rapid rate in automobile market in the world. Presently India has surpassed Japan and placed third in the world in Automobile Industry. In this list China is at number one position and America is the Second position. The size of Automobile Industry is at **7.5 lakhs** crores presently which is growing at a very rapid rate and by **2028** it will cross **15 lakh crores** and we will be at first position in the world in next five years as reported by Ministry of Road Transport and Highways.

Majority of companies from Automobile Industry in India are large contributors towards GST to Central and State Government. Automobile Industry has generated more than **4.5 crores** of employment opportunities in India. Automobile industry companies are playing a key role in India So, companies from passenger Cars and tyres industry are selected for comparative analysis of Financial Structure and its impact on profitability.

Objectives of the study:

- To study the Financial Structure of Companies from Passenger Cars and Tyres Industry in India
- To study, analyse and assess the impact of Fixed Asset Structure on the Profitability of Companies from Passenger Cars and Tyres Industry in India
- To study, analyse and assess the impact of Investments Structure on the Profitability of Companies from Passenger Cars and Tyres Industry in India
- To study, analyse and assess the impact of Current Assets Structure on the Profitability of Companies from Passenger Cars and Tyres Industry in India
- To study, analyse and assess the impact of Long-Term Capital Structure on the Profitability of Companies from Passenger Cars and Tyres Industry in India
- To study, analyse and assess the impact of Current Liabilities Structure on the Profitability of Companies from Passenger Cars and Tyres Industry in India

Hypotheses of the study:

H_1 : There is **no significant** impact of **Fixed Assets Structure** on the Profitability of the Companies from Passenger Cars and Tyres Industry in India.

H_2 : There is **no significant** impact of **Investment Structure** on the Profitability of the Companies from Passenger Cars and Tyres Industry in India.

H_3 : There is **no significant** impact of **Current Assets Structure** on the Profitability of the Companies from Passenger Cars and Tyres Industry in India.

H_4 : There is **no significant** impact of **Long-term Capital Structure** on the Profitability of the Companies from Passenger Cars and Tyres Industry in India.

H_5 : There is **no significant** impact of **Current Liabilities Structure** on the Profitability of the Companies from Passenger Cars and Tyres Industry in India.

Research Methodology

In data collection, only secondary data is tapped, looking at the peculiar nature of the study. It includes the research papers and dissertation of the research scholars, reference books, publications of related institutes and organisations, published annual reports of companies, journals and magazines and periodicals.

- This research pertains to the population of companies from Passenger cars and Tyres industry in India.
- As sample, top 04 out of 10 passenger cars companies and top 08 out of 20 tyres companies on the basis of total assets and availability of data are selected.
- Also the said sample covers 10 years period from financial year 2008-09 to 2017-18.

- The sample of total 12 companies as selected on the basis of total assets size as on 1.4.2018
- Companies from Passenger Cars Industry include:
 - ◆ Maruti Suzuki Limited
 - ◆ Mahindra and Mahindra Limited
 - ◆ TATA Motors Limited
 - ◆ SML (Swaraj Mazda Ltd) Isuzu Limited
- Companies from Tyres Industry include:
 - ◆ Apollo Tyres Limited
 - ◆ Balkrishna Industries Limited
 - ◆ CEAT Tyres Limited
 - ◆ JK Tyres and Industries Limited
 - ◆ TVS Srichakra Limited
 - ◆ PTL (Premier Tyres Ltd) Enterprises Limited
 - ◆ Krypton Industries Limited
 - ◆ Govind Rubber Limited

Data Analysis-Accounting techniques

For data collection, the accounting techniques used includes 06 capital structure ratios, 03 asset structure ratios, 05 profitability ratios, common size financial statements and comparative financial statements.

Six (06) Capital Structure Ratios

1. Total Debt / Equity Ratio
2. Long Term Debt / Equity Ratio
3. Long Term Debts / Total Assets Ratio
4. Total Debts / Total Assets Ratio
5. Equity / Total Assets Ratio
6. Current Liabilities and Provisions / Total Assets Ratio.

Three (03) Assets Structure Ratios

1. Gross Fixed Assets / Total Gross Assets Ratio
2. Investments / Total Gross Assets Ratio
3. Current Assets, Loans and Advances / Total Net Assets Ratio

Five (05) Profitability Ratios

1. Return on Total Gross Assets (PBIT / TGA) Ratio
2. Return on Investment (PBIT / TNA) Ratio
3. Return on Equity (PBT / TNA) Ratio
4. Operating Income / Sales Ratio
5. Operating Income / Total Gross Assets Ratio

For statistical testing of the data collected under the study and its testing, the statistical techniques used includes correlation analysis, regression analysis to conclude about the significant aspect of the study.

A) Capital Structure Analysis of Passenger Cars Companies on the basis of Accounting Ratios: Year-wise Analysis

Capital Structure Ratios:

Capital Structure Ratios	Grand Average	Range of Year-wise Averages	Level of Significance
1. Total Debt/Equity Ratio	1.18	0.89 to 2.05	SIGNIFICANT
2. Long Term Debt/Equity Ratio	0.34	0.25 to 0.45	INSIGNIFICANT
3. Long Term Debt/Total Assets Ratio	0.14	0.12 to 0.17	INSIGNIFICANT
4. Total Debt/Total Assets Ratio	0.50	0.44 to 0.60	INSIGNIFICANT
5. Equity/Total Assets Ratio	0.50	0.40 to 0.56	INSIGNIFICANT
6. Current Liabilities & Provisions/ Total Assets Ratio	0.36	0.31 to 0.43	INSIGNIFICANT

Source – Data Analysis on the basis of secondary data

Capital Structure Analysis of Passenger Cars Companies on the basis of Accounting Ratios: Year-wise Analysis

Capital Structure Ratios:

Capital Structure Ratios	Grand Average	Range of Year-wise Averages	Level of Significance
1. Total Debt/Equity Ratio	1.18	0.89 to 2.05	SIGNIFICANT
2. Long Term Debt/Equity Ratio	0.34	0.25 to 0.45	INSIGNIFICANT
3. Long Term Debt/Total Assets Ratio	0.14	0.12 to 0.17	INSIGNIFICANT
4. Total Debt/Total Assets Ratio	0.50	0.44 to 0.60	INSIGNIFICANT
5. Equity/Total Assets Ratio	0.50	0.40 to 0.56	INSIGNIFICANT
6. Current Liabilities & Provisions/ Total Assets Ratio	0.36	0.31 to 0.43	INSIGNIFICANT

Source – Data Analysis on the basis of secondary data

B) Assets Structure Analysis of Passenger Cars Companies on the basis of Accounting Ratios: Year-wise Analysis

Assets Structure Ratios:

Assets Structure Ratios	Grand Average	Range of Year-wise Averages	Level of Significance
1. Fixed Assets/Total Assets Ratio	0.32	0.28 to 0.34	INSIGNIFICANT
2. Investments/Total Assets Ratio	0.24	0.18 to 0.32	INSIGNIFICANT
3. Current Assets, Loans & Advances/ Total Assets Ratio	0.39	0.32 to 0.46	INSIGNIFICANT

Source – Data Analysis on the basis of secondary data

Assets Structure Analysis of Passenger Cars Companies on the basis of Accounting Ratios: Company-wise Analysis

Assets Structure Ratios:

Assets Structure Ratios	Grand Average	Range of Company-wise Averages	Level of Significance
1. Fixed Assets/Total Assets Ratio	0.32	0.23 to 0.40	INSIGNIFICANT
2. Investments/Total Assets Ratio	0.24	0.00 to 0.37	SIGNIFICANT
3. Current Assets, Loans & Advances/ Total Assets Ratio	0.39	0.21 to 0.69	SIGNIFICANT

Source – Data Analysis on the basis of secondary data

C) Profitability Ratio Analysis of Passenger Cars Companies on the basis of Accounting Ratios: Year-wise Analysis

Profitability Ratios:

Profitability Ratios	Grand Average	Range of Year-wise Averages	Level of Significance
1. PBIT/Total Gross Assets Ratio	0.10	0.07 to 0.14	INSIGNIFICANT
2. PBIT/Total Net Assets Ratio	0.10	0.07 to 0.14	INSIGNIFICANT
3. PBT/Total Net Assets Ratio	0.09	0.06 to 0.13	INSIGNIFICANT
4. Operating Income/Net Sales Revenue Ratio	0.07	0.04 to 0.10	INSIGNIFICANT
5. Operating Income/Total Assets Ratio	0.09	0.06 to 0.13	INSIGNIFICANT

Source – Data Analysis on the basis of secondary data

Profitability Ratio Analysis of Passenger Cars Companies on the basis of Accounting Ratios: Company-wise Analysis

Profitability Ratios:

Profitability Ratios	Grand Average	Range of Company-wise Averages	Level of Significance
1. PBIT/Total Gross Assets Ratio	0.10	0.03 to 0.16	INSIGNIFICANT
2. PBIT/Total Net Assets Ratio	0.10	0.03 to 0.16	INSIGNIFICANT
3. PBT/Total Net Assets Ratio	0.09	0.00 to 0.15	INSIGNIFICANT
4. Operating Income/Net Sales Revenue Ratio	0.07	0.01 to 0.11	INSIGNIFICANT
5. Operating Income/Total Assets Ratio	0.09	0.01 to 0.15	INSIGNIFICANT

Source – Data Analysis on the basis of secondary data

Capital Structure Analysis of Tyres Companies on the basis of Accounting Ratios: Year-wise Analysis

Capital Structure Ratios:

Capital Structure Ratios	Grand Average	Range of Year-wise Averages	Level of Significance
1. Total Debt/Equity Ratio	2.90	1.89 to 3.88	SIGNIFICANT
2. Long Term Debt/Equity Ratio	0.86	0.52 to 1.16	SIGNIFICANT
3. Long Term Debt/Total Assets Ratio	0.21	0.16 to 0.26	INSIGNIFICANT
4. Total Debt/Total Assets Ratio	0.65	0.52 to 0.73	INSIGNIFICANT
5. Equity/Total Assets Ratio	0.35	0.27 to 0.48	INSIGNIFICANT
6. Current Liabilities & Provisions/Total Assets Ratio	0.43	0.35 to 0.52	INSIGNIFICANT

Source – Data Analysis on the basis of secondary data

Capital Structure Analysis of Tyres Companies on the basis of Accounting Ratios: Company-wise Analysis

Capital Structure Ratios:

Capital Structure Ratios	Grand Average	Range of Company-wise Averages	Level of Significance
1. Total Debt/Equity Ratio	2.90	1.07 to 8.77	SIGNIFICANT
2. Long Term Debt/Equity Ratio	0.86	0.21 to 1.83	SIGNIFICANT
3. Long Term Debt/Total Assets Ratio	0.21	0.10 to 0.45	SIGNIFICANT
4. Total Debt/Total Assets Ratio	0.65	0.51 to 0.90	SIGNIFICANT
5. Equity/Total Assets Ratio	0.35	0.10 to 0.49	SIGNIFICANT
6. Current Liabilities & Provisions/Total Assets Ratio	0.43	0.20 to 0.72	SIGNIFICANT

Source – Data Analysis on the basis of secondary data

B) Assets Structure Analysis of Tyres Companies on the basis of Accounting Ratios: Year-wise Analysis

Assets Structure Ratios:

Assets Structure Ratios	Grand Average	Range of Year-wise Averages	Level of Significance
1. Fixed Assets/Total Assets Ratio	0.40	0.32 to 0.51	INSIGNIFICANT
2. Investments/Total Assets Ratio	0.10	0.05 to 0.13	INSIGNIFICANT
3. Current Assets, Loans & Advances/Total Assets Ratio	0.46	0.39 to 0.54	INSIGNIFICANT

Source – Data Analysis on the basis of secondary data

Assets Structure Analysis of Tyres Companies on the basis of Accounting Ratios: Company-wise Analysis

Assets Structure Ratios:

Assets Structure Ratios	Grand Average	Range of Company-wise Averages	Level of Significance
1. Fixed Assets/Total Assets Ratio	0.40	0.18 to 0.52	SIGNIFICANT
2. Investments/Total Assets Ratio	0.10	0.01 to 0.51	SIGNIFICANT
3. Current Assets, Loans & Advances/Total Assets Ratio	0.46	0.11 to 0.75	SIGNIFICANT

Source – Data Analysis on the basis of secondary data

C) Profitability Ratio Analysis of Tyres Companies on the basis of Accounting Ratios: Year-wise Analysis

Profitability Ratios:

Profitability Ratios	Grand Average	Range of Year-wise Averages	Level of Significance
1. PBIT/Total Gross Assets Ratio	0.11	0.08 to 0.15	INSIGNIFICANT
2. PBIT/Total Net Assets Ratio	0.11	0.08 to 0.15	INSIGNIFICANT
3. PBT/Total Net Assets Ratio	0.07	0.04 to 0.12	INSIGNIFICANT
4. Operating Income/Net Sales Revenue Ratio	0.06	0.02 to 0.11	INSIGNIFICANT
5. Operating Income / Total Assets Ratio	0.07	0.04 to 0.12	INSIGNIFICANT

Source – Data Analysis on the basis of secondary data

Profitability Ratio Analysis of Tyres Companies on the basis of Accounting Ratios: Company-wise Analysis

Profitability Ratios:

Profitability Ratios	Grand Average	Range of Company-wise Averages	Level of Significance
1. PBIT/Total Gross Assets Ratio	0.11	0.04 to 0.16	INSIGNIFICANT
2. PBIT/Total Net Assets Ratio	0.11	0.04 to 0.16	INSIGNIFICANT
3. PBT/Total Net Assets Ratio	0.07	-0.01 to 0.15	INSIGNIFICANT
4. Operating Income/Net Sales Revenue Ratio	0.06	0.03 to 0.20	INSIGNIFICANT
5. Operating Income / Total Assets Ratio	0.07	-0.01 to 0.15	INSIGNIFICANT

Source – Data Analysis on the basis of secondary data

Profitability Ratio Analysis of Tyres Companies on the basis of Accounting Ratios: Company-wise Analysis

Profitability Ratios:

Profitability Ratios	Grand Average	Range of Company-wise Averages	Level of Significance
1. PBIT/Total Gross Assets Ratio	0.11	0.04 to 0.16	INSIGNIFICANT
2. PBIT/Total Net Assets Ratio	0.11	0.04 to 0.16	INSIGNIFICANT
3. PBT/Total Net Assets Ratio	0.07	-0.01 to 0.15	INSIGNIFICANT
4. Operating Income/Net Sales Revenue Ratio	0.06	0.03 to 0.20	INSIGNIFICANT
5. Operating Income / Total Assets Ratio	0.07	-0.01 to 0.15	INSIGNIFICANT

Source – Data Analysis on the basis of secondary data

Conclusion & Findings

Regression Analysis of Passenger Cars Companies -

1. Regression Analysis of Total Debts/Equity Ratio on Profitability variables

Sr. No.	Total Debt TA Ratio on	R Square	Co-efficient Value	't' Value	'P' Value	Significance Level
1	PBIT/TA Ratio	0.962	0.981	-7.157	0.019	SIGNIFICANT
2	PBT/TA Ratio	0.934	0.967	-5.333	0.033	SIGNIFICANT
3	OI/Sales Ratio	0.870	0.933	-3.663	0.067	INSIGNIFICANT
4	OI/TA Ratio	0.947	0.973	-5.951	0.027	SIGNIFICANT

Source – Data Analysis on the basis of secondary data

(Note – If 'P' value is less than 0.05, then there is 'Significant' level of difference)

Conclusion : There is a 'Significant' level of difference in the impact of 'Total Debt/Equity' structure on the 'Profitability except for Operating Profitability' amongst the Passenger Cars Companies

2. Regression Analysis of Long-Term Debt /Equity Ratio on Profitability variables

Sr. No.	Long-term Debt/TA Ratio on	R Square	Co-efficient Value	't' Value	'P' Value	Significance Level
1	PBIT/TA Ratio	0.769	0.877	-2.580	0.123	INSIGNIFICANT
2	PBT/TA Ratio	0.727	0.853	-2.309	0.147	INSIGNIFICANT
3	OI/Sales Ratio	0.572	0.756	-1.635	0.244	INSIGNIFICANT
4	OI/TA Ratio	0.796	0.892	-2.792	0.108	INSIGNIFICANT

Source – Data Analysis on the basis of secondary data

Conclusion : There is 'No Significant' level of difference in the impact of 'Long Term Debt/Equity' structure on the 'Profitability' amongst the Passenger Cars Companies.

3. Regression Analysis of Long-Term Debt/TA Ratio on Profitability variables

Sr. No.	Long-term Debt/TA Ratio on	R Square	Co-efficient Value	't' Value	'P' Value	Significance Level
1	PBIT/TA Ratio	0.578	0.760	-1.656	0.240	INSIGNIFICANT
2	PBT/TA Ratio	0.519	0.720	-1.469	0.280	INSIGNIFICANT
3	OI/Sales Ratio	0.352	0.594	-1.043	0.406	INSIGNIFICANT
4	OI/TA Ratio	0.603	0.777	-1.743	0.223	INSIGNIFICANT

Source – Data Analysis on the basis of secondary data

Conclusion : There is 'No Significant' level of difference in the impact of 'Long Term Debt/Total Assets' structure on the 'Profitability' amongst the Passenger Cars Companies.

4. Regression Analysis of Total Debt/TA Ratio on Profitability variables

Sr. No.	Total Debt/TA Ratio on	R Square	Co-efficient Value	't' Value	'P' Value	Significance Level
1	PBIT/TA Ratio	0.893	0.945	-4.078	0.055	INSIGNIFICANT
2	PBT/TA Ratio	0.846	0.920	-3.310	0.080	INSIGNIFICANT
3	OI/Sales Ratio	0.759	0.871	-2.513	0.129	INSIGNIFICANT
4	OI/TA Ratio	0.872	0.934	-3.687	0.066	INSIGNIFICANT

Source – Data Analysis on the basis of secondary data

Conclusion : There is 'No Significant' level of difference in the impact of 'Total Debt/Total Assets' structure on the 'Profitability' amongst the Passenger Cars Companies.

5. Regression Analysis of Equity/TA Ratio on Profitability variables

Sr. No.	Equity/TA Ratio on	R Square	Co-efficient Value	't' Value	'P' Value	Significance Level
1	PBIT/TA Ratio	0.893	0.945	4.078	0.055	INSIGNIFICANT
2	PBT/TA Ratio	0.846	0.920	3.310	0.080	INSIGNIFICANT
3	OI/Sales Ratio	0.759	0.871	2.513	0.129	INSIGNIFICANT
4	OI/TA Ratio	0.872	0.934	3.687	0.066	INSIGNIFICANT

Source – Data Analysis on the basis of secondary data

Conclusion : There is 'No Significant' level of difference in the impact of 'Equity/Total Assets' structure on the 'Profitability' amongst the Passenger Cars Companies.

6. Regression Analysis of CLP/Total Assets Ratio on Profitability variables

Sr. No.	CLP/TA Ratio on	R Square	Co-efficient Value	't' Value	'P' Value	Significance Level
1	PBIT/TA Ratio	0.576	0.759	-1.649	0.241	INSIGNIFICANT
2	PBT/TA Ratio	0.574	0.758	-1.642	0.242	INSIGNIFICANT
3	OI/Sales Ratio	0.635	0.797	-1.867	0.203	INSIGNIFICANT
4	OI/TA Ratio	0.532	0.729	-1.507	0.271	INSIGNIFICANT

Source – Data Analysis on the basis of secondary data

Conclusion : There is 'No Significant' level of difference in the impact of 'Current Liabilities & Provisions/ Total Assets' structure on the 'Profitability' amongst the Passenger Cars Companies.

7. Regression Analysis of Gross Fixed Assets/Total Assets Ratio on Profitability variables

Sr. No.	FA/TA Ratio on	R Square	Co-efficient Value	't' Value	'P' Value	Significance Level
1	PBIT/TA Ratio	0.193	0.439	-0.691	0.561	INSIGNIFICANT
2	PBT/TA Ratio	0.248	0.498	-0.812	0.502	INSIGNIFICANT
3	OI/Sales Ratio	0.300	0.548	-0.926	0.452	INSIGNIFICANT
4	OI/TA Ratio	0.218	0.467	-0.747	0.533	INSIGNIFICANT

Source - Data Analysis on the basis of secondary data

Conclusion : There is 'No Significant' level of difference in the impact of 'Gross Fixed Assets/Total Assets' structure on the 'Profitability' amongst the Passenger Cars Companies.

8. Regression Analysis of Investments /Total Assets Ratio on Profitability variables

Sr. No.	Investment/TA Ratio on	R Square	Co-efficient Value	't' Value	'P' Value	Significance Level
1	PBIT/TA Ratio	0.034	0.185	0.266	0.815	INSIGNIFICANT
2	PBT/TA Ratio	0.044	0.209	0.303	0.791	INSIGNIFICANT
3	OI/Sales Ratio	0.110	0.331	0.496	0.669	INSIGNIFICANT
4	OI/TA Ratio	0.021	0.145	0.208	0.855	INSIGNIFICANT

Source - Data Analysis on the basis of secondary data

Conclusion : There is 'No Significant' level of difference in the impact of 'Investments/Total Assets' structure on the 'Profitability' amongst the Passenger Cars Companies

9. Regression Analysis of CALA /Total Assets Ratio on Profitability variables

Sr. No.	CALA/TA Ratio on	R Square	Co-efficient Value	't' Value	'P' Value	Significance Level
1	PBIT/TA Ratio	0.000	0.016	0.023	0.984	INSIGNIFICANT
2	PBT/TA Ratio	0.000	0.014	0.019	0.986	INSIGNIFICANT
3	OI/Sales Ratio	0.006	0.080	-0.114	0.920	INSIGNIFICANT
4	OI/TA Ratio	0.004	0.061	0.086	0.939	INSIGNIFICANT

Source - Data Analysis on the basis of secondary data

Conclusion : There is 'No Significant' level of difference in the impact of 'Current Assets Loans & Advances/Total Assets' structure on the 'Profitability' amongst the Passenger Cars Companies.

Regression Analysis of Tyres Companies

1. Regression Analysis of Total Debts/Equity Ratio on Profitability variables

Sr. No.	Total Debt/Equity Ratio on	R Square	Co-efficient Value	't' Value	'P' Value	Significance Level
1	PBIT/TA Ratio	0.170	0.413	-1.110	0.310	INSIGNIFICANT
2	PBT/TA Ratio	0.329	0.574	-1.716	0.137	INSIGNIFICANT
3	OI/Sales Ratio	0.365	0.604	-1.858	0.112	INSIGNIFICANT
4	OI/TA Ratio	0.380	0.616	-1.918	0.104	INSIGNIFICANT

Source – Data Analysis on the basis of secondary data

Conclusion : There is 'No Significant' level of difference in the impact of 'Total Debt/Equity' structure on the 'Profitability' amongst the Tyres Companies.

2. Regression Analysis of Long-Term Debts/Equity Ratio on Profitability variables

Sr. No.	Long-term Debt/Equity Ratio on	R Square	Co-efficient Value	't' Value	'P' Value	Significance Level
1	PBIT/TA Ratio	0.072	0.267	-0.680	0.522	INSIGNIFICANT
2	PBT/TA Ratio	0.166	0.408	-1.094	0.316	INSIGNIFICANT
3	OI/Sales Ratio	0.187	0.432	-1.173	0.285	INSIGNIFICANT
4	OI/TA Ratio	0.213	0.462	-1.275	0.249	INSIGNIFICANT

Source – Data Analysis on the basis of secondary data

Conclusion : There is 'No Significant' level of difference in the impact of 'Long-term Debt/Equity' structure on the 'Profitability' for all the years amongst the Tyres Companies.

3. Regression Analysis of Long-Term Debts/Total Assets Ratio on Profitability variables

Sr. No.	Long-term Debt/TA Ratio on	R Square	Co-efficient Value	't' Value	'P' Value	Significance Level
1	PBIT/TA Ratio	0.135	0.367	0.968	0.371	INSIGNIFICANT
2	PBT/TA Ratio	0.108	0.329	0.853	0.427	INSIGNIFICANT
3	OI/Sales Ratio	0.067	0.259	0.657	0.535	INSIGNIFICANT
4	OI/TA Ratio	0.086	0.293	0.750	0.481	INSIGNIFICANT

Source – Data Analysis on the basis of secondary data

Conclusion : There is 'No Significant' level of difference in the impact of 'Long-term Debt/Total Assets' structure on the 'Profitability' amongst the Tyres Companies.

4. Regression Analysis of Total Debts/Total Assets Ratio on Profitability variables

Sr. No.	Total Debt/TA Ratio on	R Square	Co-efficient Value	't' Value	'P' Value	Significance Level
1	PBIT/TA Ratio	0.101	0.318	-0.821	0.443	INSIGNIFICANT
2	PBT/TA Ratio	0.223	0.473	-1.313	0.237	INSIGNIFICANT
3	OI/Sales Ratio	0.300	0.547	-1.603	0.160	INSIGNIFICANT
4	OI/TA Ratio	0.263	0.513	-1.464	0.194	INSIGNIFICANT

Source – Data Analysis on the basis of secondary data

Conclusion : There is 'No Significant' level of difference in the impact of 'Total Debt/Total Assets' structure on the 'Profitability' amongst the Tyres Companies.

5. Regression Analysis of Equity/Total Assets Ratio on Profitability variables

Sr. No.	Equity/TA Ratio on	R Square	Co-efficient Value	't' Value	'P' Value	Significance Level
1	PBIT/TA Ratio	0.101	0.318	0.821	0.443	INSIGNIFICANT
2	PBT/TA Ratio	0.223	0.473	1.313	0.237	INSIGNIFICANT
3	OI/Sales Ratio	0.300	0.547	1.603	0.160	INSIGNIFICANT
4	OI/TA Ratio	0.263	0.513	1.464	0.194	INSIGNIFICANT

Source – Data Analysis on the basis of secondary data

Conclusion : There is 'No Significant' level of difference in the impact of 'Equity/Total Assets' structure on the 'Profitability' amongst the Tyres Companies.

6. Regression Analysis of CLP/Total Assets Ratio on Profitability variables

Sr. No.	CLP/TA Ratio on	R Square	Co-efficient Value	't' Value	'P' Value	Significance Level
1	PBIT/TA Ratio	0.197	0.444	-1.212	0.271	INSIGNIFICANT
2	PBT/TA Ratio	0.325	0.570	-1.700	0.140	INSIGNIFICANT
3	OI/Sales Ratio	0.381	0.618	-1.924	0.103	INSIGNIFICANT
4	OI/TA Ratio	0.345	0.587	-1.777	0.126	INSIGNIFICANT

Source – Data Analysis on the basis of secondary data

Conclusion : There is 'No Significant' level of difference in the impact of 'Current Liabilities & Provisions/Total Assets' structure on the 'Profitability' amongst the Tyres Companies.

7. Regression Analysis of Gross Fixed Assets/Total Assets Ratio on Profitability variables

Sr. No.	FA/TA Ratio on	R Square	Co-efficient Value	't' Value	'P' Value	Significance Level
1	PBIT/TA Ratio	0.065	0.255	0.646	0.542	INSIGNIFICANT
2	PBT/TA Ratio	0.191	0.437	1.191	0.279	INSIGNIFICANT
3	OI/Sales Ratio	0.369	0.607	1.872	0.110	INSIGNIFICANT
4	OI/TA Ratio	0.211	0.459	1.267	0.252	INSIGNIFICANT

Source – Data Analysis on the basis of secondary data

Conclusion : There is 'No Significant' level of difference in the impact of 'Gross Fixed Assets/Total Assets' structure on the 'Profitability' amongst the Tyres Companies.

8. Regression Analysis of Investments /Total Assets Ratio on Profitability variables

Sr. No.	Investments/ TA Ratio on	R Square	Co-efficient Value	't' Value	'P' Value	Significance Level
1	PBIT/TA Ratio	0.171	0.413	1.112	0.309	INSIGNIFICANT
2	PBT/TA Ratio	0.126	0.354	0.929	0.389	INSIGNIFICANT
3	OI/Sales Ratio	0.025	0.158	0.392	0.709	INSIGNIFICANT
4	OI/TA Ratio	0.118	0.344	0.896	0.405	INSIGNIFICANT

Source - Data Analysis on the basis of secondary data

Conclusion : There is 'No Significant' level of difference in the impact of 'Investments/Total Assets' structure on the 'Profitability' amongst the Tyres Companies'.

9. Regression Analysis of CALA /Total Assets Ratio on Profitability variables

Sr. No.	CALA/TA Ratio on	R Square	Co-efficient Value	't' Value	'P' Value	Significance Level
1	PBIT/TA Ratio	0.291	0.540	-1.570	0.168	INSIGNIFICANT
2	PBT/TA Ratio	0.356	0.597	-1.821	0.119	INSIGNIFICANT
3	OI/Sales Ratio	0.281	0.530	-1.531	0.177	INSIGNIFICANT
4	OI/TA Ratio	0.359	0.599	-1.834	0.116	INSIGNIFICANT

Source - Data Analysis on the basis of secondary data

Conclusion : There is 'No Significant' level of difference in the impact of 'Current Assets, Loans & Advances/Total Assets' structure on the 'Profitability' amongst the Tyres Companies.

Summary of Findings & Conclusions

For Regression Analysis on Profitability variables

Regression Analysis on Profitability variables	Passenger Cars Companies	Tyres Companies
1. Total Debt/Equity Ratio	Positively Significant Except for Operating Profit	Positively Insignificant
2. Long-Term Debt/Equity Ratio	Positively Insignificant	Positively Insignificant
3. Long-Term Debt/Total Asset Ratio	Positively Insignificant	Positively Insignificant
4. Total Debts/Total Assets Ratio	Positively Insignificant	Positively Insignificant
5. Equity/Total Assets Ratio	Positively Insignificant	Positively Insignificant
6. Current Liability & Provisions/Total Assets Ratio	Positively Insignificant	Positively Insignificant
7. Gross Fixed Assets/Total Assets Ratio	Positively Insignificant	Positively Insignificant
8. Investments /Total Assets Ratio	Positively Insignificant	Positively Insignificant
9. Current Assets, Loans & Advances /Total Assets Ratio	Positively Insignificant	Positively Insignificant

Source - Data Analysis on the basis of secondary data

HYPOTHESES TESTING

H₁: There is **no significant** impact of **Fixed Assets Structure** on the Profitability of the Companies from Passenger Cars and Tyres Industry in India.

Impact of Fixed Assets Structure on the Profitability of companies from Passenger Cars Industry in India

Regression Analysis of -	Significance Level for Passenger Cars Companies	Accepted / Rejected
Fixed Assets Structure Ratio on various Profitability Ratios	Positively Insignificant	H ₁ Accepted

Impact of Fixed Assets Structure on the Profitability of companies from Tyres Industry in India

Regression Analysis of -	Significance Level for Tyres Companies	Accepted / Rejected
Fixed Assets Structure Ratio on various Profitability Ratios	Positively Insignificant	H ₁ Accepted

Conclusion : We accept the null hypothesis, as 'there is **no significant difference in the impact of Fixed Assets Structure on the Profitability** of the Companies **within the Industry** from Passenger Cars and Tyres Industry in India'.

H₂: There is **no significant** impact of **Investment Structure** on the Profitability of the Companies from Passenger Cars and Tyres Industry in India.

Impact of Investment Structure on the Profitability of companies from Passenger Cars Industry in India

Regression Analysis of -	Significance Level for Passenger Cars Companies	Accepted / Rejected
Investment Structure Ratio on various Profitability Ratios	Positively Insignificant	H ₂ Accepted

Impact of Investment Structure on the Profitability of companies from Tyres Industry in India

Regression Analysis of -	Significance Level for Tyres Companies	Accepted / Rejected
Investment Structure Ratio on various Profitability Ratios	Positively Insignificant	H ₂ Accepted

Conclusion : We accept the null hypothesis, as 'there is **no significant difference in the impact of Investment Structure on the Profitability** of the Companies **within the Industry** from Passenger Cars and Tyres Industry in India'.

H₃: There is **no significant** impact of **Current Assets Structure** on the Profitability of the Companies from Passenger Cars and Tyres Industry in India.

Impact of Current Assets Structure on the Profitability of companies from Passenger Cars Industry in India

Regression Analysis of -	Significance Level for Passenger Cars Companies	Accepted / Rejected
Current Assets Structure Ratio on various Profitability Ratios	Positively Insignificant	H ₃ Accepted

Impact of Current Assets Structure on the Profitability of companies from Tyres Industry in India

Regression Analysis of -	Significance Level for Tyres Companies	Accepted / Rejected
Current Assets Structure Ratio on various Profitability Ratios	Positively Insignificant	H ₃ Accepted

Conclusion : We accept the null hypothesis, as 'there is **no significant difference in the impact of Current Assets Structure on the Profitability** of the Companies **within the Industry** from Passenger Cars and Tyres Industry in India'.

H₄: There is **no significant** impact of **Long-term Capital Structure** on the Profitability of the Companies from Passenger Cars and Tyres Industry in India.

Impact of Long-Term Capital Structure on the Profitability of companies from Passenger Cars Industry in India

Regression Analysis of -	Significance Level for Passenger Cars Companies	Accepted / Rejected
Total Debt/Equity Ratio on various Profitability Ratios		
● PBIT/TA Ratio	Positively Significant	H ₄ Rejected
● PBT/TA Ratio	Positively Significant	H ₄ Rejected
● OI/Sales Ratio	Positively Insignificant	H ₄ Accepted
● OI/TA Ratio	Positively Significant	H ₄ Rejected
Long Term Debt/Equity Ratio on various Profitability Ratios	Positively Significant	H ₄ Accepted
Long Term Debt/Total Assets Ratio on various Profitability Ratios	Positively Significant	H ₄ Accepted
Total Debt/Total Assets Ratio on various Profitability Ratios	Positively Significant	H ₄ Accepted
Equity/Total Assets Ratio on various Profitability Ratios	Positively Significant	H ₄ Accepted

Impact of Long-Term Capital Structure on the Profitability of companies from Tyres Industry in India

Regression Analysis of -	Significance Level for Tyres Companies	Accepted / Rejected
Total Debt/Equity Ratio on various Profitability Ratios		
• PBIT/TA Ratio	Positively Insignificant	H ₄ Accepted
• PBT/TA Ratio	Positively Insignificant	H ₄ Accepted
• OI/Sales Ratio	Positively Insignificant	H ₄ Accepted
• OI/TA Ratio	Positively Insignificant	H ₄ Accepted
Long Term Debt/Equity Ratio on various Profitability Ratios	Positively Insignificant	H ₄ Accepted
Long Term Debt/Total Assets Ratio on various Profitability Ratios	Positively Insignificant	H ₄ Accepted
Total Debt/Total Assets Ratio on various Profitability Ratios	Positively Insignificant	H ₄ Accepted
Equity/Total Assets Ratio on various Profitability Ratios	Positively Insignificant	H ₄ Accepted

Conclusion : We accept the null hypothesis as 'there is a **no significant difference in the impact of Long-Term Capital Structure on the Profitability** of the Companies **within the Industry** from Tyres Industry in India'

H₅: There is **no significant** impact of **Current Liability Structure** on the Profitability of the Companies from Passenger Cars and Tyres Industry in India.

Impact of Current Liability Structure on the Profitability of companies from Passenger Cars Industry in India

Regression Analysis of -	Significance Level for Passenger Cars Companies	Accepted / Rejected
Current Liability Structure Ratio on various Profitability Ratios	Positively Insignificant	H ₅ Accepted

Impact of Current Liability Structure on the Profitability of companies from Tyres Industry in India

Regression Analysis of -	Significance Level for Tyres Companies	Accepted / Rejected
Current Liability Structure Ratio on various Profitability Ratios	Positively Insignificant	H ₅ Accepted

Conclusion : We accept the null hypothesis, as 'there is **no significant difference in the impact of Current Liability Structure on the Profitability** of the Companies **within the Industry** from Passenger Cars and Tyres Industry in India.'

Significance of the study

Sr. No.	Conclusions for Passenger Cars and Tyres Industry	Significance (Within the Industry)
1.	No significant difference in the impact of Fixed Assets Structure on the Profitability	Indicates that there is more or less similar type (level) of impact of Fixed Assets structure on the Profitability of Passenger Cars as well as Tyres industry in India.
2.	No significant difference in the impact of Investment Structure on the Profitability	Indicates that there is more or less similar type (level) of impact of Investments structure on the Profitability of Passenger Cars as well as Tyres industry in India.
3.	No significant difference in the impact of Current Assets Structure on the Profitability	Indicates that there is more or less similar type (level) of impact of Current Assets structure on the Profitability of Passenger Cars as well as Tyres industry in India.
4.	No significant difference in the impact of Current Liability Structure on the Profitability	Indicates that there is more or less similar type (level) of impact of Current Liabilities structure on the Profitability of Passenger Cars as well as Tyres industry in India.
5.	Significant difference in the impact of Long-term Capital Structure on the Profitability for Passenger Cars Industry except Operating Profit	
	Total Debt/Equity Ratio on various Profitability Ratios	
	<ul style="list-style-type: none"> ● OI/Sales Ratio - 	Indicates that impact of Long-term Capital Structure on the Operating Profitability of companies from Passenger Cars industry is considerably different amongst themselves in India.
	<ul style="list-style-type: none"> ● PBIT/TA Ratio - 	Indicates that there is more or less similar type (level) of impact of Long-term Capital Structure on the Profitability Other than Operating Profitability of Passenger Cars industry in India.
	<ul style="list-style-type: none"> ● PBT/TA Ratio - 	
	<ul style="list-style-type: none"> ● OI/TA Ratio - 	
	Long Term Debt/Equity Ratio on various Profitability Ratios	
	Long Term Debt/Total Assets Ratio on various Profitability Ratios	
	Total Debt/Total Assets Ratio on various Profitability Ratios	
	Equity/Total Assets Ratio on various Profitability Ratios	

SR. NO.	Conclusions for Passenger Cars and Tyres Industry	Significance (Between companies from Passenger cars and Tyres Industry)
1.	No significant difference in the impact of Fixed Assets Structure on the Profitability	Indicates that there is more or less similar type (level) of impact of Fixed Assets structure on the Profitability between the companies from Passenger Cars and Tyres industry in India.
2.	Significant difference in the impact of Investment Structure on the Profitability	Indicates that impact of Investment Structure on the Profitability between the companies from Passenger Cars industry and Tyres Industry is considerably different amongst themselves in India.
3.	Significant difference in the impact of Current Assets Structure on the Profitability	Indicates that impact of Current Assets Structure on the Profitability between the companies from Passenger Cars industry and Tyres Industry is considerably different amongst themselves in India.
4.	Significant difference in the impact of Current Liability Structure on the Profitability	Indicates that impact of Current Liability Structure on the Profitability between the companies from Passenger Cars industry and Tyres Industry is considerably different amongst themselves in India.
5.	Significant difference in the impact of Long-term Capital Structure on the Profitability for Passenger Cars Industry	
	Total Debt/Equity Ratio on various Profitability Ratios	Indicates that impact of Long-term Capital Structure on the Operating Profitability of companies from Passenger Cars industry is considerably different amongst themselves in India.
	Total Debt/Total Assets Ratio on various Profitability Ratios	
	Equity/Total Assets Ratio on various Profitability Ratios	
	Long Term Debt/Equity Ratio on various Profitability Ratios	
	Long Term Debt/Total Assets Ratio on various Profitability Ratios	

- **All the aspects of financial structure** w.r.t. its impact on profitability of the businesses are considered
- Study **tried to measure the possible correlation between the financial structure and profitability** of the businesses
- Study **clearly indicates the relationship of financial structure and profitability of Passenger Car and Tyres** industry companies **within the industry and between the Passenger Cars and Tyres Industry** in India
- Study **gives new dimension** to carry out the analysis of the financial structure and profitability of the businesses from different sections of economy
- **Pecking Order theory of Capital Structure holds good** as **‘source of internal financing’ is tapped** in majority of the company’s cases throughout the period of study for financing the total assets of the business rather than resorting to external source of financing

In the present study, we have measured the possible co-relation between Financial Structure and Profitability.

This study has provided new dimension to conduct analysis of the financial structure and profitability of businesses from different sections of economy w.r.t the companies falling within the different industries of the economy to every stakeholder of it.

Companies under the study mainly depends upon internal financing as we have already seen in Comparative analysis which means that majority of companies under the study are following Pecking Order theory of capital structure.

Suggestions, Recommendations & Scope for further research

- Similar study is required to be made to understand the **impact of financial structure on the Profitability in other industries** also
- Other **different aspects and parameters may be used** to carry out the study of measuring impact of such parameters on the profitability of the businesses from different industries in the economy
- Study **gives the direction for further investigation** to be made for in depth study of each company
- Similar study towards **other industries** in India will explain the pattern of Financial Structure
- Further studies can suggest the **possible optimal Financial Structure**

Financial Structure analysis is definitely helpful in decision making for the business managers, employees, bankers, investors, creditors, customers and other groups who are interested in the financial stakes and operating results of the business.

Looking at the insignificant impact of Financial Structure on Profitability for all the sample companies under the study, there is necessity to replicate this study for varied industries

Further each company is having unique Financial Structure, so different parameters may be used to study the impact of profitability of businesses from different industries.

Further deeper investigation of individual companies highlighted in the study is also solicited.

In order to understand the pattern and impact of Financial Structure similar study needs to be conducted for other industries which can suggest possible optimal financial structure

LIMITATIONS OF THE STUDY

- The Present Study restricted to the companies falling within the category of **Companies from Passenger Cars and Tyres Industry** in India, as registered with the Bombay Stock Exchange for the period under the study
- The Present Study restricted to jurisdiction of **companies registered with the Bombay Stock Exchange as on 01.04.2018**; falling within the category of Companies from Passenger Cars and Tyres Industry in India
- The study covers the data of 10 financial years i.e., **2008-2009 to 2017-18.**

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