

Trade-Off Theory versus Pecking Order Theory: An Empirical Evidence of the Auto-Component Industry in India

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Abstract: *Auto-component industry is a very crucial one for Indian economy. According to the IBEF report in the year 2020-21, the Indian auto-component Industry is a very vital Industry that contributed around 7.1% to total India's GDP and contributed 49% to India's manufacturing GDP. This Industry employed more than 50 lakh people directly and indirectly in 2018-19. The study compares two vital theories of capital structure namely, the Trade-off theory and Pecking order theory. The study's objective is to examine the capital structure determinants of the Auto-component Industry as per the theories. The variables, namely Asset Tangibility, Firm size, Growth, Profitability, Liquidity, Non-Debt Tax shield (NDTS) and Age, are analyzed for the study. The sample was collected by employing a Simple random sampling method. The analysis was made using a panel data model for a sample of 108 Auto-component companies during 2010-11 to 2020-21. The findings are compared with the conjecture of the capital structure theories: Trade-off theory and Pecking order Theory. The study revealed that determinants have substantial explanatory power on capital structure of Indian Auto-component companies. The theoretical implication shows that Indian Auto-component Industry does not follow one particular capital structure theory; rather, it shows evidence of both capital structure theories.*

Keywords: *Capital Structure (CS), Auto-component Industry, Trade-off Theory and Pecking order Theory*

Introduction

An amalgamation of various securities used as financing source is termed a Capital structure (CS). CS is a vital financial decision taken by firms which impacts a firm's risk as well as a firm's return. The CS decisions implicate selecting the right proportion of these sources to meet the investment requirements (Khan and Jain, 2005). CS determinants are the key indicators that a firm ought to examine prior to making a financial decision. Auto-component Industry supplements Automobile Industry. It provides various supporting equipment, parts and chemicals to

Automobile Industry. Globally, India is the sixth largest auto-component producer (source: ACMA report, 2021). According to the IBEF report in the year 2020-21, the Indian auto-component Industry contributed around 7.1% to total India's GDP and contributed 49% to India's manufacturing GDP. The turnover of the Industry in 2020-21 was USD 4.9 billion. The export of the auto-component witnessed a compounded annual growth rate (CAGR) of 4.19% as the value of export in 2016 amounted to USD 10.83 billion, and in 2021 it amounted to USD 13.30 billion.

Abundant studies were conducted on the determining elements of CS in various sectors. Still, the Indian Auto-component Industry remains widely un-researched. A very limited number of quality studies have been carried out on the Indian Auto-component sector. Therefore, under this background, it is imperative to study the determinants of CS of the Indian Auto-component Industry.

Review of Literature

Theoretical Review

The study on CS gathered much-desired attention after the ground-breaking research conducted by Modigliani and Miller who propounded the MM theorem in year 1958. MM theorem (1958) highlighted CS decision has no impact on firm performance. Again Modigliani and Miller (1963) propounded another theorem by including factors like tax deductibility of interest amount paid on debt. This further paved the way for major CS theories, namely Agency theory, Pecking order theory and Trade-off theory. In 1973, Kraus and Litzenberg proposed the static trade-off theory. It highlighted the effect of tax avoidance and bankruptcy cost on corporate CS. Trade-off theory advocates that firms sets the target level of debt by juggling the cost and benefit of debt. The theory postulates that firm sets the target debt level by raising the debt level to the extent that the tax deductibility advantage is offset by intensifying the cost of bankruptcy. Agency theory was first proposed by Fama and Miller in 1972. The theory was further developed by Jensen and Meckling in the year 1976 and by Harris and Raviv in 1991. It highlighted the conflict of interest existing between the shareholder and manager similarly between the creditor and shareholder. Ross (1977) incorporated the effect of asymmetric information on CS decisions, also termed Signaling Theory. The theory propounds that corporate managers bear internal information about corporate prospect earnings and risk. Signaling theory propounds that corporate asset-liability sends a signal regarding internal information in the market. In 1961, Gordon Donaldson first proposed the Pecking order

theory. In 1984, Myers and Majluf argued that firms prioritize internally generated funds over externally generated funds and propounded Pecking order theory. The theory contradicts trade-off theory and assents that firms do not have a target debt level; rather, firms focus on information cost and signaling effects. Firms prefer an internal source of financing over an external source. The external fund is availed only when the internal fund is exhausted and insufficient to meet financial needs.

Empirical Review

Many studies have highlighted CS determinants at national and international levels.

Harris and Raviv (1991) argued that firm-specific determinants dominantly influence the CS decision. Ranjan and Zingales (1995) studied determining factor of CS of corporate operating in G7 countries and compared the finding with earlier studies of developed nations. The study revealed that G7 nations had a similar result as a developed nation. Wald (1999) made a comparative study of the firms operating in US and firms functioning in countries like the UK, Japan, Germany, and France. The study revealed that the legal framework and institutional framework impact CS significantly. Deloof and Overfelt (2008) investigated the relevance of theoretical propositions in a historical environment, i.e. the period before World War I. The study was made on 129 firms operating in Belgium. The study revealed that CS was positively correlated to determinants like asset tangibility, firm size, and age and negatively associated with profitability and prior stock returns. Lemmon and Zender (2010) studied the pecking order behaviour of firms operating in the United States. The study considered 67,200 firm-year observations. The study showed that profitable, low-levered firms appear to stockpile debt capacity. The result was similar to the pecking order Theory predictions. Kannadhasan et al. (2018) conducted a study on firms operating in India, China and South Africa for 12,187 firm-year observations. The study's finding showed that firms adjusted toward the target debt level

spontaneously, and firms followed the Trade-off Theory. Rao et al. studied the CS pattern of Small and Medium enterprises (SMEs) in India. The study stated that SMEs followed the pecking order theory. Nguyen et al. (2019) inspected the appropriateness of CS theories. The finding suggested that Vietnamese firms follow the Trade-off Theory.

Bhaduri (2002), in his study, employed a factor analytical approach to study the CS of Indian firms. The sample was 363 Indian firms for the period ranging from 1989 to 1995. The study showed variables like Size, Growth and Uniqueness significantly impact CS. Mahakud and Bhole (2003) found variables -size, collateral asset, liquidity, cost of equity, cost of borrowing, and NDTs influence CS decision. Frank and Goyal (2007) analyzed American firms' CS elements from period ranging from 1950-2003. They found a positive relationship amongst elements like size, tangibility, expected inflation and median Industry CS. Also, they found a negative association among profitability and the market-to-book asset ratio. Abor (2008) studied CS practices and determinants of 230 Small and Medium enterprises (SME) listed on the Ghana Stock Exchange from 1998 to 2003. In a study, Mukherjee and Mahakud (2011) found that Indian manufacturing firms function as per the Trade-off Theory and have a target debt level. Handoo and Sharma (2014) conducted a study to ascertain important determinants of the CS of private and government companies. The outcome exhibited that the financing decision of firms were affected by profitability, size, financial distress, tangibility, cost of debenture, liquidity, risk, tax-rate and debt servicing capacity.

Objectives of the Study

- To observe the determinant of capital structure of the Indian Auto-component Industry.
- To investigate which theory either Trade-off theory or Pecking order theory validate the capital structure decision of the Auto-component Industry.

Method of Study

Sampling frame

The total population consisted of 156 companies, out of which sample size was calculated using the Cochran formula.

Cochran formula to calculate sample size (finite population)

$$n = \frac{n_o}{1 + \left(\frac{n_o - 1}{N}\right)}$$

$$n_o = \frac{z^2 pq}{e^2}$$

where,

p= estimated proportion of an attribute percentage in the population

q= 1-p

e (desired level of precision)= 0.05

N (population)= 156

The study's sample consists of Auto-component companies listed at BSE and NSE. The sample size, according to the formula, is 111 companies.

Method of Sampling

Simple random sampling technique key characteristic is that each firm has an equal chance of being selected. This sampling technique was used to select the sample.

Out of the total sample size of 111 companies, data from three companies was not found. The firm-year observation that had missing data during the study period was deleted. The final sample covers 108 firms with 1188 firm-year observations. All the non-normal variables were transformed to normality using Inverse Density Function (IDF) Normal method in SPSS to alleviate the effect of outliers in the sample.

Source of data

The study collected data from secondary sources. Data was collected from companies' Annual reports and several databases like the

CMIE Prowess database, Business Standard, Moneycontrol, icai, etc. Various reports were retrieved from websites like ACMA (www.acma.in), IBEF (www.ibef.in), and SIAM (www.siamindia.com).

Period of the study

The study period ranged from 2010-11 to 2020-21; data for 11 years were collected and studied.

Research tool used

For analyzing the data, statistical tools like ratio analysis, descriptive statistics, correlation analysis, stationary tests, and panel data analysis were applied to generate results and interpretations. To diagnose the Multi-

collinearity problem Variance Inflation Factor (VIF) test was done.

Research Model Specification

In the study, CS is a dependent variable. The debt-equity ratio (DER) represents CS. The determinants of CS are treated as the independent variable. Variables like firm Asset Tangibility, Firm Size, Growth Opportunities, Profitability, Liquidity, Non-Debt Tax shield (NDTS) and Age of a firm are studied.

Description of Variables

The paper explores two vital CS theories and compares Trade-off Theory with the Pecking order theory.

Table 1: Description of Variables

Determinants	Code	Formula	Trade-off Theory	Pecking order Theory	Source
Asset Tangibility	TANG	Fixed Asset/Total Asset	+	-	Wiwattanakantang (1999) Bhayani (2005); Eriotos (2007); Serrasqueiro&Nunes (2012)
Firm Size	SIZE	Log (Total Asset)	+	-	Harris and Raviv (1991), Titman and Wessels (1988), Bhole and Mahakud (2004), Loof (2004), King and Santor (2008)
Growth Opportunities	GROWTH	Year-on-year sales	-	+	Rajan and Zingales (1995); Serrasqueiro and Nunes (2014)
Profitability	PROF	PBDITA/Net Sales	+	-	Harris and Raviv (1991), Rajan and Zingales (1995); Shekh and Wang (2011),
Liquidity	LIQ	Current Asset/Current Liability	+	-	Ozkan (2001) Bhayani (2005); Eriotos (2007)
Non Debt Tax Shield	NDTS	Depreciation/Total Asset	-/+	-	De Angelo and Masulis (1980), Titman and Wessels (1988), Krishnaswami et al. (1999), Sharma and Chadha (2015)
Age	AGE	Year of observation- the year of incorporation	No specific relation	No specific relation	Abor and Biekpe (2009), Chadha and Sharma (2015), Muritala (2012)

Hypothesis

H₀: There is no meaningful relationship amongst capital structure determinants and the capital structure of the Auto-component companies in India.

The debt-equity ratio (DER) has been treated as the dependent variable. Determinants-Asset Tangibility (TANG), Firm Size (SIZE), Growth opportunities (GROWTH), Profitability (PROF), Liquidity (LIQ), Non-Debt Tax shield (NDTS) and Age (AGE) are the independent variables.

Data Analysis

Panel Regression Equation

For analyzing the determinants of CS of the Auto-component Industry following panel regression model has been developed. Panel data analysis is used for the study with CS as a dependent variable and determinants of CS as explanatory variables of Auto-component industries in our data set as follows:

$$DER_{it} = \hat{\alpha} + \hat{\alpha}_1 TANG_{it-1} + \hat{\alpha}_2 SIZE_{it-1} + \hat{\alpha}_3 GROWT_{it-1} + \hat{\alpha}_4 PROF_{it-1} + \hat{\alpha}_5 LIQ_{it-1} + \hat{\alpha}_6 NDTS_{it-1} + \hat{\alpha}_7 AGE_{it-1} + \hat{\alpha}_i$$

Where,

DER_{it-1} = Debt-equity ratio of firm (i) at time (t)

$TANG_{it-1}$ = Asset Tangibility of firm (i) at time (t)

$SIZE_{it-1}$ = Firm size of firm (i) at time (t)

$GROWTH_{it-1}$ = Growth opportunities of firm (i) at time (t)

$PROFT_{it-1}$ = Profitability of firm(i) at time (t)

$NDTS_{it-1}$ = Non-Debt Tax Shield of firm (i) at time (t)

LIQ_{it-1} = Liquidity of firm (i) at time (t)

AGE_{it-1} = Age firm (i) at time (t)

$\hat{\alpha}$ = common y-intercept.

$\hat{\alpha}1 - \hat{\alpha}7$ = co-efficient of the explanatory variables.

$\hat{\alpha}i$ = error term of firm (i) at time (t)

Descriptive Statistics

Table 2 presents descriptive statistics of dependent and independent variables over the sample period. The mean debt-equity ratio is 0.631, indicating that firms are under-levered. The dependent value's median also indicates that firms have a low leverage ratio. The mean and median value of tangibility is 0.40 and 0.41, respectively, indicating that 40% of the total asset is fixed in nature. The profitability means the value is 19% for every Rs. 100 sale firm is earning Rs. 20 as PBITDA. The mean for Growth and Size is 5.94 and 0.10, respectively. The mean of NDTS is 4%. Mean of Age 39.20 Kurtosis value of all variables are below three, and skewness value is near zero. The Jarque-Bera test result is conducted to check the normality of data. The p-value of the Jarque-Bera test is significant, indicating data are normally distributed.

Table 2: Descriptive Statistics

	DER	TANG	SIZE	GROWTH	PROF	LIQ	NDTS	AGE
<i>Mean</i>	0.631	0.404	5.949	0.103	0.189	1.795	0.042	39.209
<i>Median</i>	0.620	0.410	5.950	0.090	0.170	1.810	0.040	38.570
<i>Maximum</i>	4.680	1.460	11.140	1.520	2.580	8.360	0.110	90.550
<i>Minimum</i>	-3.430	-0.500	1.110	-1.220	-2.210	-3.950	-0.010	-10.220
<i>Std. Dev</i>	1.268	0.334	1.641	0.449	0.759	2.074	0.022	16.223
<i>Skewness</i>	0.059	0.015	0.003	-0.004	-0.002	-0.005	0.162	0.054
<i>Kurtosis</i>	2.885	2.862	2.910	2.908	2.919	2.882	2.910	2.899
<i>Jarque-Bera</i>	1.325	0.982	0.397	0.423	0.324	0.691	5.533	0.550
<i>Probability</i>	0.516	0.162	0.820	0.809	0.851	0.708	0.063	0.760
<i>Sum</i>	744.360	476.230	7020.090	121.950	223.350	2118.090	49.020	46266.440
<i>Sum Sq. Dev</i>	1896.758	151.549	3173.886	137.498	679.405	5068.999	0.572	310293.900

Source: computed from secondary data, Software: SPSS, Period 2010-2021

Correlation Analysis

Table 3: Correlations

		DER	TANG	SIZE	GROWTH	PROF	LIQ	NDTS	AGE
DER	Pearson Correlation	1							
	Sig. (2-tailed)								
TANG	Pearson Correlation	.377**	1						
	Sig. (2-tailed)	.000							
SIZE	Pearson Correlation	.014	.050	1					
	Sig. (2-tailed)	.624	.086						
GROWTH	Pearson Correlation	.079**	-.054	.045	1				
	Sig. (2-tailed)	.006	.064	.118					
PROF	Pearson Correlation	-.187**	-.167**	.367**	.191**	1			
	Sig. (2-tailed)	.000	.000	.000	.000				
LIQ	Pearson Correlation	-.504**	-.624**	-.002	.084**	.456**	1		
	Sig. (2-tailed)	.000	.000	.953	.004	.000			
NDTS	Pearson Correlation	.187**	.602**	.041	-.069*	-.082**	-.369**	1	
	Sig. (2-tailed)	.000	.000	.163	.018	.005	.000		
AGE	Pearson Correlation	-.052	-.134**	.209**	-.101**	.030	.051	-.085**	1
	Sig. (2-tailed)	.076	.000	.000	.000	.303	.080	.003	

** . Correlation significant - 0.01 level (2-tailed).

* . Correlation significant - 0.05 level (2-tailed).

Table 3 presents the correlation matrix. Two variables, out of seven explanatory variables are negatively correlated with the independent variable significantly at a 1% level. Three explanatory variables are positively correlated with the independent variable significant at a 1% level. Among all explanatory variables, tangibility is negatively correlated to Profitability, Liquidity and Age. Positive relationship can be observed between Firm size with Profitability and Age. Growth is positively correlated to Profitability and Liquidity, whereas; it is negatively related to NDTS and Age. Profitability and liquidity are positively related. Liquidity is inversely related to NDTS. NDTS is inversely related to age. To diagnose the multi-collinearity problem, the Variance Inflation Factor (VIF) test has been conducted. The VIF result shows that the value corresponding to each explanatory is below 5; therefore, indicating that there is no multi-collinearity problem.

Source: computed from secondary data,
Software: SPSS, Period 2010-2021

Stationarity Test

In table 4, the Unit roots Test in panel datasets is checked for the existence of unit root with the Levin Lin Chu test. The table 4 reveals that all variables are significant and do not contain a panel unit root in their levels. It infers that all variables used for the study of the Auto-components Industry during the study period 2010-2011 to 2020-2021 are stationary in nature.

Table 4: Unit Root Test

Variable	Levin, Lin & Chu t* Test-statistics (Level)
DER	-9.92571/0.0000
TANG	-7.67650/0.0000
SIZE	-8.04432/0.0000
GROWTH	-23.2988/0.0000
PROF	-11.3779/0.0000
LIQ	-7.37370/0.0000
NDTS	-9.34352/0.0000
AGE	-7.77483/0.0000

**Probabilities for the Fisher test are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.
**Significant at the 0.01 level

Source: Computed from secondary data, Period: 2010-21

Panel Regression Analysis

Table 5 provides the panel regression analysis results where DER is considered the dependent variable. Due to the panel nature of data, both fixed and random effect model is used. Hausman test selects the true model out of both fixed and random effect models. The result is non-significant, i.e. $P < 0.05$, that rejects the Null Hypothesis, and the Fixed effect panel model is preferred over the random effect panel model.

The result reveals that Size, Growth, Profitability, Liquidity, NDTs, and Age is significant at 5%, and tangibility is significant at a 10% level. This shows the variable substantially impacts the CS of Auto-component companies. Therefore, the null hypothesis declaring no meaningful

relationship between CS and its determinants of the Indian Auto-component Industry stands rejected. This implies that determining elements have a meaningful impact on the CS of the Indian Auto-component Industry.

Table 5 exhibits the overall findings of the determinants of CS. All seven variables (determinants) were significant at a 1% level. The R^2 value is 0.7283, suggesting that 73% of the variation in the debt-equity ratio is explained by the determining elements (independent variables) used in the study. From the Panel, data results from the sign of the coefficients of the variables Tangibility and Size suggest firms follow the Trade-off Theory. The sign of the co-efficient of the variables Growth, Profitability, Liquidity, NDTs, and Age follow the pecking order Theory.

Table 5: Regression Result– Fixed Effect Model & Random Effect Model (Dependent Variable Dr)

Variable	Fixed Effect Model			Random Effect Model			VIF
	Coefficient	Std. Error	t-Statistic	Coefficient	Std. Error	t-Statistic	
C	1.446848	0.291282	4.967176*	0.893874	0.235940	3.788560*	N/A
TANG	0.296080	0.167270	1.770073**	0.516795	0.151735	3.405905*	2.297667
SIZE	0.452593	0.051424	8.801179*	0.180660	0.035015	5.159453*	1.276150
GROWTH	0.139807	0.050835	2.750190*	0.271896	0.049005	5.548351*	1.056847
PROF	-0.137942	0.058955	-2.339773*	-0.163687	0.054033	-3.029379*	1.625329
LIQ	-0.095981	0.024195	-3.967002*	-0.118734	0.021894	-5.423125*	2.131654
NDTS	-6.478618	1.906307	-3.398517*	-6.057250	1.797325	-3.370148*	1.564205
AGE	-0.081019	0.006446	-12.56985*	-0.027479	0.003885	-7.073159*	1.089147
<i>R-squared (R²)</i>		0.728339		0.132263			
<i>F-statistic</i>		25.04667		25.51984			
<i>Prob (F-statistic)</i>		0.000000		0.000000			
Hausman Test		146.952005/0.0000					

* Significant at- 5% level and ** Significant at-10% level

Source: computed from secondary data, software: E-Views, Period: 2010-2021

Theoretical Implication

Table 6 assimilates the predictions of the two major theories of CS alongside the empirical

findings. The result exhibited that three variables, namely Asset Tangibility, Size and Growth opportunities, had a positive relationship with CS, and variables like Profitability, Liquidity, NDTs, and Age have an inverse association with CS.

Table 6: Theoretical Implication

Variable	Trade-off Theory (TOT)	Pecking order Theory (POT)	Actual result
Tangibility	TOT establishes a positive relationship with Asset Tangibility on CS. To incur extra debt company's assets can be used as collateral. Collateral reduces agency costs between creditors and debtors (Bhayani, 2005; Eriotos, 2007).	POT argues a negative relationship between tangibility and CS. According to Harris and Raviv (1991) issuance of equity are less costly due to low information asymmetry associated with tangible asset. Also, firms with fewer tangible assets find it difficult to borrow from the bank due to asymmetric information. The theory argues that firms prefer internal funds over external funds (Ranjan and Zingales, 1995; Serrasqueiro and Nunes).	Sign of coefficient observed to be positive
Size	TOT predicts a positive association between Firm size and CS. Large firms are more diversified in comparison to smaller firms. Diversified firms have a lesser risk of bankruptcy and volatility in income. Also, Large firms have a fair grip on the market and more bargaining supremacy over creditors. (Serrasqueiro and cateno 2015; King and Santor, 2008)	POT predicts an inverse relationship between size and CS. The theory argues that large firms can build up retained earnings over time and can finance themselves (Serraqueiro et al., 2001; Angeles and Flores, 2016)	Sign of coefficient observed to be positive
Growth	TOT argues a negative relationship exists amongst CS and Growth opportunities. Large growth opportunity creates an agency problem between shareholders and creditors. The firms financed with equity capital may invest in sub-optimally projects to expropriate wealth from creditors.	POT establishes an optimistic relationship between growth opportunities and CS. According to the theory, growth opportunities induce more information asymmetries as owners resist disclosure of considerable information about growth prospects; hence they prefer the issuance of equity capital to finance growth opportunities (Titman and Wessels, 1988). Pecking order theory contends that high-growth firms avail debt financing for supporting growth opportunities when internal funds are insufficient (Pandey, 2001; Frank and Goyal, 2009).	Sign of coefficient observed to be positive
Profitability	TOT establishes a positive relationship between the CS and profitability of the firm. The theory assumes that the profitable firm has the capability to acquire more debt to avoid taxation as the interest paid on the borrowings is tax deductible (Harris and Raviv, 1991; Serrasqueiro et al., 2016).	POT envisages a negative association amongst CS and profitability. The theory assumes that profitable firms prioritize internal funds over external funds. Profitable firms do not prefer debt. (Myers and Majluf, 1984)	Sign of coefficient observed to be negative
Liquidity	TO Targues those companies with high liquidity ratios have a greater capacity to pay the liability in time. Hence, those with greater liquidity prefer debt funding. Hence, a positive relationship. (Serrasqueiro et al., 2016).	POT proposes a negative relationship between liquidity and CS. The companies with higher liquidity prefer internal sources over debt and/or equity as a source of finance	Sign of coefficient observed to be negative
NDTS	TOT predicts a negative/positive relationship between leverage and NDTS. The study of DeAngelo and Masulis (1980) suggests that NDTS can be used to reduce the tax burden.	POT envisages a negative relation as firms with higher NDTS choose lower debt levels (Sharma and Chadha, 2015).	Sign of coefficient observed to be negative
Age	No specific relation	POT predicts an inverse relationship as firms established earlier is expected to have accumulated fund.	Sign of coefficient observed to be negative

Conclusion

The study deals with the CS of the Indian Auto-component Industry, and the results were tested against both theories parallel. All the variables deliberated in the study were found to be significant at 5% and 10% levels of significance. The variables like Asset Tangibility and Firm Size are confirmed with the Trade-off theory. As per the Trade-off theory, firms have an option to use the asset as collateral and avail additional debt. The theory also argues that larger firms are comparatively more diversified and less prone to bankruptcy. The rest five variable used for the study confirms the pecking order theory. Pecking order theory, propones a positive relationship is expected as growing firms prefer funding from equity to avoid disclosure of crucial information to external investors. A negative relationship is observed with variables, namely, Profitability, Liquidity NDTs and Age. Profitable firms and firms with greater liquid assets use the internal fund as a source of finance. Firms with a higher level of NDTs prefer a lower level of debt. Firms established earlier use their accumulated fund to finance the operation. The general conclusion shows that determinants have significant explanatory power on the formation of CS. The theoretical implication shows that Auto-component Industry does not follow one particular theory of CS; instead, it shows evidence of both the trade-off and pecking order approach.

Indian Auto-components Industry is a very critical industry that contributes 49% to the country's manufacturing GDP (IBEF Report, 2021-21). Yet, very limited quality research has been conducted on this sector. Thus, the findings of the study would contribute to the existing literature on CS and also prove beneficial to the stakeholders of the Auto-component Industry.

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