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Impact of Firm-specific Factors on Capital Structure of Indian Automobile & Automobile Ancillaries Firms : A Dynamic Panel Data Approach[1]

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Abstract

A company's capital structure depicts different proportions of capital it has sourced for financing its operation, which is the composition of both owned and owed capital. Several determinants, including both micro and macro factors, affect capital structure decisions. The impact of macroeconomic factors is assumed to be similar across all the firms in the automobile and automobile ancillaries industry, so studying the impact of firm-specific factors on capital structure decisions is important. This paper investigates the effect of firm-specific factors on the capital structure decisions of selected automobile and automobile ancillaries firms. The study is empirically based on an analytical research design based on secondary data from 2004 to 2020. Static panel regression models are used to identify firm-specific factors' impact on capital structure variables. Firm-specific factors play an important role in determining the capital structure financing decision.

JEL Code : G32, C58, C87
Keywords : Indian automobile and automobile ancillaries firms, Capital Structure, Firm-specific factors, Financing Decision, Optimal Capital Structure.

I. Introduction

THE MODERN BUSINESS environment, shaped by globalization and economic liberalization, offers diverse investment opportunities and financing avenues. Capital structure decisions, crucial for wealth maximization, involve a strategic balance between debt and equity financing. Two prominent theories, the Trade-off Theory and the Pecking Order Theory, provide frameworks for understanding firms' financing choices. The Trade-off Theory posits that optimal capital structure is achieved when the benefits of debt financing equal its costs. In contrast, the Pecking Order Theory suggests that firms prioritize internal financing and

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Appendix

Table A1

Test of Pool-ability, Cross-Section effect and Time effect for all stated Model

Model Name (Dependent Variable)	Pool Test (Pool-ability Check)		Pesaran CD test (cross-sectional dependence)		F test (Time effects Check)	
	F Statistic	P Value	Z Statistic	P Value	F Statistic	P Value
D-E Ratio	1.49	0.000	0.866	0.38	2.21	0.00
L-T Debt Ratio	4.25	0.000	635	0.000	12.47	0.00
S-T Debt Ratio	9.42	0.000	5.91	0.000	1.14	0.13
Total Debt Ratio	6.87	0.000	5.71	0.000	4.22	0.00

Source: Self Computed using secondary data on Eviews 10 software

Table A2

Model 1 by tanking D-E Ratio as Dependent Variable

Variable	Fixed Effect Model				Random Effect Model			
	Coefficient	SE	t Value	P Value	Coefficient	SE	t Value	P Value
Intercept	0.360	0.106	3.414	0.001	0.516	0.102	5.028	0.000
Size	0.041	0.026	1.557	0.119	-0.002	0.025	-0.068	0.946
Profitability	-0.834	0.198	-4.209	0.000	-0.592	0.191	-3.085	0.002
Assets Tang.	0.457	0.131	3.497	0.001	0.404	0.130	3.104	0.002
Risk of BR	-0.002	0.001	-1.444	0.149	-0.002	0.001	-1.978	0.048
Short-term Solv.	-0.142	0.020	-6.963	0.000	-0.151	0.020	-7.447	0.000
Non-Debt Tax Shield	0.008	0.009	0.897	0.369	0.010	0.008	1.151	0.249
Earning Volatility	0.013	0.012	1.096	0.273	-0.010	0.011	-0.911	0.362
Growth Rate	0.082	0.049	1.659	0.097	0.131	0.047	2.769	0.006
Model Specifications	Adjusted R2: 0.1229 D-W Stat: 0.983 F- statistics: 9.518 P-Value: 0.000				Adjusted R2: 0.106 D-W Stat: 0.956 F-Statistic: 20.674 P-Value: 0.000			
Hausman Test	Chi-Square Stat: 43.95 P-Value: 0.000							

Source: Self Computed using secondary data on Eviews 10 software

Table A3

Model 2 by taking Long-term Debt Ratio as Dependent Variable

Variable	Fixed Effect Model				Random Effect Model			
	Coefficient	SE	t Value	P Value	Coefficient	SE	t Value	P Value
Intercept	-0.1233	0.051	-2.433	0.015	0.091	0.017	5.203	0.000
Size	0.055	0.018	3.046	0.002	-0.012	.004	-2.897	0.004
Profitability	-0.277	0.037	-7.472	0.000	-0.273	0.033	-8.388	0.000
Assets Tang.	0.225	0.033	6.789	0.000	0.235	0.022	10.61	0.000
Risk of BR	0.000	0.002	0.587	0.557	0.000	0.000	0.308	0.758
Short-term Solv.	0.023	0.004	5.509	0.000	0.004	0.003	1.252	0.211
Non-Debt Tax Shield	0.002	0.001	1.188	0.235	0.004	0.002	2.609	0.009
Growth Rate	0.019	0.007	1.188	0.235	0.051	0.008	6.351	0.000
Earning Volatility	0.005	0.002	2.187	0.029	-0.005	0.001	-2.717	0.006
Model Specifications	Adjusted R2: 0.1229 Adjusted R2: 0.502 D-W Stat: 0.784 F-Statistics: 13.602 P-Value: 0.000				Adjusted R2: 0.106 Adjusted R2: 0.197 D-W Stat: 0.544 F-Statistics: 41.823 P-Value: 0.000			
Hausman Test	Chi-Square Stat: 237.92 P-Value: 0.000							

Source: Self Computed using secondary data on Eviews 10 software

Table A4
Model 3 by taking Short-term Debt Ratio as Dependent Variable

Variable	Fixed Effect Model Coefficient	SE	t Value	P Value	Random Effect Model Coefficient	SE	t Value	P Value
Intercept	0.319	0.028	11.54	0.000	0.326	0.022	14.234	0.000
Size	-0.038	0.009	-4.106	0.000	-0.039	0.007	-5.894	0.000
Profitability	-0.780	0.032	-23.97	0.000	-0.755	0.031	-24.44	0.000
Assets Tang.	0.044	0.029	1.513	0.131	0.019	0.026	0.745	0.000
Risk of BR	0.001	0.000	5.048	0.000	0.001	0.000	4.655	0.000
Short-term Solv.	-0.044	0.004	-12.15	0.000	-0.041	0.003	-11.86	0.000
Non-Debt Tax Shield	-0.002	0.001	-1.988	0.047	-0.002	0.001	-1.958	0.050
Growth Rate	0.001	0.006	0.177	0.859	-0.000	0.006	-0.699	0.944
Earning Volatility	0.004	0.002	2.204	0.028	0.003	0.001	2.134	0.033
Model Specifications	Adjusted R2: 0.614 D-W Stat: 0.879 F-Statistics: 24.149 P-Value: 0.000				Adjusted R2: 0.414 D-W Stat: 0.791 F-Statistics: 118.21 P-Value: 0.000			
Hausman Test	Chi-Square Stat: 237.92				P-Value: 0.000			

Source: Self Computed using secondary data on Eviews 10 software

Table A5
Model 4 by taking Total Debt Ratio as Dependent Variable

Variable	Fixed Effect Model Coefficient	SE	t Value	P Value	Random Effect Model Coefficient	SE	t Value	P Value
Intercept	0.254	0.062	4.086	0.000	0.420	0.023	18.05	0.000
Size	-0.005	0.022	-0.219	0.826	-0.051	0.005	-8.772	0.000
Profitability	-1.051	0.046	-22.99	0.000	-0.925	0.044	-21.19	0.000
Assets Tang.	0.275	0.041	6.717	0.000	0.198	0.029	6.688	0.000
Risk of BR	0.001	0.000	4.044	0.000	0.0004	0.0002	1.592	0.112
Short-term Solv.	-0.022	0.005	-4.293	0.000	-0.027	0.004	-5.986	0.000
Non-Debt Tax Shield	-0.0003	0.001	-0.190	0.849	0.003	0.002	1.329	0.184
Growth Rate	0.019	0.009	2.116	0.034	0.044	0.011	4.148	0.000
Earning Volatility	0.007	0.003	3.050	0.002	-0.004	0.002	-1.607	0.108
Model Specifications	Adjdusted R2: 0.679 D-W Stat: 0.984 F-Statistics: 27.45 P-Value: 0.000				Adjusted R2: 0.444 D-W Stat: 0.521 F-Statistics: 24.149 P-Value: 0.000			
Hausman Test	Chi-Square Stat: 52.52				P-Value: 0.000			

Source: Self Computed using secondary data on Eviews 10 software