Capital Structure and Firm Performance: Evidence from Indian Automobile Sector

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ABSTRACT

The study aims to analyze the impact of capital structure or financial leverage on a firm's performance using variables such as ROA, ROE, and Tobin's Q. The research design includes 25 Indian automobile firms listed on the National Stock Exchange (NSE) Nifty 500 from 2013-2014 to 2022-2023. The sample size consists of 25 companies traded on the NSE Nifty 500 for 10 years. The dependent variables are ROA, ROE, and Tobin's Q. The study used secondary data collection from the CMIE Prowess database, which provides Indian corporate financial performance time series data. The empirical research was conducted using the panel survey technique and ratio analyses. The study found significant relationship between Capital structure and ROA, ROE, whereas the Tobin's Q was found to have no significant relationship. The results were analyzed using multiple regression analysis. The major variables influencing a company's financial performance in the Indian automobile industry include size, age, tangibility, sales growth, asset turnover, and ownership structure. Analysis reveals the financial performance of 25 Indian automobile companies, a significant decline in 2020 and 2021, and a recovery in 2023.

Keywords: Financial Leverage, Capital structure, Firm's Performance

INTRODUCTION

The financial structure of an organization is among the most crucial decisions it makes. When choosing a capital structure, one of the most significant factors involves figuring out the optimal capital structure for the company. When a company is incorporated or needs money instantly to cover capital expenditure decisions, The decision on the type of capital structure should be made well in advance of the business. In determining which funding source best suits the company's needs, financial management must weigh the advantages and disadvantages of several options to minimize capital expenditures and achieve the optimal capital mix. Consequently, a company has to go through the continual process of selecting a capital structure every time it needs funding for a project. When the company's market worth is maximized, the capital structure is considered optimal.

The corporation raises equity through preferred stock issues, and debt can take the shape of bonds, debentures, notes payable loans due, etc. The owners of the business, referred to as equity holders, are committed to it for the long run and anticipate rapid growth. The company's unsecured creditors, on the other hand, are the debt holders, who are more focused on timely principal and interest payments than on the sustainability of the business. The company's finance management wants to put money into initiatives for the future, while the interest of shareholders in receiving dividend payments is higher on a regular schedule. Therefore, the choice a company's financial manager makes regarding its capital structure is significant (Saurabh Chadha, 2015).

A capital structure that increases the worth of the company while decreasing total capital expenses is considered optimal. As a percentage of equity to debt is what most efficiently maximizes the company's worth. It helps minimize the company's cost of capital while providing an adequate debt-to-equity ratio. To make the

company less reliant on creditors and better equipped to fund its core operations, this structure intends to reduce the cost of capital (Lamichhane, 2019). A company's ability to make new investments is enhanced by a decrease in the cost of financing. This indicates an important connection between a company's worth and its capital structure. A company's capital structure impacts the expected revenue of the business, the expense of capital, or both., that in turn impacts the firm's value (Mittal, 2017).

Financial leverage arises from the raising of capital from sources that require a fixed return, such as owner equity and debt preference capital in the capital structure. It differs between industry sectors and firms (Goel, 2016). Leveraged firms use a combination of debt and equity, while unlevered firms only use equity capital (Kumar, 2007). Due to the difficulties of making timely principal and interest payments, debt financing restricts the company's ability to issue equity and grow. It also comes with tax-free interest expense benefits and related costs of financing difficulty. Equity financing has no set payment obligations, increases the company's capacity for expansion by supplying greater cash flows, affects the company's decisions, and has greater expenses than the price of debt. Therefore, one of the key elements in a company's success is having the right mix of money (Ghayas, 2020).

According to the analysis of James C. van Horne, debt, preferred equity, and common equity serve as a company's stable funding sources. Two major goals of capital structure are to reduce the total cost of capital and to increase the firm's value. Mostly, there is a debt versus equity option. Funding a company's projects through the offering of debts, such as bonds, debentures, notes payable, payable loans, long-term debt, and so on, is known as debt financing. Loan interest is deductible from taxes, and payment of interest and principal must occur within a particular period. Debt carries a cost in the form of financial difficulties. Instead, equity financing refers to the process of using the proceeds from the exchange of preferred and common stock to finance the company's assets and activities. Making principal and interest payments on time is not a defined obligation. Because it increases the company's capacity for equity financing, it is therefore more secure than debt and lends greater credibility to the enterprise. Yet compared to the cost of debt, equity has more cost, thus, each type of financing debt and equity has advantages and disadvantages. Considering the optimization of the business and the value management of the total cost of capital, the company must decline between debt and equity financing (Saurabh Chadha, 2015).

As was previously said, (Myers, 2001) none of these models can account for the overall ideal capital structure. Consequently, not all of these theories apply to every firm. To have a complete understanding of capital layout approaches and their impact on business performance, a mixture of theories is needed. Using a sample of Indian companies, this study calculates the impact of capital structure on business performance.

Literature Review:

Among several variables that significantly affect a firm's performance is its capital structure. Numerous empirical studies have been carried out to ascertain whether capital structure and firm performance are positively correlated, negatively correlated, or not correlated at all. The investigations have provided inconsistent findings (Fathony, 2020). Expansion is positively associated with financial performance when it comes to the elements that establish the value of a company in the financial business (Mouna Amraoui, 2018). It was found that, among the variables impacting the capital arrangement and financing decisions made by Moroccan companies between 2009 and 2016, only size had a favourably major effect expansion was determined to have little influence on capital structure, while asset tangibility and liquidity, among other factors, had a significant adverse effect on the performance of the company. The study determined that the primary factors influencing capital structure in Morocco are unique to the firm, and the selection of leverage differs among companies based on the unique characteristics of their operations (Nassar, 2016). Examined empirically the relationship between industrial enterprises listed on the ISE's capital structure and financial performance. All of the Financial performance accounting metrics and the debt ratio showed a strong negative relationship, according to his results (Acaravci, 2015). The results of panel approaches are used in this study to examine the factors that influence Turkey's capital structure. Company size and, in particular, the industry impacts were added to the original model. The impacts on capital structure of the variables employed in the models are also compared in this study based on firm size and industry. Firm-specific variables affecting a company's

choice of capital arrangement include growth potential, size, profitability, tangibility, and non-debt income shields. Empirical findings indicate that growth possibilities, scale, revenue, tangibleness, and leverage parameters are significantly correlated (Kwame Mireku, 2014). The research findings demonstrated that the success of a company is impacted by its capital structure. Financial leverage and several company performance indicators had a negative correlation. Therefore, businesses in Ghana that have Improved financial outcomes and greater margins of profit are associated with lower debt levels. The research findings indicate that there is a more significant relationship between financial performance and the market value of capital structures than there is with book value (Olokoyo, 2013). Studying the impact of indebtedness on the earnings of businesses empirically is presented in this study. It was discovered that a company's accounting performance measure (ROA) was significantly impacted negatively by its indebtedness. The fact that every leverage measurement has a positive and statistically significant correlation with the market performance metric (Tobin's Q) is a curious finding (Mahfuzah Salim, 2012). This study examines the impact that capital structure has on the success of companies. The findings revealed a negative relationship between financial leverage, return on equity, and return on assets, but a positive association between Tobin's Q and financial leverage (Ramachandran Azhagaiah, 2011). Examining how the financing system affects Indian corporate enterprises' earnings is the primary goal of this research. The study aims to verify the assumptions about the connection between capital structure and earnings and the degree to which capital strategy affects a company's revenue. Shown a substantial individualized correlation between capital structure and financial features indicating that the company's profitability is significantly impacted by its capital structure (D. Margarities, 2010). Showed a statistically significant positive correlation between leverage and company performance. Using a sample of French enterprises with varying levels of development between 2003 and 2005, they discovered that leverage had a favorable impact on firms' efficiency throughout the sample (Michael R. King, 2008). Analysed how the ownership structure, capital structure, and financial performance are related. Leverage has a negative relationship with the success of Canadian enterprises, according to the estimated results (Tian, 2007). A survey sample including 167 Jordanian enterprises from 1989 to 2003 was used in the study to examine the impact capital structure was having on business performance. The study demonstrated an extensive negative relationship between the performance of the firm and its capital structure parameters, including both accounting and market variables.

(Jie Cai, 2006) An impact of modifications to leverage on stock returns is implied by the prediction made by several finance theories that the capital structure influences firm value. However, the majority of the material that has already been written has concentrated on the variables that impact the capital structure. Leverage fluctuations will have a statistically significant no relation on stock returns in the next quarter. Even after correcting for business size, ROE, book-to-market, and historical returns, this effect is still significant. Our hypothesis-testing process involves multiple proposals to account for the observed effect. For enterprises with a higher level of leverage, we find that the negative effect is more pronounced (Abor, 2005). The present study, which tests the financial performance leverage's relationship to company performance in India empirically, contributes to the body of knowledge on the effect of financial leverage on firm performance. The majority of studies have been conducted in various countries but there is very little research has been conducted on the impact of capital structure on a firm's performance in India of NSE listed 25 automobile companies. Our study tries to find out the impact of capital structure on the performance of NSE-listed 25 automobile companies by analyzing annual data for 10 years.

METHODOLOGY

To analyze the impact of capital structure on a firm's performance.

Hypothesis:

Ho: There is no significant relationship between capital structure and a firm's performance.

H0: There is no significant relationship between Capital structure and

ROA

$$ROA_{nt} = C_n + \left(\frac{D}{E}\right)_{nt} + \beta_1 \, (Size)_{nt} + \beta_2 \, (Age)_{nt} + \beta_3 \, (Tangibility)_{nt} + \beta_4 \, (Growth)_{nt} + \beta_5 \, (Turnover)_{nt} + \beta_6 \, (Ownership)_{nt} + U_{nt}$$

H0B: There is no significant relationship between Capital structure and ROE.

$$ROE_{nt} = C_n + \left(\frac{D}{E}\right)_{nt} + \beta_1 \,(Size)_{nt} + \beta_2 \,(Age)_{nt} + \beta_3 \,(Tangibility)_{nt} + \beta_4 \,(Growth)_{nt} + \beta_5 \,(Turnover)_{nt} + \beta_6 \,(Ownership)_{nt} + U_{nt}$$

H0C: There is no significant relationship between Capital structure and Tobin's Q

$$Tobin's \ Q_{nt} = C_n + \left(\frac{D}{E}\right)_{nt} + \beta_1 \,(Size)_{nt} + \beta_2 \,(Age)_{nt} + \beta_3 \,(Tangibility)_{nt} + \beta_4 \,(Growth)_{nt} + \beta_5 \,(Turnover)_{nt} + \beta_6 \,(Ownership)_{nt} + U_{nt}$$

Where, ROA_{nt} = Return on asset for firm (n) at time (t), ROE_{nt} = Return on equity for firm (n) at time (t), Tobin's Q_{nt} = P/B ratio for firm (n) at time (t), $(D/E)_{nt}$ = Total asset to total equity for firm (n) at time (t), $Size_{nt}$ = Natural logarithm of total assets of firm (n) at time (t), Age_{nt} = Numbers of years since the company was incorporated of firm (n) at time (t), $Tangibility_{nt}$ = Net fixed assets to total assets for time (n) at time (t), Sales $growth_{nt}$ = Current year sales minus previous year sales to previous year sales of firm (n) at time (t), Assets $turnover_{nt}$ = Net sales to total assets of firm (n) at time (t), $Ownership_{nt}$ = Percentage of shareholding held by promotors of firm (n) at time (t), U = residual element, C = constant, n = 1…25, t = 1….10. The three regression equations that were created apply the fixed impact method with panel data.

Research design:

The goal of the study is to analyse the impact of various variables related to the capital structure on the firm's performance on the basis of ROA, ROE and Tobin's Q on the 25 automobile companies listed on the NSE Nifty 500. Research is done on the dependent variables *i.e.* ROE, ROA and Tobin's Q and independent variables *i.e.* Leverage ratio and control variables *i.e.* asset turnover, age, size, tangibility, ownership structure, and sales growth.

Sample:

The sample includes Indian automobile companies and traded on the NSE Nifty 500 from 2013-2014 to 2022-2023. The missing values of firms are either variable in three categories: independent, control, and dependent are found out from the STATA. Using the information availability variables and the previously stated filters, an adequate number of samples of 25 NSE Nifty 500 listed Indian automobile companies over 10 years from 2013-2014 to 2022-2023 have been taken into consideration to analyse the leverage effect. We have minimized errors in measurements and ensured reliability by using a big sample size over an extended period. A sample of 25 companies has enabled us to use multiple regression analysis.

Table 1 : Measurement-related variables		
Variables	Measurements	Supporting Literature
Dependent Variables		
ROA	Net income/Total asset	(Ahmed, 2023), (Abdullah Ewayed, 2014), (Dasouqi, 2017)
ROE	Net income/Total equity	(Mohammad Reza Ebrati, 2013), (V. Sivarama Krishnan, 1997), (Ngoc Bao Vuong, 2017)
Tobin's Q	P/B Ratio	(Tambunan, 2023)
Independent Variables		
Leverage	Total debt/Total equity	(Athula Manawaduge, 2011) (Nawaz Ahmad, 2016), (Michael R. King, 2008)
Control Variables		
Size	Natural Logarithm of Total Assets	(Molla, 2020), (Asaolu, 2021), (Mansour, 2023)
Age	Number of years since the company was incorporated	(Muritala, 2012)
Tangibility	Net fixed assets/Total asset	(Wiwattanakantang, 1999), (Dawar, 2014)
Sales growth	Current year sales minus Previous year sales /Previous year sales Net sales/ Total assets	(Narsaiah, 2020), (Shabnaz Amin, 2015)
Asset turnover	Net sales/ Total assets	(Manal Sulieman Abughniem, 2020), (Muritala, 2012)
Ownership structure	Percentage of shareholding held by promoters	(Saurabh, 2015)

Data collection:

This study used a secondary source of data collection. Annual financial standalone data and sample Automobile company statistics were acquired through Prowess, a database that is by the CMIE. The leading source of business information, CMIE, was founded in 1976 and offers Indian corporate financial performance time series data through subscription for an additional cost. Daily updates are made to the company's database. This information is mostly derived from the annual reports of specific corporations. The dependability and accuracy of the Prowess CMIE database are important elements of the results' quality. The data related age age and ownership structure from the could not found be on the Prowess CMIE, hence data related age is taken from MONEY CONTROL and ownership structure from NSE.

Study variables:

This study aims to analyse how a firm's capital structure affects its performance. The dependent variables consist of (ROE), (ROA), Tobin's Q, and the independent variables are Leverage and the control variables are Size, Age, Tangibility, Sales growth, Asset turnover, and Ownership structure (Table 1).

RESULTS AND DISCUSSION

Table 2 presents the descriptive statistics for the 25 Indian automobile companies, based on 250 observations. The analysis includes measures of central tendency (median) and distribution (minimum, maximum, standard deviation). Notably, the minimum values for Return on Assets (ROA) and Return on Equity (ROE) are negative, at approximately -31.11 and -112.48, respectively, indicating that some companies have experienced

significant losses. The high standard deviation for ROE suggests greater variability in returns on equity compared to returns on assets.

Tobin's Q shows a minimum value of -5.96, reflecting that some companies have a market value lower than their replacement cost, indicating potential undervaluation. The median leverage ratio is 0.25, with a maximum value of 5.32, indicating a significant variation in financial leverage among the companies. There is also considerable variation in company size and age, with both metrics exhibiting a wide range and high standard deviation, suggesting diverse firm characteristics in the sample.

Table 3 presents the correlation among all the independent variables. Leverage shows a positive correlation with tangibility (0.424), suggesting that companies with higher tangible assets tend to have higher leverage. It is negatively correlated with asset turnover (-0.281), indicating that companies with higher asset turnover typically have lower leverage.

Size exhibits a strong positive correlation with age (0.623), implying that older companies tend to be larger. It is also positively correlated with asset turnover (0.284), suggesting that larger companies generally have higher asset turnover. Age is positively correlated with tangibility (0.178), indicating that older companies tend to have more tangible assets. Additionally, age is negatively correlated with ownership (-0.234), suggesting that older companies typically have lower ownership concentration.

Tangibility is positively correlated with ownership (0.104), showing that companies with higher tangible assets tend to have higher ownership concentration. Sales growth is positively correlated with ownership (0.129), indicating that companies with higher sales growth tend to have greater ownership concentration.

Asset turnover is positively correlated with size

Table 2 : Descriptive Statistics of Data					
Statistics	Median	Min	Max	S.D.	N
ROA	8.45	(31.11)	38.71	7.07	250
ROE	15.4	(112.48)	73.35	13.69	250
Tobin's Q	4	(5.96)	29.80	3.64	250
Leverage	0.25	.00	5.32	.65	250
Size	10.5	(.69)	13.63	1.85	250
Age	37	6	78	18.95	250
Tangibility	32.4	.00	66.48	13.33	250
Sales Growth	8.34	(33.47)	179.49	27.04	250
Asset Turnover	104.03	.00	260.18	36.04	250
Ownership	49.53	.00	85.00	24.30	250

Source: Authors Compilation

Table 3 : Correlation Matrix of Independent Variables

	Leverage	Size	Age	Tangibility	Sales Growth	Asset Turnover	Ownership
Leverage	1	(.135)	(.186)	.424	.021	(.281)	(.030)
Size	(.135)	1	.623	.000	(.015)	.284	(.025)
Age	(.186)	.623	1	(.178)	(.071)	(.079)	(.234)
Tangibility	.424	.000	(.178)	1	(.049)	(.111)	.104
Sales Growth	.021	(.015)	(.071)	(.049)	1	.075	.129
Asset Turnover	(.281)	.284	(.079)	(.111)	.075	1	(.023)
Ownership	(.030)	(.025)	(.234)	.104	.129	(.023)	1

Source: Authors Compilation

(0.284), suggesting that larger companies tend to have higher asset turnover. However, it is negatively correlated with tangibility (-0.111), indicating that companies with more tangible assets tend to have lower asset turnover.

Table 4 presents the median performance for 25 Indian automobile companies. The Return on Assets (ROA) shows overall stability, remaining around 9% from 2014 to 2019, peaking at 10% in 2017. However, there is a noticeable decline in 2020 and 2021, dropping to a low of 6%. Despite this, ROA rebounds to 9% in 2023, suggesting a recovery in asset efficiency. The decline in ROA during 2020 and 2021 affected many companies worldwide, but the improvement in 2023 signals a return to profitability and resource productivity.

The Return on Equity (ROE) remained relatively stable at 17% from 2014 to 2016, then slightly decreased to 16% from 2017 to 2019. However, there was a significant drop to 12% in 2020, followed by a further decline to 10% in 2021. ROE then improved to 13% in 2022 and 15% in 2023, signaling recovery after the recessionary period.

Tobin's Q, which estimates market valuation relative to the replacement cost of assets, exhibited significant fluctuations over the period. It increased from 2.78 in 2014, reflecting investor sentiment and economic conditions, showcasing variability in market valuation and investor perspectives throughout the period.

Table 5 analyzes the impact of various factors on Return on Assets (ROA) in the automobile industry. The Debt-to-Equity (D/E) ratio, firm size, and firm age negatively impact ROA, all with significant p-values (0.00, 0.04, and 0.00, respectively). Conversely, asset turnover and ownership positively and significantly affect ROA (both with p-values of 0.00). Tangibility and sales growth show no significant influence on ROA, with high p-values (0.86 and 0.59). The model explains 56% of the variance in ROA ($R^2 = 0.56$), indicating a reasonably strong fit.

Table 5 : Model 1 (ROA as the alternate for firm performance)

Independent Variables	Coeff.	S.E.	T Value	P-value
D/E	-3.94	.472	-8.35	0.00
Size	-.526	.256	-2.06	0.04
Age	-.387	.090	-4.29	0.00
Tangibility	.005	.034	0.17	0.86
Sales Growth	.014	.007	1.90	0.59
Asset Turnover	.109	.010	10.04	0.00
Ownership	.050	.011	4.26	0.00
Period	10	3.47	5.40	0.00
Cross-sections	25			
Total panel observations		250		
R^2		0.56		
F-Statistics		24.71		
Prob. (F statistics)		0.00		
Hausman Test Chi-sq. (X^2) /P value		15.83/0.02		

Source: Authors Compilation

Table 4 : Median Performance Trends

Year	ROA	ROE	Tobin's Q
2014	8%	17%	2.78
2015	9%	17%	4.71
2016	9%	17%	3.66
2017	10%	16%	4.96
2018	9%	16%	5.02
2019	9%	16%	4.07
2020	7%	12%	2.05
2021	6%	10%	3.83
2022	6%	13%	5.03
2023	9%	15%	5.02

Source: Authors Compilation

Table 6 examines the impact of various factors on Return on Equity (ROE) as a proxy for firm performance. The Debt-to-Equity (D/E) ratio, firm age, asset turnover, and ownership significantly affect ROE, all with highly significant p-values (0.00). Firm size has a negative but statistically insignificant impact on ROE (p-value = 0.81), while tangibility and sales growth also show no significant influence, with p-values of 0.38 and 0.21, respectively.

The model explains 51% of the variance in ROE (R^2 = 0.51) and demonstrates overall significance with an F-statistic of 12.98. The Hausman test confirms the appropriateness of a fixed-effects model (p-value = 0.00). Overall, the D/E ratio, firm age, asset turnover, and ownership are significant predictors of ROE, while size, tangibility, and sales growth are not.

Table 6 : Model 2 (ROE as the alternate for firm performance)				
Independent Variables	Coeff.	S.E.	T Value	P-value
D/E	-11.53	1.281	-9.01	0.00
Size	-.930	.694	-1.34	0.18
Age	-1.26	.244	-5.16	0.00
Tangibility	0.80	0.922	0.88	0.38
Sales Growth	0.484	.020	2.32	0.21
Asset Turnover	.216	.029	7.34	0.00
Ownership	.081	0.319	5.87	0.00
Period	10			
Cross-sections	25			
Total panel observations		250		
R^2		0.51		
F-statistics		12.98		
Prob. (F statistics)		0.00		
Hausman Test Chi-Sq. (X^2)/P Value		76.98/0.00		

Source: Authors Compilation

Table 7 analyzes the impact of various factors on Tobin's Q as a proxy for firm performance. The Debt-to-Equity (D/E) ratio does not significantly affect Tobin's Q, as shown by the high p-value (0.48). Firm size has a

Table 7 : Model 3 (Tobin's Q as the alternate for firm performance)				
Independent Variables	Coeff.	S.E.	T Value	P-value
D/E	.301	.429	0.70	0.48
Size	.362	.232	1.56	0.12
Age	-.036	.082	-0.44	0.65
Tangibility	-.082	.030	-2.65	0.09
Sales Growth	.021	.007	3.05	0.00
Asset Turnover	0.40	.009	4.10	0.00
Ownership	.007	.010	0.72	0.47
Period	10			
Cross-sections	25			
Total panel observations		250		
Cap R^2		0.25		
F statistics		6.57		
Prob. (F statistics)		0.00		
Hausman Test Chi-sq. (X^2)/P Value		5.85/0.55		

Source: Author Compilation

positive but statistically insignificant impact (p-value = 0.12), while firm age also shows no significance (p-value = 0.65). Tangibility negatively impacts Tobin's Q and is significant at the 10% level (p-value = 0.09). Sales growth and asset turnover have significant positive effects on Tobin's Q, with both showing highly significant p-values (0.00). Ownership does not significantly affect Tobin's Q (p-value = 0.47). The model explains 25% of the variance in Tobin's Q (R^2 = 0.25) and is overall significant. The Hausman test confirms the appropriateness of the model. This analysis highlights sales growth, asset turnover, and tangibility as key drivers of firm performance measured by Tobin's Q.

H0A	There is no significant association between capital structure and ROA	Rejects the null Hypothesis
H0B	There is no significant association between capital structure and ROE	Rejects the null Hypothesis
H0C	There is no significant association between capital structure and Tobin's Q.	Supports the null Hypothesis

Conclusions:

This study investigates the financial performance of 25 Indian automobile companies using data from 250 observations, employing central tendency and distribution analysis alongside ROA, ROE, and Tobin's Q as proxies for firm performance. Results indicate that firms with higher tangible asset concentrations tend to have greater leverage ratios, while those with higher asset turnover ratios exhibit more effective asset utilization, as evidenced by a high median turnover. Tangibility emerges as a critical factor, particularly for firms without physical assets. Ownership concentration varies significantly, with a median of 49.53%.

From 2014 to 2019, the correlation coefficient across financial parameters hovered around 9%, peaking at 10% in 2017. However, a decline to 6% in 2020-2021, likely due to the pre-recession, was observed before recovering to 9% by 2023, suggesting a return to asset efficiency. The reduction in ROA during 2020-2021 aligns with global trends but rebounded significantly in 2023. The ROA model explains 56% of the variance (R^2 = 0.56) and is supported by the Hausman test (p-value = 0.02), highlighting the D/E ratio, asset turnover, ownership, and firm age as significant predictors, while size, tangibility, and sales growth show no importance.

Similarly, ROE as a performance measure shows

51% of the variance explained (R² = 0.51), with the D/E ratio, age, asset turnover, and ownership identified as significant determinants, while size, tangibility, and sales growth remain insignificant. Tobin's Q reveals similar findings, with asset turnover, age, tangibility, and sales growth identified as relevant factors, while ownership and the D/E ratio lack significance.

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