

# THE DETERMINANTS OF FIRM VALUE: CASE OF LISTED COMPANIES IN TUNISIA

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## ABSTRACT

*The value of a firm is the amount that one must pay to buy or take over the business entity. This value can be determined based on the company's book or market value. Generally, a firm's value refers to the company's market value. The traditional model of a firm's value is linked with shareholders' value, but some scholars have expanded this model to include all stakeholders. In this article we aim to study the factors affecting firm value in Tunisian context. We used a sample of 30 firms listed in Tunisian stock exchange over the period (2015.2024). By applying a model of panel static; we found that return on assets; leverage; size; liquidity; board independence and economic growth have a significant impact on firm value.*

**Keywords:** Firm value ; Panel ; Return on assets ; Leverage ; Liquidity ; Board independence ; Tunisian stock exchange.

## INTRODUCTION

Company value reflects the business value of the company as a whole or an economic measure of the company performance (Vukovic et al., 2024).

Firm value, as defined by (Hermuningsih & Wardani, 2009), is an investor's assessment of a company's success, which is directly related to its share price. Stock with high prices raise the firm's value and enhance the market confidence in the current performance as well as its future possibilities of the company.

According to (Fama, 1978) the firm value is assessed by the firm's success as measured by the stock price and the greater the share price, the higher the firm value. The stock price is a better value in terms of fulfilling the company's long-term goal of increasing the stock's value. Companies that can provide a good signal about the value of the company will be considered suitable for potential investors as an investment opportunity.

Company values are foundational principles guiding an organization's identity, behavior, and decision-making, essential for shaping culture, attracting talent, and ensuring long-term success. They foster employee engagement, align teams with shared goals, and boost customer loyalty by setting consistent standards. These values provide a roadmap for navigating challenges and maintaining a strong reputation.

In this article we attempt to identify the factors affecting the value of the firm in the Tunisian context. We used a methodology of 3 sections. We start by literature review; then we make an empirical study. In end we conclude by a conclusion.

## LITERATURE REVIEW

(Ishrak et al., 2024) studied the determinants factors of firm value in Indonesia. They indicated that significant impact of solvability and profitability has on return on asset turned over toward the firm value.

(Vincula, 2024) used a sample of 442 non-financial companies included in the Standard and Poor's 500 index over a period of 20 years from (2004-2023).

The results showed that the financial leverage ; asset tangability ; liquidity , firm size , the number of meeting by the members ; the proportion of independent members on the board ; Covid 19 crisis has a positive effect on firm value while the firm age ; CEO duality ; the number on the board ; the proportion of the females on the board.

(Valencia, 2025) investigates the financial performance and corporate governance variables that influence firm valuation. He analyses 91 Spanish small and medium sized enterprises over the period (2015...2019). He concludes that profitability; capital structure ; and ownership concentration affect significantly the firm value while liquidity and efficiency are not statistically significant .

(Alshaneh, 2023) investigates the impact of liquidity and leverage on the firm value of publicly listed service firms in Jordan. Using secondary data from 38 service firms listed on the Amman stock exchange between (2011-2021) .

The findings reveal that the quick ratio positively influences Tobin's Q suggesting that higher liquidity ; excluding inventory ; enhances market valuation ; liquidity with pecking order theory and agency costs theories .

Vinh and al (2021) evaluate the moderating role of state ownership on the impact of financial leverage on the value of non-financial firms listed in Vietnam . The generalized method of moments was employed to analyse a sample of 481 companies from (2015...2021). The findings show that financial leverage has a positive effect on firm value but its relationship is negatively moderated by state ownership. In addition; financial leverage decrease the firm value of state ownership .

(Vukovic et al., 2024) studied a sample of companies in European countries over the period (2015: 2020). The results revealed that debt to asset ratio ; return on equity ; and asset tangability have a significant adverse effect on company value ; whereas the return on assets and firm size has a significant favorable effect .

(Jagirani et al., 2023) indicate that a higher capital adequacy ratio increases firm value and has a moderating effect on board characteristics and firm value. (Diantimala et al., 2021) point out that a company that adheres to the requirements of the tradeoff theory starts from the target ratio of debt and equity and tries to move towards the goal.

So small companies with higher debt ratio are lower profitability have a higher company value. Referring to the tradeoff theory requirements; (Puspitawati, 2022) indicate that a new borrowing will lead to growth in company value in circumstances where the capital structure is below to optimal level .

From a financial management perspective; the positive relationship between financial leverage and firm value can be explained by 2 reasons. First using debt to form financial leverage creates a tool to control the actions and decisions of managers to protect shareholders interests (Jensen & Meckling, 1976). Second; companies using debt drive tax saving from interest expenses (Myers, 1977) contributing to an increase in firm value.

Also (Bagh, Hunjra & Corbet, 2025) explored the impact of corporate governance practices on firm value and examined the moderating role of strategic change within publicly traded US companies Utilizing a comprehensive sample of 1827 firms ; we employ dynamic panel two step generalized method of moments ( GMM) and high dimensional fixed effects methodologies to analyze these relationship robustly .

Our findings indicate that robust corporate governance significantly enhances firm value. Enhanced governance mechanisms that reduce agency conflicts and protect shareholders rights are linked to higher firm valuation. (Beiner et al., 2006; Brown & Caylor, 2006).

Corporate governance influence firm value through multiple mechanisms; including improved financial reporting quality and internal control (Hoitaxh et al., 2009; Kelton & Yang, 2008; Mallin, 2002). Strong corporate governance enhances audit quality and voluntary disclosure; further strengthening the information environment and boosting firm value (Abbott et al., 2007; Eng & Mak, 2003; Farber, 2005).

Also (Nwanko, 2025) studied the annual reports for sampled consumer good firms in Nigeria for the period (2012-2022). He found that debt ratio has a non-significant negative effect on the market capitalization for consumer goods firms in Nigeria; interest coverage ratio has a non-positive effect on the market capitalization of consumer goods firms in Nigeria.

(Chia, 2024) studied the impact of board size on the firm value in Malaysian stock market. He studied a sample of 1247 firms listed on the Malaysian stock exchange over the period (2000-2020). He found there is a non-monotonic relationship between board size and firm value.

The findings of a U shaped curve that before the threshold point; having more directors on the board is associated with lower firm value due to higher agency costs. However when the threshold point exceed a certain level, the positive effect dominates; and the super-sized board are associated with a higher firm value. The results show that the positive impact of board size on firm value begins only after the size of the board exceeds the 1.90 threshold level which is equivalent to 7 directors.

## EMPIRICAL STUDY

### Sample

We used a sample of 30 companies listed in Tunisia stock exchange over the period (2015:2024).

### Model specification

$$FV_{i,t} = a_0 + b_1 ROA_{i,t} + b_2 ROE_{i,t} + b_3 CAPI_{i,t} + b_4 CRI_{i,t} + b_5 Size_{i,t} + b_6 ALA_{i,t} + b_7 CE_{i,t} + b_8 INDI_{i,t} + b_9 Levi_{i,t} + b_{10} SC_{i,t} + b_{11} TPIB_{i,t} + b_{12} TINFi_{i,t} + E_{i,t}$$

$A_0 = \text{constant}$

### Parameters to be Estimated

$FV = Q$  Tobbin

$TA_{i,t} - BV_{i,t} + MV_{i,t}$

$Q$  Tobbin =  $TA_{i,t}$

TA= total assets; BV= book value; MV = market value

$Q$  Tobbin is commonly used to estimate firm performance; as it reflects the estimated value of intangible assets; including monopoly power; goodwill; managerial capability; and growth prospects, under the assumption that value reflects the firm's overall performance outcomes ( Perfect & Wiles, 1984).

The Tobbin Q ratio reflects the company's investment or growth opportunities; making a significant impact on the company's future performance and superior long term performance (Santoso, 2020) considers that Tobin's Q is a better indicator than the accounting return indicate; which minimizes the accounting discretion risk. The use of The Tobbin Q ratio is suitable in situations where owners and management want to give a good signal to investors so that their perception of the company is beneficial with of course, an appropriate company book value (Scitwanto et al., 2020)

ROA = net profits / total assets

ROE = net profit / equity

CAP = equity / total assets

CR = current assets / current liabilities

ALA = liquidity / total assets

CEA= operating costs / total assets

INP = independence of board administration

SC= size of board administration

TPIB = economic growth

TINF = inflation rate

### Method of Estimation

A static panel method (or model) in econometrics/statistics analyzes multi-dimensional data (panel data) by examining relationships across different entities (individuals, firms) over multiple time periods, treating each time point as independent without considering lagged effects, focusing on stable characteristics (unobserved heterogeneity) using techniques like fixed effects or random effects models, unlike dynamic models that explicitly include past values.

### Analysis of Descriptive Statistics

Variable	Observations	Mean	Standard deviation	Minimum	Maximum
<b>FV</b>	300	3.42	1.25	2.158	4.259
<b>ROA</b>	300	0.048	0.73	0.015	0.87
<b>ROE</b>	300	0.135	0.537	0.011	0.745
<b>ALA</b>	300	0.156	0.748	0.0025	0.817
<b>Size</b>	300	19.84	1.87	11.58	27.41
<b>CAP</b>	300	0.48	0.651	2.05	4.76
<b>CR</b>	300	3.85	5.34	0.071	32.159
<b>Lev</b>	300	0.87	1.27	0.0025	1.958
<b>IND</b>	300	5.21	3.25	3.42	7.51
<b>SC</b>	300	7.42	4.15	5.41	9.45
<b>TPIB</b>	300	0.042	2.16	0.061	0.032
<b>TINF</b>	300	0.065	1.25	0.072	0.0541

FV ( mean = 3.42) . The Q of Tobbin represents 3.42 and average. The standard deviation is high. There is a big difference between firms in term of Q of Tobbin

ROA ( mean = 0.048) . The net returns represent 4.8% of total assets and average. The standard deviation is high . There is a big difference between firms in Term of ROA

ROE ( mean 0.135) . The net returns represent 0.135 total equity an average. The standard deviation is high . There is a big difference between firms in term of ROE

ALA ( mean =0.156)). The assets liquid represent an average 15.6% of total assets. The standard deviation is high . There is a big difference between firms in term of ALA

Size (mean = 19.84) . The sizes represent 19.84 an average. There is a big difference between firms in term of Size .

CAP (mean = 0.48). The capital represent 48% an average of total assets . There is a not big difference between firm in term of capital.

CR ( mean =3.85). Current assets represent 3.85 an average of current liabilities. There is a big difference between firms in term of CR.

Lev ( mean =0.87) . Total debt represent 87% of total assets an average . The standard deviation is high . There is a big difference between firms in term of leverage.

IND ( mean = 5.21) . There are 5 independent members in the board administration an average. The standard deviation is high . There is a big difference between firms in term of board independence .

SC ( mean = 7.42) . There are 7 members in the board administration in average. The standard deviation is high . There is a big difference between firms in term of board size.

TPIB ( mean = 0.042) . Economic growth is 4.2% an average over the period (2015: 2024).The standard deviation is high . There is a big difference between years in term of economic growth

TINF( mean = 0.065) . Inflation is 6.5% an average over the period (2015-2024).

### Multicollinearity Test

	<b>FV</b>	<b>ROA</b>	<b>ROE</b>	<b>CAP</b>	<b>CR</b>	<b>Size</b>
<b>FR</b>	1	0.72	0.65	0.015	0.23	0.14
<b>ROA</b>	0.542	1	0.53	0.018	0.27	0.39
<b>ROE</b>	0.341	0.456	1	0.023	0.32	0.54
<b>CAP</b>	0.678	0.591	0.284	1	0.0485	0.59
<b>CR</b>	0.23	0.684	0.391	0.485	1	0.0208
<b>Size</b>	0.14	0.517	0.628	0.561	0.427	1
<b>ALA</b>	0.826	0.429	0.715	0.673	0.685	0.695
<b>CEA</b>	0.725	0.316	0.728	0.0875	0.0894	0.0917

	<b>FV</b>	<b>ROA</b>	<b>ROE</b>	<b>CAP</b>	<b>CR</b>	<b>Size</b>
<b>IND</b>	0.253	0.352	0.451	0.526	0.583	0.391
<b>Lev</b>	0.354	0.251	0.387	0.025	0.028	0.059
<b>SC</b>	0.564	0.354	0.517	0.315	0.416	0.527
<b>TPIB</b>	0.628	0.537	0.072	0.091	0.095	0.638
<b>TINF</b>	0.738	0.638	0.081	0.105	0.126	0.149

	<b>ALA</b>	<b>CEA</b>	<b>IND</b>	<b>Lev</b>	<b>SC</b>	<b>TPIB</b>	<b>TINF</b>
<b>IND</b>	0.315	0.328	1	0.426	0.516	0.527	.629
<b>Lev</b>	0.417	0.426	0.0157	1	0.027	0.032	0.089
<b>SC</b>	0.526	0.519	0.516	0.081	1	0.115	0.127
<b>TPIB</b>	0.617	0.629	0.753	0.0814	0.027	1	0.157
<b>TINF</b>	0.639	0.714	0.0854	0.035	0.039	0.039	1

<b>Variable</b>	<b>VIF</b>	<b>1/VIF</b>
FV	1.57	0.637
ROA	0.58	1.72
ROE	0.69	1.44
CAP	1.56	0.64
CR	1.48	0.67
Size	1.23	0.81
ALA	1.34	0.74
CEA	1.62	0.61
IND	0.85	1.17
Lev	1.38	0.72
SC	0.76	1.31
TPIB	1.45	0.68
TINF	1.73	0.57

A variance inflation factor (VIF) tells you whether one of your variables is too similar to any others in your model. Researchers and statisticians use VIF to identify potential problems in models, to interpret complex datasets, to validate their findings, and to avoid misleading conclusions. A high VIF can make your model confusing and difficult to interpret, while a low VIF is more stable.

**The formula for VIF is:**

$$VIF_i = \frac{1}{1 - R_i^2}$$

Where

$R_i^2$  = Unadjusted coefficient of determination for regressing the  $i$ th independent variable on the remaining ones

When  $R_i^2$  is equal to 0, and therefore, when VIF or tolerance is equal to 1, the  $i$ th independent variable is not correlated to the remaining ones, meaning that multicollinearity does not exist.

In general terms,

- VIF equal to 1 = variables are not correlated
- VIF between 1 and 5 = variables are moderately correlated
- VIF greater than 5 = variables are highly correlated

The higher the VIF, the higher the possibility that multicollinearity exists, and further research is required. When VIF is higher than 10, there is significant multicollinearity that needs to be corrected.

In our case all variables have VIF inferior to 5 there is no problem of multicollinearity

### Hausman Test

The Hausman test, also known as the Durbin-Wu-Hausman test, is a crucial econometric tool for choosing between fixed effects (FE) and random effects (RE) models in panel data analysis or for testing for endogeneity (correlation between regressors and error terms). It compares two estimators, with the null hypothesis ( $H_0$ ) usually favoring the more efficient RE model (or OLS if testing for endogeneity), while the alternative ( $H_a$ ) suggests the FE model (or IV estimator) is needed due to inconsistent coefficients in the  $H_0$  model. A significant p-value (typically  $< 0.05$ ) leads to rejecting  $H_0$ , favoring the FE/IV approach. In our model hausman test indicate  $pv = 0.078$  (superior to 5%) . we estimate the model of random effect.

Table 6 ESTIMATION AND INTERPRETATION OF MODEL RESULTS		
FV	Coefficient	Tstatistics
ROA	0.027	2.67**
ROE	0.035	2.23*
Lev	-0.021	3.15***
CAP	0.049	1.56
CR	0.023	1.87
Size	0.28	2.78**
ALA	-0.015	2.45*
CEA	-0.056	1.29
IND	0.092	3.05***

SC	-0.075	1.24
TPIB	0.035	2.16**
TINF	-0.014	1.039

There is a positive relationship between firm value and ROA ( if ROA increase by 1% ; FV will increase by 0.027%) . The increase of return on assets has a positive impact on firm value . This result is similar to result found by (Vinh et al., 2023), (Vukovic et al., 2024), (Thanh et al., 2024), (Chia, 2024). Therefore Tobin's Q as a market regression of a company value is suitable measure for assessing investor's expectations regarding the company ability to create value ( Salvi and al ( 2021). Rosikah and al ( 2018) indicate that a higher return on engaged assets indicates that the company performance has increased and that shareholder benefit from dividends that will encourage them to invest in the company and lead to the company growth .

There is a positive relationship between firm value and ROE ( if ROE increase by 1% ; firm value will increase by 0.035%) . The increase of return on equity has a positive impact on firm value . This result is similar to result found by (Valencia, 2025; Vinh et al., 2023) but contrary to result found by (Vukovic et al., 2024).

There is a negative relationship between leverage and FV (if Leverage increase by 1% ; firm value will decrease by 0.021%) . The increase of leverage has a negative impact on firm value. This result is similar to result found by (Valencia, 2025; Vukovic et al., 2024), (Bagh, Hunjra, & Corbet, 2025) but contrary to result found by (Thanh et al., 2024), (Bagh, Hunjra & Corbet, 2025).

There is a positive relationship between capital and firm value (if capital increase by 1% ; firm value will increase by 0.049%). This result is similar to result found by (Jagirani et al., 2023)

There is a positive relationship between CR and firm value (if CR increase by 1% ; the firm value will increase by 0.023%) . The increase of current ratio has a positive impact on firm value.

There is a positive relationship between size and firm value ( if size increase by 1% ; the firm value will increase by 0.28%). The increase of size has a positive impact on firm value. This result is similar to result found by (Vukovic et al., 2024) , (Bagh, Hunjra, & Corbet, 2025; Thanh et al., 2024; Chia, 2024) but contrary to result found by (Valencia, 2025; Vinh et al., 2023; Jagirani et al., 2023).

The size of observed European companies impact tripotential to attain stability; better access to financial market ; and lower transaction expenses compared to small and starting European business (Vukovic et al., 2024).

Additionally economies of scale are a major benefit of large European companies; which is subsequently reflected in raised income .Generally, large European companies are significant market actions that have better market knowledge; achieve better conditions with customers and suppliers due to the turnover they perform; hire the best managers; and are able to create more tax savings.

There is a negative relationship between ALA and firm value (if ALA increase by 1%; firm value will decrease by 0.015%).

The increase of asset liquid has a negative impact on firm value. This result is similar to result found by (Vukovic et al., 2024) but contrary to result found by (Chia, 2024)

There is a negative relationship between CEA and firm value (if CEA increase by 1%; firm value will decrease by 0.056%). The increase of operating costs has a negative impact on firm value.

There is a positive relationship between IND and firm value (if IND increase by 1%, firm value will increase by 0.092%). The increase of board independence has a positive impact on firm value. This result is similar to result found by (Jagirani et al., 2023; Chia, 2024)

The presence of independent directors brings fairness to decision making which could help enhance firm value. When a firm makes decisions to maximize shareholders wealth; the role of independent directors become more important (Jagirani et al., 2023).

It is essential for the firm to include independent directors with relevant expertise during the formation of the corporate board to add value.

Therefore; independent directors have a positive association with firm value (Thenmozhi & Saidharan, 2020). Independent directors are chosen for their skills assets and expertise to bring transparency and fairness to the firm. Independent directors are usually not regular employers for a firm.

There is a negative relationship between SC and firm value (if SC increase by 1% ; firm value will decrease by 0.075% ) . The increase of board size has a negative impact on firm value. This result is contrary to result found by (Chia, 2024); Singh and al (2018)

There is a positive relationship between TPIB and firm value (if TPIB increase by 1%; firm value will increase by 0.035%) . The increase of economic growth has a positive impact on firm value .This result is contrary to result found by (Vukovic et al., 2024) but similar to result found by (Bagh, Hunjra & Corbet, 2025)

There is a negative relationship between TINF and firm value (if TINF increase by 1%; firm value will decrease by 0.014%). The increase of inflation has a negative impact on firm value. This result is contrary to result found by (Vukovic et al., 2024) but similar to result found by (Bagh, Hunjra & Corbet, 2025).

## CONCLUSION

Firm value, as defined, is an investor's. Assessment of a company's success, which is directly related to its share price. Stock. With high prices raise the firm's value and enhance the market confidence in the. Current performance as well as its future possibilities of the company. The value of a firm is directly related to the firm's financing, investment, and dividend decisions. Valuation also plays a critical role in corporate finance for financing decisions to raise funds for investment purposes. The pricing of IPOs are basically determined by the valuation process. High firm value is attributed to organizational financial performance as post operation information content, which acts as a signal to investors regarding future prospects. Financial performance serves as a signal to investors on firm ability to use its resources to generate more revenue and manages its assets, liabilities, and the financial interests of its stakeholders and stockholders. In this article we attempt to identify the factors affecting the firm value in Tunisian context. By applying a model of panel static over the period (2015-2024). We found that return on assets; leverage; size; liquidity; board independence and economic growth have a significant impact on firm value.

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