

THE IMPACT OF GOVERNANCE ON TUNISIAN BANK PERFORMANCE

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ABSTRACT

Corporate governance can be defined as a set of processes, regulations, and procedures that outline the direction and control of an organization. In the banking sector, banks have distinct governance needs given their critical role as financial intermediaries facilitating capital flows and enabling economic activity through lending and payment services. Also Bank financial performance is primarily evaluated through profitability, asset quality, and capital adequacy. This article studied the impact of governance on bank performance in Tunisian context . We used a sample of 11 quoted Tunisian banks over the period (2015...2024). By applying 3 models (panel static) we found that (board independence ; board size ; audit committee size) has significant impact on return on assets . Also (board independence ; audit committee size , gender diversity) has significant impact on return on equity and net interest margin.

Key words: Governance , bank ; panel ; ROA ; ROE ; board ; gender diversity , audit committee, performance.

JEL classification

1-Introduction

Corporate governance sum up the board directors ; senior management and stockholders collaborate . The board of directors is responsible for establishing the organization strategic direction to maximize shareholder value and long term achievement ; hence shareholders empower directors to build a corporate culture ; business goals ; and strategy (Almashhadain ; Almashhadain (2023).

Corporate governance is the system of rules, practices, and processes used to direct and control a company, balancing the interests of shareholders, management, customers, suppliers, and the community. It provides the framework for accountability, transparency, and ethical leadership, typically managed by a board of directors.

Corporate governance is essential for fostering transparency, accountability, and ethical decision-making, which builds trust with investors and supports long-term sustainable growth. By setting a framework for responsible management, it prevents fraud, minimizes risks, and aligns the interests of stakeholders, thereby securing essential capital

Also Financial performance refers to the ability of a company to generate profits and increase shareholder value over time. It is a measure of how well a company is managing its resources and achieving its financial goals.

In this article we aim to study the impact of governance on financial performance of banks in Tunisian context . We used a methodology of 3 sections . The first section is devoted to literature review ; then we make an empirical study . We finish by a conclusion .

2-Literature review

Ayadi and al (2011) studied 30 banks in France ; Belgium ; Germany and Finland for the period (2004...2009) and found that large board size and higher proportion of independent directors negatively impact bank performance ; while CEO chairman duality improved performance .

Mamatzakakis ; Bermpei (2015) studied 23 major US investment banks form (2000....2012) analyzing the impact of corporate governance factors on bank performance.

The findings showed that large boards negatively affect return on assets (ROA) and technical efficiency but had an insignificant impact on return on equity (ROE) . Independent directors had an insignificant positive impact on ROE but an insignificant negative effect on ROA and efficiency . The presence of the women on the board had an insignificant positive effect on all performance metrics .

Belhaj and Mateus (2016) studied 73 banks in 11 European countries during the period (2002...2011) and found that board size and gender diversity positively influence bank performance ; while board composition and CEO duality had no significant impact . Generally CEO chairman duality positively affect performance .

Also Hakim and al (2020) analyzed 115 UK banks for the period (2003...2012) showing that CEO chairman duality reduced risk but did not affect returns . Large board size and independent directors improved performance while state ownership had a negative impact.

Basar and al (2021) examined the relationship between the structure of corporate governance and performance in the banking sector . They used a sample of 33 listed banks in Turkey ; Tunisia ; Morocco .. Lebanon during the period between (2012...2017) . The results shows that the governance index (board leadership structure ; board member characteristics and board committee structure) impact positively return on assets .

Olowofeda and al (2025) investigated the relationship between corporate governance mechanisms and bank performance in the banking sector . They focused on data from (2012...2022) extended from the balance sheet of deposit money banks in Nigeria .

They employed the generalized method of moment (GMM) with stata 13 and Python .

The research underscores the positive influence of non executive directors and effective credit risk management on return on assets in the Nigerian banking sector.

Conversely large board size and high level of independence negatively impact bank performance.

Alemu and al (2025) investigated the effect of corporate governance studure on the financial performance of private commercial banks in Ethiopia . For this purpose panel data from(2014....2023) with the dynamic GMM estimation were used .

The empirical results reveal that corporate governance (larger board size and gender composition) along with growth of bank size ; capitalization ratio and reserve ratio has improved the financial performance of private commercial banks in Ethiopia .

Al Sagr and al(2018) investigated the effect of corporate governance mechanisms on bank performance using a sample of 9 Saudi banks during the period (2011....2016) . The study employed 6 corporate governance mechanisms to examine the effect on 2 performance measures (ROA ; ROE) .

Using panel data regression , the results indicated that board independence and the ownership of the largest 3 shareholders were the only corporate governance mechanisms that have a negative and significant effect on ROA .

Board independence and the ownership of the largest 3 shareholders had a negative and negative effect on ROE .

Missaoui and Raissi (2020) tried to assess the impact of board characteristics on Tunisian bank performance . The empirical study is based on a sample of 10 commercial banks during the period (2008...2017) . Firstly we proceed to estimate the impact of board characteristics on bank performance measured by return on assets and return on equity . The results indicated that board characteristics have a positive effect on bank profitability .

Amrani and al (2022) investigated the relationship between governance structure and bank performance in normal and crisis times . Using statistical learning algorithms on R ; they examined the impact of governance on profitability for 76 banks over 17 countries for the period (2007...2019) . The findings show that the duality between CEO and Chair has a negative and significant impact on bank performance during the full study period .

Board size and gender diversity within the board diversity have no influence on bank performance but in crisis time ; a women CEO has a positive and significant impact on bank performance .

Hassan and al (2024) assessed the influence of bank corporate governance attributes ; including risk governance ; board governance ; disclosure and transparency governance ; together within banking restructuring on bank performance within the context of Asian Emerging market form 211 to 2015 following the 2007 financial crisis .

They used a sample of 109 banks totaling 545 observations across 8 countries via panel data analysis techniques . Board governance and disclosure and transparency governance made substantial contributions to improving bank's performance .

So and Liao (2024) used a sample of 67 selected banks from 4 well known developing countries normally Brazil ; Russia ; India ; China over 9 years (2011....2019).

The results reveal that the proportion of female directors on a board positively affects the profitability of BRIC banks while the presence of foreign owners can enhance the liquidity of banks .

Sahraoui and Alfadli (2024) studied the impact of corporate governance on bank performance in gulf cooperation council countries (GCC) . They used a sample of 24 commercial banks during the period (2010...2021) . The results concluded that there is a significant positive impact of board size , board independence on ROA ; ROE and a significant negative impact of EXC (executive members on the board) NBM (number of board meeting) on ROA ; ROE .

Elimat an al (2024) used a sample of 12 commercial banks in Jordan during the period (2005...2022) . The results show that board of direction size and independent member of the board of directors had an impact on earning per share .

Utaim and Sadryono (2026) examined the correlation between sound corporate governance and financial performance within rural banking institutions in Indonesia . The study findings demonstrate that the inclusion of female directors significantly enhance ROA . The directors diversely impact both ROA and ROE . Further more the board of commissioners and independent commissioners have no impact on ROA .

Kim (2024) investigated the effect of corporate governance on the performance of commercial banks in Vietnam . By using the qualitative method (PLS -SEM data analysis using smart PLS) , the findings confirm the direct effect of corporate governance on corporate social responsibility .

Ayad and al (2025) investigated the impact of governance on bank performance in listed banks of MENA countries . This research analyses 1920 bank year observations from 124 banks across 13 MENA countries from (2009...2023). Empirical results reveal that large banks well structured committees with non executive directors ; fewer board meetings and limited involving of independent directors significantly enhance bank performance .

Yafuz and al (2025) investigated the determinants of board governance in Turkey for the period (2010...2020) . They found a positive and statistically relationship between board size and return on assets .

Corporate governance metrics include shareholder concentration ; board meetings ; chief executive officer (CEO) duality or separation ; board committees (audit ; composition ; and nomination) and board composition (size ; internal and outside directors) (Alemu ; Worku(2025)).

Also the board of directors serves as a form of internal control for the stakeholders ; and its financial access may be affected by board membership and quality ; board size ; board diversity ; and board committee effectiveness ; such as audit committees and information asymmetries (Ashfaq ; Rui (2019)).

3-Empirical study

A-Sample

We used a sample of 11 banks quoted in Tunisian stock exchange for the period (2015...2024)

B-Specification of variables

We choose a panel static because Static panel data analysis, which studies fixed subjects over time, offers superior control over individual heterogeneity, higher statistical power, and reduced collinearity between variables compared to cross-sectional data. It is ideal for tracking longitudinal changes in individuals, such as income or behavior, while accounting for unobservable, constant factors

Model 1

$$ROA_{i,t} = b_0 + b_1 CE_{i,t} + b_2 Tdeposit_{i,t} + b_3 TLA_{i,t} + b_4 CAPI_{i,t} + b_5 ALA_{i,t} + b_6 CD_{i,t} + b_7 IND_{i,t} + b_8 BS_{i,t} + b_9 GDI_{i,t} + b_{10} OW_{i,t} + b_{11} SC_{i,t} + b_{12} TPIB_{i,t} + b_{13} TPIB_{i,t} + E_{i,t}$$

Model 2

$$ROE_{i,t} = b_0 + b_1 CE_{i,t} + b_2 Tdeposit_{i,t} + b_3 TLA_{i,t} + b_4 CAPI_{i,t} + b_5 ALA_{i,t} + b_6 CD_{i,t} + b_7 IND_{i,t} + b_8 BS_{i,t} + b_9 GDI_{i,t} + b_{10} OW_{i,t} + b_{11} SC_{i,t} + b_{12} TPIB_{i,t} + b_{13} TINFi_{i,t}$$

Model 3

$$NIM_{i,t} = b_0 + b_1 CE_{i,t} + b_2 Tdeposit_{i,t} + b_3 TLA_{i,t} + b_4 CAPI_{i,t} + b_5 ALA_{i,t} + b_6 CD_{i,t} + b_7 TNDi_{i,t} + b_8 BS_{i,t} + b_9 GDI_{i,t} + b_{10} OW_{i,t} + b_{11} SC_{i,t} + b_{12} TPIB_{i,t} + b_{13} TINFi_{i,t}$$

ROA = return on assets = net profit / total assets

ROE = return on equity = net profit / total equity

NIM = net interest margin = Net margin / total assets

CEA= costs of exploitation / total assets

Tdeposit = total deposit / total assets

TLA = total credits / total assets

CD = total credits / total deposits

ALA = assets liquid /total assets

BS = size of board administration = number of directors on the firm board (Mathew and al (2017) ; Ghosh and Ansari (2018)

IND= independence of board administration

OW = ownership structure = 1 if bank is public ; 0 otherwise

SC = size of audit committee

GD = gender diversity in board administration = percentage of women in board administration (Mathew and al (2017) ; Gosh and Ansari (2018))

PIB = economic growth

Inf= inflation

i= bank ; t= time

b0.....b13: parameters to be estimated

Eit = error

We used the following hypothesis :

H1: Board size affect positively the performance of bank

H2: Independence of board affect positively the performance of bank

H3: Gender diversity of board affect positively the performance of bank

H4: Ownership structure affect negatively the performance of bank

H5: The size of audit committee affect negatively the performance of bank

C-Analysis of descriptive statistics

	Number of observations	Mean	Standard deviation	Minimum	Maximum
ROA	110	0.157	1.152	0.084	0.236
ROE	110	0.648	0.846	0.531	0.76
NIM	110	0.149	1.273	0.074	0.213
CEA	110	0.086	0.893	0.046	0.0139
Tdeposit	110	0.74	0.942	0.861	0.523
TLA	110	0.89	0.015	0.842	0.943
CAP	110	0.43	0.72	0.309	0.561
CD	110	1.254	0.018	1.192	1.381
ALA	110	0.17	0.024	0.105	0.249
IND	110	7	2.56	5	9
BS	110	8	3.27	6	10
SC	110	4	0.52	8	10
OW	110	0.64	1.58	0.521	0.746
GD	110	0.35	1.46	0.215	0.493
TPIB	110	0.053	2.146	0.042	0.071
TINF	110	0.074	1.536	0.063	0.081

-ROA (mean = 0.157) . The net profit represent 15.7% of total assets an average . The standard deviation is high . There is a big difference between banks in term of ROA

-ROE (mean = 0.648) . The net result represent an average 64.8% of total assets . The standard deviation is not high . There is not big difference between banks in term of ROE

-NIM (mean = 0.149) . The net interest income represent an average of 14.9% of total assets . The standard deviation is high . There is a big difference between banks in term of NIM

-CEA (mean = 0.086) . The cost of exploitation represent an average 8.6% of total assets . The standard deviation is not high . There is not big difference between banks in term of CEA

-T deposit (mean = 0.74) . The total deposit represent an average 74% of total assets . The standard deviation is not high . There is not big difference between banks in term of Tdespoit

-TLA (mean = 0.89) . The total credit represent an average 89% of total assets . The standard deviation is not high . There is not big difference between banks in term of TLA .

-CAP (mean =0.43) . The total capital represent an average 43% of total assets . The standard deviation is not high . There is not big difference between banks in term of CAP

-CD (mean =1.254) . The total credits represent an average 1.254 of total deposits . The standard deviation is not high . There is not big difference between banks in term of CD

-ALA (mean = 0.17) . The asset liquid represent an average 17% of total assets . The standard deviation is not high . There is not big difference between banks in term of ALA

-IND (mean = 7) . The number of independent members represent 7 an average . The standard deviation is high . There is big difference between banks in term of IND

-BS (mean =8) . The size of board represent 8 an average . The standard deviation is high . There is big difference between banks in term of BS

-SC (mean =4) .The size of audit committee represent 4 an average . The standard deviation is not high . There is no big difference between banks in term of SC

-OW (mean =0.64) . The ownership structure represent an average 64% . The standard deviation is not high . There is no big difference between banks in term of OW

-GD (mean =0.35) . The femal members represent an average 35% of total members of board in banks . The standard deviation is not high . There is no big difference between banks in term of GD

-TPIB (mean =0.053) . The economic growth represent 5.3% an average in the period (2015...2024) in Tunisia . The standard deviation is high . There is big difference between years in term of economic growth

-TINF (mean = 0.074) . The inflation rate represent an average 7.4% in the period (2015...2024) in Tunisia . The standard deviation is not high . There is no big difference between years in term of inflation

D-Multicollinearity test

Table 2 : correlation between variables

	ROA	CEA	Tdeposit	TLA	CD	ALA	CAP	IND	BS
ROA	1.000								
CEA	0.142	1.000							
Tdeposit	0.235	0.135	1.000						
TLA	0.326	0.178	0.183	1.000					
CD	0.114	0.125	0.136	0.149	1.000				
ALA	0.125	0.136	0.145	0.153	0.234	1.000			
CAP	0.076	0.081	0.094	0.1061	0.127	0.1451	1.000		
IND	0.084	0.092	0.105	0.124	0.154	0.1652	0.1953	1.000	
BS	0.25	0.28	0.33	0.361	0.381	0.43	0.471	0.52	1.000

Table 3: suite of correlation between variables

	SC	OW	GD	TPIB	TINF
ROA	0.176	0.283	0.934	0.417	0.516
SC	1.000				
OW	0.156	1.000			
GD	0.253	0.017	1.000		
TPIB	0.274	0.023		1.000	
TINF	0.324	0.027	0.029	0.045	1.000

Table 4: suite of correlation between variables

	SC	OW	GD	TPIB	TINF
CEA	0.153	0.184	0.194	0.017	0.025
Tdeposit	0.172	0.23	0.261	0.023	0.034
TLA	0.194	0.261	0.284	0.045	0.048
CD	0.234	0.283	0.391	0.114	0.051
ALA	0.256	0.33	0.456	0.125	0.063
CAP	0.281	0.42	0.487	0.136	0.074
IND	0.325	0.53	0.561	0.157	0.092

Table5 : Suite of correlation between variables

	ROE	CEA	Tdeposit	TLA	CD	ALA	CAP	IND	BS
ROE	1.000	0.183	0.281	0.341	0.39	0.015	0.027	0.035	0.046
NIM	0.157	0.264	0.332	0.356	0.45	0.023	0.033	0.042	0.051

Table 6: Suite of correlation between variables

	SC	OW	GD	TPIB	TINF
ROE	0.23	0.29	0.35	0.0114	0.017
NIM	0.24	0.32	0.38	0.0126	0.0129

Test VIF

	VIF	1/VIF
ROA	1.86	0.53
ROE	2.25	0.44
NIM	2.85	0.35
CEA	3.05	0.32
Tdeposit	3.25	0.30
TLA	0.85	1.17
CD	0.76	1.31
ALA	2.15	0.46
CAP	2.53	0.39
IND	1.46	0.68
BS	1.38	0.72
SC	2.14	0.46
OW	2.27	0.44
GD	3.08	0.32
TPIB	3.28	0.3048
TINF	2.46	0.4065

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

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 correlated¹

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.

There is no problem of multicollinearity

E-Hausman test

The Hausman test is defined as a statistical method used to determine the appropriate choice between fixed effects and random effects models in panel data analysis by assessing the consistency of estimators under different hypotheses regarding the correlation between regressors and individual effects. A significant Hausman statistic indicates that the fixed effects model is preferred, while a small statistic suggests the random effects model is more suitable.

Key Aspects of the Hausman Test:

- **Purpose:** In panel data, it tests if the individual effects are correlated with the regressors.
- **Decision Rule:**
- The Hausman test determines whether to use Fixed Effects (FE) or Random Effects (RE) in panel data by checking for correlation between predictors and individual effects. A small p-value (< 0.05) suggests rejecting the null hypothesis, favoring Fixed Effects. A large p-value (> 0.05) suggests Random Effects is more appropriate and efficient.
- Pv model 1 (0.063) random effect
- Pv model 2 (0.074) Random effect
- Pv model 3 (0.035) Fixed effect

F-Estimation and interpretations of models

Estimation and interpretations of model 1

Model 1

ROA	Coefficient	T statistic	Pv
CEA	-0.015	2.23*	0.047
Tdeposit	0.234	2.54**	0.016
TLA	0.017	2.63***	0.018
CD	0.038	1.53	0.61
ALA	0.042	2.07**	0.014
CAP	-0.014	1.52	0.82
IND	0.029	2.73***	0.012
BS	-0.017	2.14**	0.046
SC	0.035	3.06***	0.0105
OW	0.052	1.56	0.71
GD	0.019	1.84	0.74
TPIB	0.236	2.23**	0.047
TINF	-0.341	1.76	0.73

- (*)significant at 10%
- (**)significant at 5%
- (***)significant at 1%

-There is negative relationship between ROA and CEA (if CEA increase by 1% , ROA decrease by 1.5%) . The increase of costs has a negative impact on return on assets .This relationship is statistically significant at 10%.higher operating expenses—such as administrative fees, staff salaries, and legacy system costs—depress net income, thereby lowering ROA since the metric measures how efficiently a bank generates net income from its total asset base.

-There is positive relationship between ROA and Tdeposit (if Tdeposit increase by 1% ; ROA will increase by 0.234%) . The increase of deposits has a positive impact on return on assets . This relationship is statistically significant at 5%.Bank deposits are the primary source of funding, directly impacting Return on Assets (ROA). They serve as the raw material for profitable lending but carry interest costs. An optimal balance maximizes net interest income and ROA, whereas excess deposits left idle or under-loaned create a drag on profitability.

-There is positive relationship between TLA and ROA (if TLA increase by 1% ; ROA will increase by 0.017%) . The increase of credits has a positive impact on return on assets . This relationship is statistically significant at 1% . Total credits have a non-linear (inverted U-shaped) impact on a bank's Return on Assets (ROA). Expanding lending initially boosts interest income and ROA, but excessive credit growth eventually strains capital and increases defaults, driving up provisioning costs and ultimately reducing the bank's profitability.

The impact of a bank's total credit portfolio on its ROA unfolds in three distinct stages:

1. The Expansion Phase (Positive Impact)

Interest Income: Issuing loans is the primary revenue-generating activity for a bank. Expanding the total volume of performing credits generally increases the Net Interest Margin (NIM) and elevates ROA.

Asset Utilization: Higher credit volume ensures that the bank's available deposits and equity are effectively utilized rather than sitting idle as cash reserves.

2. The Saturation Phase (Diminishing Returns)

Risk/Return Trade-Off: As banks aggressively pursue lending targets, they may lower their underwriting standards to capture market share. This can bring in higher-risk borrowers, resulting in lower overall asset quality.

Capital Constraints: Expanding total credits inflates the denominator of the ROA formula (Average Assets). If the resulting net income does not grow proportionally, the ROA ratio will compress.

3. The Crisis Phase (Negative Impact)

Non-Performing Loans (NPLs): High aggregate credits frequently correlate with a spike in bad debts. Research shows that rising NPL ratios have a direct, statistically significant negative impact on bank ROA.

Loan Loss Provisioning: When credits turn sour, banks must set aside heavy Expected Credit Loss (ECL) provisions. These non-cash deductions directly erode the bank's net profit, causing ROA to drop.

-There is positive relationship between CD and ROA (if CD increase by 1% ; ROA will increase by 0.038%) . The increase of credit by deposits has a positive impact on return on assets . This relationship is not statistically significant .

-There is positive relationship between ALA and ROA (if ALA increase by 1% ; ROA will increase by 0.042%) . The increase of asset liquids has a positive impact on return on assets . This relationship is statistically significant at 5%

Asset liquidity exhibits an inverted U-shaped relationship with a bank's Return on Assets (ROA). Initial increases in liquid assets boost ROA by securing daily operations and preventing costly fire sales. However, excessive liquid assets drag down ROA because cash and government bonds yield lower returns than loans

The impact of asset liquidity on bank ROA operates through three main mechanisms: [1]

- **Safety and Stability (Upward Trend):** Holding sufficient liquid assets minimizes liquidity risk, allowing banks to meet sudden withdrawal demands and reducing the reliance on high-interest emergency borrowing, which protects the bottom line.
- **Opportunity Cost (Downward Trend):** Liquid assets generate lower returns. Once a bank holds enough liquidity to satisfy regulatory requirements (like the Liquidity Coverage Ratio) and operational needs, holding extra idle cash reduces
 - profitability.

□ **Asset Allocation:** Banks with poor lending opportunities naturally hold higher liquid assets, which skews balance sheets toward low-yield investments. Efficient liquidity management—balancing safety with high-yield lending—is critical to maximizing ROA.

-There is negative relationship between CAP and ROA (if CAP increase by 1% ; ROA will decrease by 0.014%) . The increase of capital has a negative impact on return on assets .This relationship is not statistically significant .

Higher bank capital generally has a mixed but heavily nuanced impact on Return on Assets (ROA). While well-capitalized banks reduce expected bankruptcy costs and act as buffers during financial shocks, holding excess equity can dilute overall ROA

The effect of capital on ROA depends largely on the balance between risk mitigation, regulation, and asset efficiency:

- **Safety and Resilience:** Higher capital and capital adequacy ratios reduce a bank's cost of funding and lower bankruptcy risk, which can lead to higher long-term profitability and shield institutions from severe economic shocks.
- **The Over-Capitalization Penalty:** Because ROA measures asset efficiency rather than shareholder returns (unlike Return on Equity or ROE), carrying large amounts of low-yielding equity limits a bank's leverage multiplier. Consequently, excess capital reserves beyond regulatory minimums often result in a decline in ROA.
- **Bank Size and Market Context:** The relationship varies significantly by institution scale. For small-sized banks, adequate capital often boosts ROA by allowing for safer lending growth. For large-sized banks, regulatory burdens and excess buffers may weigh negatively on ROA.
- **Quality of Capital:** Studies show that high-quality, regulatory-approved capital ratios are robustly associated with profitable operations, whereas basic accounting total equity often shows no meaningful impact on ROA.

-There is positive relationship between IND and ROA (if IND increase by 1% ; ROA will increase by 0.029%) . The increase of independent members in board has a positive impact on return on asset of bank . This relationship is significant at 1%. This result is similar to result found by Abid and al (2025) but contrary to result found by Olowofeda and al (2025) , Al Sagr and al(2018), Missaoui and Raissi (2020)

- Having a large number of independent directors on a company board may mitigate the entrenchment tendency caused by increasing management ownership (Sani (2020)

There is negative relationship between BS and ROA (if BS increase by 1% , ROA will decrease by 0.017%) . The increase of board size has a negative impact on return on assets . This relationship is significant at 5%. This relationship is similar to result found by Olowofeda and al (2025), Missaoui and Raissi (2020) but contrary to result found by Basar and al (2021), Al Sagr and al (2018), Abid and al (2025)

Board size favorably impact financial success ; but due to agency issues ; board size was entrenched to include diverse skills and interest groups .

-There is positive relationship between SC and ROA (if SC increase by 1% ; ROA will increase by 0.035%) . The increase of size committee of audit has a positive impact on return on assets . This relationship is statistically significant at 1%.

-There is positive relationship between OW and ROA (if OW increase by 1% ; ROA will increase by 0.052%). The increase of ownership has a positive impact on return on assets.

Ownership structure shapes bank Return on Assets (ROA) by altering agency costs and risk-taking incentives. Concentrated ownership often improves monitoring, though excessive power can lead to minority expropriation. Foreign ownership typically boosts efficiency, whereas state-owned banks often prioritize policy goals, leading to lower profitability.

The exact impact on ROA varies based on ownership type and governance dynamics:

- **Ownership Concentration:** The relationship often follows a U-curve. Moderate concentration lowers agency costs, but dominant shareholders may take on excessive risks using depositor money, which negatively impacts long-term ROA
- **Foreign Ownership:** Foreign entities generally introduce advanced banking technologies and better risk-management systems, which can positively influence the Financial Performance of Listed Commercial Banks in Nigeria. However, local adaptation hurdles sometimes result in mixed ROA outcomes.
- **State Ownership:** Banks with majority government shareholding routinely exhibit lower ROAs. These institutions are frequently mandated to lend based on socio-political objectives rather than strict creditworthiness, which can inflate non-performing loans.
- **Managerial and Institutional Ownership:** Aligned interests through managerial equity can reduce agency problems and positively affect ROA. Institutional investors typically provide robust oversight, though their focus on short-term profits may conflict with long-term bank stability.

-There is positive relationship between GD and ROA (if GD increase by 1% ; ROA will increase by 0.019%) . The increase of gender diversity has a positive impact on return on assets. The increase of proportion of women in board has a positive impact on return on assets . This result is similar to result found by Basar and al (2021) ; Olowofeda and al (2025)

The exact impact of female board representation on bank profitability (ROA) hinges on several dynamic factors:

- **Positive Impact:** Many studies align with agency and resource dependency theories, showing that having women on boards increases ROA. Female directors are often found to possess unique leadership abilities and diverse financial and geographical experience, and they generally promote tighter risk supervision and better asset quality. For example, research on European banks revealed that female directors improved profitability, particularly by enhancing oversight during economic uncertainties.
- **Negative Impact:** Conversely, some localized studies (such as in Bangladesh) suggest a negative association with ROA. This is often attributed to the challenges female directors face in navigating historically male-dominated sectors, potential limits on decision-making authority, or a lack of industry-specific experience.
- **Insignificant Impact:** A number of studies find that gender diversity does not significantly alter ROA at all. Some researchers argue that the financial benefits of representation depend on the structural support for diversity rather than the mere presence of female directors.

-There is positive relationship between TPIB and ROA (if TPIB increase by 1% ; ROA will increase by 0.236%) . The increase of economic growth has a positive impact on return on assets . This relationship is significant at 5%.

Economic growth (often measured by GDP) has a predominantly **positive impact** on the Return on Assets (ROA) of banks. During expansions, rising incomes and corporate activity boost loan demand and lower default rates, directly increasing interest income and overall bank profitability

- **Increased Credit Demand:** As the economy grows, businesses and consumers borrow more for expansion and consumption. This increases interest income. [1]
- **Improved Asset Quality:** Economic prosperity leads to higher repayment capacities, which decreases Non-Performing Loans (NPLs) and reduces the need for heavy loan-loss provisions. [1, 2, 3, 4, 5]
- **Higher Non-Interest Income:** Economic expansion correlates with increased wealth and transaction volumes, which lifts fee-based income (e.g., credit card usage, investment banking, and trade finance)

-There is negative relationship between TINF and ROA (if TINF increase by 1% ; ROA will decrease by 0.341%) . The increase of inflation has a negative impact on return on assets . This result is contrary to result found by Olowofeda and al (2025)

Inflation impacts a bank's Return on Assets (ROA) through a tug-of-war between rising margins and escalating expenses. While inflation can temporarily boost net interest income as rates rise, it often reduces ROA overall because operating costs (wages, rent) and borrower defaults increase at a faster rate.

- **Asset Repricing vs. Funding Costs:** During inflation, central banks typically raise benchmark interest rates, which can increase the interest income a bank earns on variable-rate loans. However, banks must also pay higher interest on deposits, which can compress the Net Interest Margin (NIM) if deposit rates rise faster than loan yields
- **Increased Operating Expenses:** Inflation drives up the internal costs of running the bank. Expenses such as employee wages, technology, and real estate rents increase. Because ROA is calculated as $\frac{\text{Net Income}}{\text{Total Assets}}$, rising expenses directly lower the numerator, thereby dragging down the ROA.

- **Deteriorating Asset Quality:** High inflation reduces the purchasing power and repayment capacity of borrowers. This typically leads to a rise in Non-Performing Loans (NPLs) and higher provisioning for loan losses, which directly impairs profitability. [
- **Loan Demand:** Elevated interest rates often cool the demand for new credit, which limits the bank's ability to grow its interest-earning assets, further restricting revenue. [1]

Estimation and interpretations of model 2

ROE	Coefficient	Tstat	Pv
CEA	-0.87	0.45	1.35
Tdeposit	1.25	3.23***	0.012
TLA	1.37	3.15***	0.014
CAP	0.64	0.45**	1.25
CD	-0.015	0.36	1.38
ALA	0.018	2.45**	0.049
IND	2.35	3.15***	0.015
BS	-1.45	0.17	1.68
SC	1.27	2.34**	0.046
OW	0.64	0.23	1.74
GD	0.36	2.38**	0.048
TPIB	0.017	2.14*	0.0105
TINF	-0.024	0.37	1.83

(*) significant at 10%

(**) significant at 5%

(***) significant at 1%

- There is negative relationship between ROE and CEA (if CEA increase by 1% ; ROE will decrease by 0.87%) . The increase of cost of exploitation has a negative impact on return on equity . Operating costs have an inverse relationship with a bank's Return on Equity (ROE). Higher non-interest expenses—such as branch operations, staffing, and IT infrastructure—directly erode net income, reducing the numerator in the ROE calculation. This dependency is typically measured via the cost-to-income ratio (CIR).
- There is positive relationship between ROE and T deposit (if Tdeposit increase by 1% , ROE will increase by 1.25%) . The increase of deposit has a positive impact on return on equity .This relationship is significant at 1%.

Deposits primarily impact a bank's Return on Equity (ROE) through the Cost of Funds (COF) and Net Interest Margin (NIM). A higher proportion of non-interest-bearing deposits (like checking accounts) lowers funding costs, increasing net income and ROE. Conversely, relying on high-yield term or savings deposits increases expenses, reducing ROE.

The impact of deposits on ROE can be broken down into three critical areas:

1. Cost of Deposits

The interest paid to depositors is a bank's largest operating expense.

- **Low-cost Deposits:** Accounts like Demand Deposit Accounts (DDAs) and savings accounts provide cheap capital. When a bank grows these, net interest income rises, pushing ROE higher.
- **High-cost Deposits:** Term deposits (CDs) and time deposits pay higher interest rates. While they offer stable liquidity, they erode profit margins and suppress ROE.

2. Loan-to-Deposit (LTD) Ratio

Bank profitability is heavily dependent on transforming deposits into interest-earning assets (loans). [1, 2]

- A balanced LTD ratio ensures that deposit inflows are efficiently deployed into profitable loans, maximizing ROE.
- If deposits grow faster than loan demand, the bank holds excess cash in low-yielding reserves, which dilutes ROE.

3. Capital Structure & Leverage

Return on Equity is calculated as:

$$\text{ROE} = \frac{\text{Net Income}}{\text{Total Shareholders' Equity}}$$

Deposits function as liabilities, forming the base of the bank's leverage. Growing deposits allows a bank to scale its asset base without issuing new equity. This financial leverage magnifies ROE; however, banks must maintain strict **Capital Adequacy Ratios (CAR)** regulated by central banks to ensure they remain solvent during unexpected withdrawal shocks.

- There is positive relationship between TLA and ROE (if TLA increase by 1% ; ROE will increase by 1.37%) . The increase of credits has a positive impact on return one equity
 - There is positive relationship between CAP and ROE (if CAP increase by 1% , ROE will increase by 0.64%) . The increase of capital has a positive impact on return one quity .This relationship is significant at 5%
 - There is negative relationship between CD and ROE (if CD increase by 1% ; ROE will decrease by 0.015%) . The increase of credits to deposit has a negative impact on return on equity .
- A higher loan to deposit ratio may indicate that financial institutions have a greater need for funding ; potentially leading to increased competition to attract deposits by offering high interest rates or innovative deposit products (Mwangi and Muturi (2015)).
- There is positive relationship between ALA and ROE (if ALA increase by 1% ; ROE will increase by 0.018%) . The increase of asset liquid has a positive impact on return on equity .
 - There is positive relationship between IND and ROE (if IND increase by 1% ; ROE will increase by 2.35%) . The increase of board independence has a positive impact on return on equity . This relationship is statistically significant at 1%. This result is contrary to result found by Missaoui and Raissi (2020)
 - There is negative relationship between BS and ROE (if BS increase by 1% ; ROE will decrease by 1.45%) . The increase of board size has a negative impact on return on equity . This relationship is not significant . This result is contrary to result found by Olowofeda and al(2025), Missaoui and Raissi (2020) but similar to result found by Alemu and worku (2025), Al Sagr and al (2018)
 - There is positive relationship between SC and ROE (if SC increase by 1% ; ROE will increase by 1.27%) .The increase of committee audit size has a positive impact on return on equity. The size and effectiveness of the audit committee could be an indictor of transparency and develops confidence in the organization (Watts and Zimmerman (1986))).
- Audit committee paly a significant role in the oversight of company risk management (Ertugru and Hedge (2009)).Keyereboah -Coleman (2008) indicated that size of audit committee has positive effect on performance .
- There is positive relationship between OW and ROE (if OW increase by 1% ; ROE will increase by 0.64%) . The increase of ownership has a positive impact on return on equity.

- There is positive relationship between GD and ROE (if GD increase by 1% ; ROE will increase by 0.36%) . The increase of gender diversity has positive impact on return on equity of bank . The increase of women percentage in board has positive impact on return on equity of bank .This relationship is significant at 5%. This result is similar to result found by Olowofeda and al (2025))
- Board gender diversity improves ROE across time ; peers and banks (Muturi ; Oluoch (2020)). Also it confirmed that the female board of directors has a positive contribution to banking profitability (Sireesha (2020)).
- Moreover banks with female CEO are more profitable and stable than those with male CEOs . Having more women on the board of directors does not always lead to higher profitability or stability (Hoang and al (2021))
- Latin American banks with more female executives are riskier and more lucrative than banks managed by men (Basela Pascual ; Vahamaa (2021)).
- There is positive relationship between TPIB and ROE (if TPIB increase by 1% ROE will increase by 1.7%) . The increase of economic growth has positive impact on return on equity . This relationship is significant at 5%
- There is negative relationship between TINF and ROE (if TINF increase by 1% ; ROE will decrease by 0.024%) . The increase of inflation has negative impact on return on equity.

Estimations and interpretations of model 3

NIM	Coefficient	T stat	Pv
CEA	-0.93	0.27	1.42
Tdeposit	1.45	3.35***	0.0106
TLA	1.68	3.42***	0.012
CAP	-0.73	0.48**	1.36
CD	0.017	0.39	1.46
ALA	-0.016	2.49**	0.048
IND	2.45	3.85***	0.016
BS	-1.85	0.29	1.69
SC	1.36	2.31**	0.045
OW	0.72	0.27	1.73
GD	0.41	2.41**	0.049
TPIB	0.023	2.17*	0.0108
TINF	-0.018	0.26	1.92

- There is negative relationship between NIM and CEA (if CEA increase by 1% ; NIM will decrease by 0.93%) . The increase of cost of exploitation has a negative impact on net interest margin
- There is positive relationship between NIM and T deposit (if Tdeposit increase by 1% , NIM will increase by 1.45%) . The increase of deposits has a positive impact on net interest margin of bank . This relationship is statistically significant at 1% .
- There is positive relationship between NIM and TLA (if TLA increase by 1% , NIM will increase by 1.68%) . The increase of credits has a positive impact on net interest margin . This relationship is statistically significant at 1% .
- There is negative relationship between NIM and CAP (if CAP increase by 1% ; NIM will decrease by 0.73%) . The increase of capital has negative impact on net interest margin . This relationship is statistically significant at 5%.

- There is positive relationship between NIM and CD (if CD increase by 1% ; NIM will increase by 0.017%) . The increase of credits to deposits has positive impact on net interest margin.
- There is negative relationship between ALA and NIM (if ALA increase by 1% ; NIM will decrease by 0.016%) . The increase of asset liquid has negative impact on net interest margin .
- There is positive relationship between NIM and IND (if IND increase by 1% ; NIM will increase by 2.45%). The increase of board independence has positive impact on net interest margin . This relationship is statistically significant at 1%

Board independence generally improves bank governance,, but its impact on net interest margin (NIM) is nuanced. Independent boards enhance monitoring, mitigating risks and potential conflicts of interest, which can stabilize or optimize earnings. While some studies show independent boards have a positive impact on NIM, particularly in large banks, other research suggests that changes in board independence can have a negative effect on financial performance or effectiveness.

Key Connections Between Board Independence and NIM

- **Monitoring and Control:** Independent directors are crucial for monitoring executive decisions on lending and risk-taking, which directly influence NIM.
- **Scale-Dependent Impact:** Research indicates that the impact of independent directors on NIM is not uniform; they tend to have a positive impact on the NIM of large-scale banks, while in small-scale banks, their influence may be different, sometimes impacting market value rather than NIM directly.
- **Performance Impact:** A change in board independence can sometimes have a significant, albeit sometimes complex or negative, effect on bank performance, as seen in studies examining the role of independent directors.
- **Operational Focus:** Independent boards, as part of stronger corporate governance, often focus on optimizing the spread between interest earned on loans and paid on deposits (the definition of NIM)

- There is negative relationship between NIM and BS (if BS increase by 1 % ; NIM will decrease by 1.85%) . The increase of board size has negative impact on net interest margin of bank
- There is positive relationship between NIM and SC (if SC increase by 1% ; NIM will increase by 1.36%) . The increase of size of audit committee has positive impact on net interest margin of bank . This relationship is statistically significant at 5%.

The favorable impact of audit committee on bank performance lies in the agency theory, resources theory, and legitimacy theory. The audit committee tackles agency problems, guarantees the precision of financial statements, fosters ethical practices, and enhances social trust in banking institutions (agency theory), which contribute to bank performance. The inclusion of specialists and independent board members in the audit committee provides a significant benefit to banks (resource dependence theory). Independent directors and finance professionals are better equipped to keep an eye on financial reporting, enhancing fairness and transparency, which can lead to improved bank performance. An efficient audit committee aids banks in fostering reporting transparency, which helps them match their operations with social norms and values (legitimacy theory). Overall, an effective audit committee plays a crucial role by diligently overseeing the financial reporting process, leveraging diverse resources, and guiding management, all of which contribute to the

- monitoring and enhancement of bank's financial performance .(Kundu and Kishor (2025)).
- There is positive relationship between OW and NIM (if OW increase by 1% ; OW will increase by 0.72%) . The increase of state ownership has positive impact on net interest margin . This relationship is not statistically significant .
 - There is positive relationship between GD and NIM (if GD increase by 1% , NIM will increase by 0.41%) . The increase of gender diversity has positive impact on net interest margin . The increase of percentage of women in board administration has positive impact on net interest margin of bank .
 - There is positive relationship between TPIB and NIM (if TPIB increase by 1% , NIM will increase by 0.017%) . The increase of economic growth has positive impact on net interest margin .
 - There is negative relationship between TINF and NIM (if TINF increase by 1% ; NIM will decrease by 0.018%) . The increase of inflation has negative impact on net interest margin .

Conclusion

Good corporate governance has been identified by researchers and academics as a mechanism that can control the excess of managers and safeguard the interests of investors . (Olowfeda and al (2025))

The four pillars of corporate governance are accountability, transparency, fairness, and responsibility. Accountability ensures that executives and boards act in the best interest of stakeholders.

Practically, corporate governance involves setting and achieving the company's goals while considering the social, regulatory, and market contexts.(Duffy (2025))

It is a concept that links the primary chain of stakeholders in every company. These chains will commonly include shareholders, the board of directors, executive management, and employees. It can also stretch to include other stakeholders like consumers and communities around where the business operates.

Since the board of directors is responsible for signing off on key decisions for the company, its activities are most intrinsically linked to the concept of corporate governance. As a result, when we talk about governance in an everyday context, we inevitably end up discussing the board, what its aims are, what decisions it makes, and who is on it.

Bank performance on the other hand pertains to the financial and operational outcomes of a bank ; including profit ; asset liquidity ; and overall stability .

In this article we studied the impact of corporate governance on bank performance in Tunisian context . We used a sample of 11 banks in Tunisia over the period (2015...2024) . By applying 3 models of panel static we found that (board independence ; board size ; audit committee size) has significant impact on return on assets . Also (board independence ; audit committee size , gender diversity) has significant impact on return on equity . Also (board independence ; audit committee size , gender diversity) has significant impact on net interest margin of bank.

REFERENCES

1. -Aaydi R ; E Arbak ; W P De Groen (2011) « Business models in European banking : A pre and post crisis screening “ Centre for European Policy Studies
2. -Alemu F M ; MD Worku (2025) “ Impact of corporate governance mechanisms on dynamics of bank financial performance : empirical evidence from private commercial banks of Ethiopia” Cogent Business and Management ; vol 12
3. -Almashhadani M ; H A Almashhadani (2023) “ Corporate governance and profitability : ownership concentration as a mediator “ International Journal of Scientific and management research ; vol 6 ; issue 9 ; p 179-192
4. -Al Sagr N ; S Belkhaoui ; A Alobari (2018) “ The effect of corporate governance mechanisms on bank performance : Evidence from Saudi banking sector “ Asian Economic and financial review ; vol 8 , n°8 , p1111-1125
5. -Amrani O ; A Najab ; M Azmi (2022) “ The impact of governance structure on bank performance : A cross country panel analysis using statistical learning algorithms “ ProcediaComputer Sciences ; vol 203 ; p 520-524
6. -Basar BD ; Bouteska A ; Byyoukoglu B ; Eksi I H (2021) “ The effect of corporate governance on bank performance : Evidence form Turkish and some MENA countries banks” Journal of Asset management ; vol 22 ; n°3 , p 153-162
7. -Belhaj S ; Mateus C (2016) “ Corporate governance impact on bank performance evidence from Europe “ Corporate ownership and control ; vol 13 , n°4 ; p 583-597
8. -Kim Q TN (2024) “ Corporate governance ; corporate social responsibility and bank performance in Vietnam with mediators “ Cogent business and management ; vol 11
9. -Maamtzakis E ; T Bermpei (2015) “ The effect of corporate governance on the performance of US investment banks “ Financial markets , institutions and instruments ; vol 24 ; issue 2-3, p 191-239
10. -Missaoui .S ; N Raissi (2020) “ Governance effect of board of directors on banking performance : Evidence from Tunisia “ International Journal of financial research ; vol 11 ; n°2 , April ; p 358-370
11. -Olowofela O E , H A Donfack ; CW Soh (2025) “ Corporate governance mechanism and bank performance ; New insights from Emerging Economy : Evidence from Nigerian banking sector “ Journal of risk and financial management ; vol 18 , n°2
12. -Sahraoui D ; A Alfadli (2024) “ Corporate governance and bank performance : empirical evidence from GCC countries “ Les cahiers du Cread ; vol 40 , ;°1
13. -So S M S ; S Q X Liao (2024) “ Does corporate governance affect bank performance in Brazil ; Russia ; India and China “ Journal of Accounting and Taxation ; vol 16 ; n°3 , p 108-122