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The effect of Corporate Governance (CG) and Customer Deposits (CD) on the Performance of Saudi Banks (PSB) : *The mediating role of Financial Inclusion(FI)*

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ABSTRACT*: This study aimed to identify the effect of compliance with corporate governance regulations and customer deposits on the performance of Saudia Banking over a sample of eight banks for the period 2018 to 2022.Even though financial inclusion has a role in economic growth, the relationship between faithfulness to governance requirements and financial inclusion is uncertain and still controversial. Some scholars, considered financial inclusion to be a dependent variable (Hilman H et al, 2019) and others considered it to be an independent variable (Zaher,2023; Yussif et al, (2022; Yunus et al 2023). The above researches have motivated this study to consider "corporate governance, customer deposits-Financial Inclusion-Performance pathways". The further aim of this study was to investigate the possible mediating role of financial inclusion on the relationship between corporate governance and performance. Therefore, this paper asserts that corporate governance and customer deposits can not only directly financial performance but also indirectly affect it through financial inclusion. Accordingly, Customer deposits are measured through two variables: Deposit to Asset Ratio (DAR) and Loan to Deposit Ratio (LDR). Financial inclusion is measured through two variables: The ratio of ATM (per 100,000 Adults) and the ratio of individuals with deposit accounts to the total adult population. Corporate governance practices are measured through three variables (Non-Executive Director, AuditCommittee Independence, Board size) as the independent variables. Firm performance is measured through Return On Equity (ROE) and Return On Assets (ROA).Empirical findings reveal that board size and audit committee independence have a positive impact on both dependent variables (ROA and ROE). Financial inclusion mediates the relationship between corporate governance and customer deposits. ATM has a positive impact on ROE and DA has a positive impact on ROA.*

Keywords: *Financial inclusion, Corporate Governance, Performance, Saudi Banks*
Jel classification Numbers: G2, G21, G3, L25

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I. INTRODUCTION

Financial inclusion is one of the most widely discussed concepts in recent years, as it has received increasing attention from decision-makers in most countries of the world. On the other hand, banks are considered one of the basic pillars of the economy, as they play a major role in facilitating economic and financial transactions, as well as providing financing for investment operations through credit facilities and loans.

Many researchers believe that financial inclusion can be a solution to the dilemma of poverty and financial exclusion (Yunus, 2023). Therefore, regulation of this sector and adequate supervision of it is considered a powerful tool for economic development. Conversely, banking activity that is not regulated by laws and regulations is inevitably considered a source of instability and crises (Florent, 2020).

Arab countries pay great attention to financial inclusion; in 2016, the Council of Governors of Arab Central Banks and Monetary Institutions designated April 27 of each year as an occasion to commemorate the Arab Day of Financial Inclusion under the slogan "Financial Inclusion for Sustainable Development." Since April 27, 2017, the Arab Monetary Fund also launched the "Regional Initiative to Promote Financial Inclusion in the Arab Countries."

Saudi banking sector is considered one of the most important banking sectors at the Arab level. According to statistics from the International Monetary Fund (IMF 2017, Report No. 17/318), the percentage of ownership of bank accounts among adults in Saudi Arabia reaches 72%. The banking sector in the Kingdom of Saudi Arabia ranks second among the Arab sectors in terms of the size of assets, which represent about 18.2%

of the total assets of the Arab banking sector. According to (Yunus et al, 2023), with the increase in income levels, location and number of banking branches, the management of banks has to identify banking services to improve their banking performance (Return on Assets).

As for governance in the Saudi banking sector, the Saudi Financial Market Authority and the Saudi Central Bank issued a set of rules aimed at ensuring transparency and clarity in the work of banks, and protecting the rights of shareholders and stakeholders. The Saudi Arabian Monetary Agency also issued in 2014 the main principles of governance in the Banking sector, which includes the main principles of banking governance.

Research problem

Many studies have reached results that financial inclusion is an effective means of enhancing the stability, universalization and diversification of financial systems and supporting opportunities for achieving sustainable development (Sagir Danladi and al, 2023). However, the relationship between compliance with the requirements of financial institutions' governance and financial inclusion and its impact on financial performance remains uncertain and is still a controversial relationship.

The researcher chooses to conduct this study on the banking sector due to its great importance for economic development. This study seeks to identify the impact of the commitment to applying governance principles in the banking sector on the performance of banks, using financial inclusion as an intermediary variable. The main question was formulated as follows: Does compliance with corporate governance requirements in Saudi Arabia banking sector lead to improvement of financial performance via financial inclusion? A set of questions arise from this problem, which are as follows:

- What is financial inclusion and what is its importance? (first axis)
- What are the principles that regulate the governance of banks in the Kingdom of Saudi Arabia? (second axis)
- What is the impact of financial inclusion and governance on the financial performance of banks? (third axis)

This research aims to measure and analyse the relationship between compliance with the principles of governance of financial institutions and its impact on financial performance. Achieving the main goal requires attaining the following three sub-goals:

- Determining the nature of the relationship between the level of financial inclusion and customer deposits on the financial performance of Saudi banks
- Determine the extent of the impact of compliance with governance principles on financial performance
- Testing the role of financial inclusion as a mediating variable in the relationship between corporate governance and financial performance.

In this study, researcher relied on inductive and deductive approach, as the use of the approach aims to build the theoretical framework for the study through the presentation and analysis of previous studies, while the researcher relied on the deductive approach in deducing the effect of corporate governance on financial performance, deriving research hypotheses, and using appropriate statistical methods.

This research paper has been classified into five sections as follows: in the second section, we review the conceptual framework, literature, and empirical studies related to the research topic. In the third section, the data and methodology used to complete the practical aspect of the study are presented. The fourth section is devoted to presenting and discussing the results. Finally, in the fifth section, concluding remarks, recommendations, limitations of the study, and research topics that can be accomplished in the future are presented.

II. Conceptual Framework

2.1. Financial inclusion

The topic of financial inclusion has received many definitions from specialists and researchers in the fields of finance and economic development, and great attention from financial institutions and decision makers. One of the most widely used definition, we find that it is defined on the basis that, making various financial services available for use, for all segments of society, at reasonable prices and of high quality that meet beneficiaries needs, regardless of their income or social status, enabling them to manage their money properly (transactions and payments), savings products, credit facilities, loans, and insurance services. Conversely, if people and groups face difficulties in accessing basic financial services, this is described as financial exclusion.

According to the World Bank (2014), "Financial inclusion is defined as "access by individuals and businesses to useful and affordable financial products and services that meet their needs: transactions, payments, savings, credit, and insurance, and are delivered in a responsible and sustainable manner." According to the same source, in 2022, access to financial services is considered as a factor of progress in seven of the 17

Sustainable Development Goals. At the same time, financial inclusion represents a key factor in reducing poverty and promoting prosperity.

The Group of Twenty (G20) and the Global Alliance for Financial Inclusion (AFI) defined financial inclusion as the measures taken by regulatory bodies to enhance the access and use of all segments of society, including marginalized and affluent groups, of financial services and products that suit their needs, and that are provided to them in a fair and transparent manner and with at reasonable costs.Therefore, financial inclusion (FI) has many advantages for beneficiaries, for banks and countries:

Table 1. Advantages of financial inclusion

Beneficiaries (Households, Small and Medium Enterprises)	**Banks**	**Countries**
It represents a sound and safe opportunity to manage money (*saving, consumption, investment*). It represents an opportunity for beneficiaries to avoid dealing with unofficial channels. The beneficiary receives fair and transparent treatment. Increasing awareness and knowledge of financial matters among beneficiaries through dealing with financial institutions and self-education. Promoting the autonomy of multiple segments of society (youth, students, women)	It reduces cash trading and liquidity risks in general It helps banks bring in and direct savings towards investment opportunities. It contributes to banks working on developing and improving financial products and offering new products. Expanding and diversifying the beneficiary base (youth, women, residents of rural areas and remote villages, small and medium enterprises, and micro-enterprises). It helps competition between banks to provide bests services that meets the needs of beneficiaries.	It helps countries to achieve sustainable development and financial stability. It contributes to reducing the base of marginalized groups and raising the standard of living of low-income people. It contributes to reducing the level of poverty, reducing unemployment, and creating more job opportunities. It contributes to pushing the government to achieve continuous modernization of legal and regulatory frameworks, keeping pace with the rapid development in information technology, and reducing risks.

Source: Prepared by the researcher, based on the results of previous studies

The majority of countries in the world have adopted policies that work to achieve financial inclusion. The database issued by the World Bank (Global Findex), which is issued every three years, is considered one of the most important and comprehensive sources that examine how people use financial services in the world. The first edition was issued in 2011, the second in 2015, the third in 2018, and the last in 2021.

Access to a current account is the first step towards full financial inclusion, opening the way to deposit money, but also send and receive payments. According to statistics (Global Findex database 2021) around the world, people's ownership of bank accounts increased from 51% in 2011 to 76% in 2021. According to the same source, the percentage was 71% in the economies of developing countries. As for the Arab countries in 2017, the data (according to the Arab Monetary Fund) were as follows:

Table 2. Indicators of individuals' access to financial and banking services (Arab country, world) in 2017

	The proportion of individuals who hold accounts in financial institutions to the total adult population (over 15 years old)	The ratio of individuals with borrowing accounts to the total adult population (over 15 years old)	The ratio of individuals with deposit accounts to the total adult population (over 15 years old)	The ratio of individuals who own credit cards to the total adult population (over 15 years old)	Percentage of individuals with access to financial services via internet and mobile phone to the total adult population (over 15 years old)
Arab countries	37.2	5.4	8.7	4.6	4.6
Advanced countries	93.7	19.1	54.8	54.9	54.9
The World	68.5	10.8	26.7	18.4	18.4

Source: Arab Monetary Fund (2019), Statistical Appendices, Unified Arab Report, page 390

The percentage of those who own bank accounts in financial institutions in Arab countries to the total adult population increased from 22.3% in 2011 to 37.2% in 2017. The percentage of adult individuals who use credit cards in Arab countries reached 4.6% in 2017, and this percentage is considered low compared to the similar percentage. At the global level, which was around 18.4% (World Bank 2020).

According to the International Monetary Fund's 2022 report, Kingdom of Saudi Arabia was the fastest growing G20 economy at a rate of 8.7% and women's participation in the labor market reached a record level of 37% (from 18% in 2017). In 2023, Saudi Arabia ranks 34th in the financial inclusion index, while the United

States is in fourth place, the United Kingdom is in seventh place, and Singapore is in first place (Global Financial Index 2023).

In the Kingdom of Saudi Arabia, the Saudi Arabian Monetary Agency "SAMA" is working to raise the level of financial inclusion in the Kingdom as one of its strategic goals that it seeks to achieve, by providing individuals and establishments' access to licensed financial services and products, integrating them into the official financial system, ensuring customer protection, and supervising the fairness of transactions and their transparency between transacting parties in accordance with the Kingdom's Vision 2030.

2.2. Corporate Governance for financial institutions

Financial institutions and companies generally provide financial reports to the investing public, and these reports must reflect the financial position of the institution. As a result of the collapses witnessed by major companies, the issue of financial information disclosure has received great attention, especially by many professional organizations, legislative bodies, and securities market regulating bodies in many countries.

With regard to the governance of the banking sector and at the global level, the Basel Group issued a set of principles with the aim of setting rules and standards for bank governance. The first of these principles was issued in 1999 (7 principles), the second version was issued in 2006 (8 principles), and the third version was issued in 2010 (6 principles). The latest and updated version was in 2015 (13 principles).

In the Kingdom of Saudi Arabia, Corporate Governance Regulations were issued by Authority Board Resolution No. (1-212-2006) dated 11/12/2006. It sets out the rules and standards regulating the management of joint stock companies listed on the market, in order to ensure adherence to the best governance practices that ensure the protection of shareholders and stakeholders' rights. The list included 95 articles distributed into twelve sections. The updated Governance Regulations for Financial Institutions were issued in 2017. The new regulation defines governance as rules for leading and directing the company and includes mechanisms for regulating the various relationships between management, executive managers, shareholders, and stakeholders.

In March 2014, the Saudi Arabian Monetary Agency issued the Principles of Governance for Financial Institutions (6 principles).

Principle 1. Qualifications of board members

Principle 2. Composition and appointment of the Board of Directors

Principle 3. Responsibilities of the Board of Directors

Principle 4. Board Committees

Principle 5. Shareholders' Rights

Principle 6. Disclosure and transparency

In the year 2021, the Saudi Central Bank (formerly Saudi Monetary Agency - SAMA) issued the third edition (2021) of the basic principles of governance in financial institutions (7 principles), which aim to enhance management methods, define direct and indirect strategic objectives, maintain stability, and enhance the rights of stakeholders. Below is a summary of these basic principles:

Principle 1. Qualifications of board members

Board members must be qualified to carry out the work assigned to them. They must have a clear understanding of their roles and responsibilities, and must have the ability to make decisions impartially and objectively, in the absence of any external influence.

Principle 2: Formation and appointment of members of the Board of Directors and Board affairs.

The financial institution must determine the number of board members in proportion to its size and the nature of its business.

Principle 3. Responsibilities of the Board of Directors

The board of directors must protect the interests of the financial institution, develop its values, and bear ultimate responsibility for its actions. However, the Board of Directors may delegate its powers to its committees or to individuals.

Principle 4. Responsibilities of executive management

Executive management must monitor and manage the daily activities of the financial intermediary, and ensure that those activities are consistent with the business strategy, risk appetite and policies approved by the Board of Directors.

Principle 5. Committees formed by the Council

The Board of Directors must form committees to support the financial institution in achieving its goals. In return, these committees must assist the Board of Directors in performing its duties and responsibilities, for example by monitoring and reviewing performance. They can include executive committees, audit committees, risk committees, etc.

Principle 6. Shareholders' Rights

The board of directors must ensure that the financial institution's corporate governance policies protect shareholders' rights, enable them to easily exercise their rights, and help provide effective communication channels and diverse means of communication with all shareholders.

Principle 7. Disclosure and transparency

The Board of Directors must establish in writing the disclosure policies of the financial institution in line with the disclosure requirements contained in applicable laws and regulations.

2.3. Previous studies

The majority of studies exclude financial institutions (banks, insurance) because they are inherently risk-based and have different regulatory requirements related to disclosure and governance. (Yussif I et al, (2022) conducted their research in order to verify the relationship between financial inclusion and bank profitability through the number of bank accounts opened for every 10,000 adults, and the impact of this on bank profitability. They found that the profitability of banks is related to the level of competition in the banking sector in developing countries. On the other hand, the researcher recommends easing the borrowing conditions imposed on customers, and opening more bank accounts with favorable terms in order to enhance financial inclusion and increase the bank's profitability.

(Dina Hashim, 2022) aimed to measure the impact of financial inclusion on the quality of financial reports in Egyptian commercial banks. The study found a statistically significant relationship between financial inclusion (number of bank branches, number of credit cards, and total customer deposits) and the quality of profits.

Wessam (2018) examined the impact of customers banking deposit stability (current -deposits, saving-deposits, and time-deposits) on the performance of Jordanian commercial banks for the period (2007-2016). The sample contains six Jordanian banks. The study finds that the stability of customers banking deposits has statistically significance positive impact on banking performance measured by ROE.

(Shahnaz et al, 2019) used a sample of seven commercial banks during the period 2011 to 2015. Their results stated that loan to asset ratio and bank size had a positive relationship with return on asset (ROA). The results also showed that deposit to asset ratio had a negative impact on the ROA.

Through previous studies, we will try to identify how to measure the corporate governance variable, and on the other hand, we will examine whether this variable is mentioned in the corporate governance regulations for financial institutions in the Kingdom of Saudi Arabia. Finally, we conclude which variables are appropriate for our study.

Table 3. Variables studied in previous studies and noted in Governance regulations in KSA

Measuring corporate governance variable through previous studies		**Studies**	**Theses variables are noted in the Governance Regulations for Financial Institutions in the Kingdom of Saudi Arabia (2014-2021) section number….**
1	Board size	Ahmed Zakaria (2020)	2nd **Principle**: Formation, appointment and Board Affairs The number of members shall not be less than five and not more than eleven.
2	Independence of Board of Directors		2nd **Principle**: Formation, appointment and Board Affairs The number of independent members shall not be less than two members, or one third of the Board member, whichever is greater. **[11]** The Board shall conduct an annual evaluation of the extent of independence of the independent member and shall ensure that there are no relationships or circumstances that affect or may affect his independence, the member shall also inform the board in the event that circumstances affecting his independence may arise.
3	Number of Board committees		5th **Principle**: Committees Formed by the Board **[73]**. The number of committees to be formed by the board shall be determined pursuant to the nature of operations and the size of financial institution, in addition to be relative experience and qualification of the Board members. These committees shall comprise the following, among others: - The executive committee - The audit committee - The nomination and remuneration committee - The risk committee
4	Audit committee size		
5	Independent Audit Committee		
1	Independence of the Board of Directors	Saha and Kabra (2019)	2nd **Principle**: Formation, appointment and Board Affairs **[11]** The Board shall conduct an annual evaluation of the extent of independence of the independent member and shall ensure that there are no relationships or circumstances that affect or may affect his independence, the member shall also inform the board in the event that circumstances affecting his independence may arise.
2	Duality between chairman of		2nd **Principle**: Formation, appointment and Board Affairs

	Board and CEO		**[10]**. Members shall choose a *non-executive* member to serve as the *Chairman* of the Board and another as his deputy, provided that the Chairman and his deputy do not exercise any of the functions of the executive management.
3	Percentage of women on the Board of directors		
4	Independent Audit Committee		**5th Principle**
1	Independence of the Board of Directors	Panditharathna (2019)	**2nd Principle**: Formation, appointment and Board Affairs **[11]**
2	Board size		**2nd Principle**: Formation, appointment and Board Affairs The number of members shall not be less than five and not more than eleven.
3	Duality between chairman of Board and CEO		**2nd Principle**: Formation, appointment and Board Affairs [**10**]
4	Percentage of women on the Board of directors		
1	Percentage of independent members on the Board of Directors	Andrew Gunawan (2019)	**2nd Principle**: Formation, appointment and Board Affairs **[11]**
2	Members who have financial skills		**1st Principle: [5]** A member shall have professional competence and shall possess various practical and administrative skills and experiences as well as appropriate personal qualities…..[**d**] **Financial literacy**: He shall have the skills to read and to understand financial statements and reports and the ratios used to assess performance.
3	Independence of audit committees		**5th Principle**
1	Board size	Munther 2019	**2nd Principle**: Formation, appointment and Board Affairs The number of members shall not be less than five and not more than eleven.
2	Size of the audit committee		**5th Principle**
3	Percentage of family ownership in capital		
1	Independence of the Board of Directors	Al-Sahafi et *al* (2015)	**2nd Principle**: Formation, appointment and Board Affairs **[11]**
2	Board size		**2nd Principle**: Formation, appointment and Board Affairs The number of members shall not be less than five and not more than eleven.
3	Duality between chairman of Board and CEO		**2nd Principle**: Formation, appointment and Board Affairs [**10**]
4	Independence of audit committees		**5th Principle**
5	Concentration of ownership among a small group of investors		
1	Independence of the Board of Directors	Al hassan et *al* (2015)	**2nd Principle**: Formation, appointment and Board Affairs **[11]**
2	Board size		**2nd Principle**: Formation, appointment and Board Affairs The number of members shall not be less than five and not more than eleven.
3	Duality between chairman of Board and CEO		**2nd Principle**: Formation, appointment and Board Affairs [**10**].
1	Committee independent	Uvy Eklemet et *al* (2023)	**5th Principle**
2	CEO-duality		**2nd Principle**: Formation, appointment and Board Affairs [**10**]
3	Board size		**2nd Principle**: Formation, appointment and Board Affairs
4	Non -Executive director		**2nd Principle**: Formation, appointment and Board Affairs **[10]**. Members shall choose a *non-executive* member to serve as the *Chairman* of the Board and another as his deputy, provided that the Chairman and his deputy do not exercise any of the functions of the executive management.
1	Board size	Bace (2017)	**2nd Principle**: Formation, appointment and Board Affairs The number of members shall not be less than five and not more than eleven.
2	Board committees		**5th Principle**
3	Independence of the Board of Directors		**2nd Principle**: Formation, appointment and Board Affairs [**11**]
1	Board size	Sarwar et *al* (2022)	**2nd Principle**: Formation, appointment and Board Affairs The number of members shall not be less than five and not more than eleven.
2	Audit quality		**3rd Principle**: Responsibilities of the Board **[41]** Ensure the independence of the internal and external auditors, and the accuracy and integrity of the information and data to be disclosed in

			accordance with the disclosure and transparency requirements. **[84]** The committee shall have the competence to monitor the financial institution's work, verify the integrity and impartiality of its reports and financial statements, and ensure the availability of internal control. [78]. The committee shall be composed of no less than three and no more than five members, all of whom shall be non-executive members, including at least on independent member.
3	Duality between chairman of Board and CEO		2nd **Principle**: Formation, appointment and Board Affairs [**10**]
4	Independence of the Board of Directors		2nd **Principle**: Formation, appointment and Board Affairs [**11**]
5	Institutional participation		
6	Participation of the two main shareholders		

Source. Prepared by the research based on previous studies

With reference to previous studies, we note that two themes, widely lectured in the literature and in empirical studies, have not been mentioned in the Governance Regulation for Institutions in KSA, namely: board diversity and treatment of ownership concentration. (Al-Ghamdi et al ,2015), studied the Family Ownership, Corporate Governance and Performance in Saudi listed companies. Their analysis shows that ownership has no relationship with firm performance.

There is a rich literature on the determinants of bank performance. The most common variables used in empirical studies to measure the performance of banks are:

ROE reflects the return to shareholders on their equity. $ROE = (NetIncome)/(EquityBookValue)$

ROA is defined as the ability of bank's management to generate profits from the bank's assets.

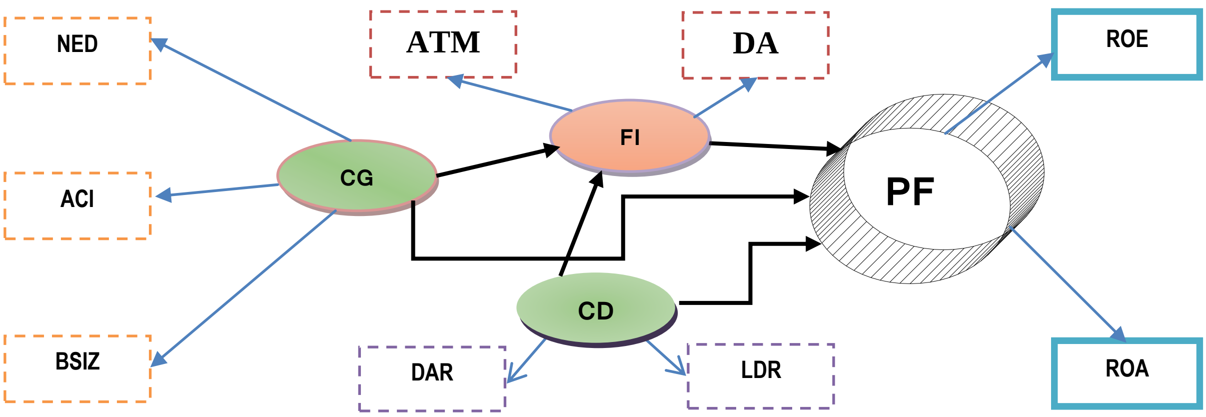
$$ROA = (NetIncome)/(TotalAssets)$$

Tobin Q = $(Equitymarket)/(EquityBookValue)$

Net Interest Margin (NIM) = $(NetInterestReceived - InterestPaid)/(TotalAssets)$

We note from previous studies that some researchers considered financial inclusion to be a dependent variable and others considered it to be an independent variable. On the other hand, we note that the relationship between customers savings in banks and financial inclusion was not clear. Given the importance of the topic and the observed interaction between the variables, the study model was built as follows, which summarizes the relationship between the study variables.

Figure 1: *Conceptual framework*



III. Empirical studies

In order to examine the factors that affect the profitability of banks in KSA, the study used panel data. The researcher analyses the annual reports of those eight Saudi banks during the period 2018 to 2022. The study uses secondary data collected from the audited annual reports of the sample from Tadawul website

3.1. Dependent Variable

ROA is defined as the ability of bank's management to generate profits from the bank's assets.

ROE reflects the return to shareholders on their equity.

3.2. Independent Variable

Corporate governance was observed through three variables and the relationship between independent variables and dependent variables was verified through Financial Inclusion as a mediator to test the effect on the bank's performance.

3.2.1- Non-Executive Director (NED)

Non-Executive Director (NED): A high number of NED on the board represents board independence. Defenders of best practices of corporate governance argue for a higher number of non-executive directors on the board. The proxy for measuring the board composition is the number of non-executive directors or outsider directors on the board.

$$NED = (Number\ of\ Non - Executive)/(Number\ of\ Board\ directors)$$

3.2.2- Audit Committee Independence (ACI)

The primary function of the establishment of the audit committee is to improve the financial reporting quality. The proxy for measuring the audit committee independence composition is the number of non-executive directors or outsider directors over the number.

$$ACI = (Number\ of\ Non - Executive)/(Number\ of\ directors\ on\ the\ audit\ committee)$$

3.2.3- Board Size (BSIZ)

In this study, the proxy for measuring the board size is the number of directors on the board.

BSIZ = Log (Number of board members)

3.2.4- Customer Deposits

(Anas et *al,* 2019) studied the impact of loans and deposits size on the financial performance of Jordanian commercial banks. The most important findings of the study were that, there is an increase in the volume of loans and the volume of deposits during the study period, and the decline in return on assets (ROA) and in the return on equity (ROE) during the same period, and found a positive statistical significance effect for the size of loans and deposits on financial performance of Jordanian commercial banks.In this study customer deposits is measured through Depost to Asset Ratio (DAR) and Loan to Deposit Ratio (LDR).

3.2.5- Financial inclusion (FIN)is the mediating variable in this study

Below are the results of a study prepared by the Studies and Research Department at the General Secretariat of the Union of Arab Banks on the structure of the Saudi banking sector and its financial indicators. Ownership of bank accounts as a percentage of adults increased from 46.4% in 2011 to 69.4% in 2014 and to 72% in 2017. At the gender level, 80.54% of males have a bank account, compared to 58.2%, according to the latest World Bank data (2011-2017). It is worth noting that account ownership among women increased significantly from 15.2% in 2011 to 58.2% in 2017. The high rate of use of financial services in Saudi Arabia comes as a result of continuous efforts by the Saudi Arabian Monetary Agency and Saudi banks to facilitate and improve access to formal financial services. In this study, we use the following two measures as proxies for the financial inclusion variable: ATM: The ratio of ATM (per 100,000 Adults) and DA: The ratio of individuals with deposit accounts to the total adult populati*on.*The data was extracted from the following source. https://data.albankaldawli.org/indicator/. Then, the following linear regression model was developed.

3.3. Model specification

$$PF_{it}=\beta_0+\beta_1(NED)it+\beta_2(ACI)it+\beta_3 Log\ (BSZ)it+\beta_4(DAR)it+\beta_5(LDR)it\ \beta_6(ATM)it+\beta_7(DA)it+\varepsilon_{it}$$

Where:

PF is the dependent variable of this study.

NED, ACI, Log (BSZ), ……. are the independent variables.

β_1, β_2, β_3, β_4, β_6 and β_7 are the regression coefficients to be estimated.

β_0 is the constant or the intercepts on the regression equation.

t = is the time series of the study (t = 1, 2, 3, 4, 5).

i = is the cross-section (i.e., 8 firms from the banking sector in KSA).

ε = Error Term.

Linear regression analysis is the most widely used mediation technique in empirical studies (Wood et *al*., 2008)

Table 4. Study Variables and Methods of measuring

		Variables	Variable Code	Measurements
1	**Dependent Variables**			
	1.1	Return On Equity *Financial Performance*	ROE	$ROE = \text{(Net Income)/(Shareholder's equity)}$
	1.2	Return On Assets *Operational Performance*	ROA	$ROA = \text{(Net Income)/(Total Assets)}$
2	**Independent Variables**			
	Corporate Governance (CG)			
	2.1	Non-Executive Director	(NED)	
	2.2	Audit Committee independence	(ACI)	
	2.3	Board Size	(BSZ)	*Log (BSZ = Number of board members)*
	Customer Deposits (CD)			
	2.4	Deposit to Asset Ratio	DAR	$DA = \text{(Total Deposits)/(Total Assets)}$
	2.5	Loan to Deposit Ratio	LDR	$LDR = \text{(Total Loans)/(Total Deposits)}$
	Financial Inclusion (FI)			
	2.6	Automated Teller Machine (ATM)	ATM	*The ratio of ATM (per 100,000 Adults)*
	2.7	*Account Ownership at financial institution*	DA	*The ratio of individuals with deposit accounts to the total adult population*

3.4. Research Hypotheses

This study starts from the following null hypothesis

Hypothesis (H01): There is no significant effect of Corporate Governance (CG) and Customer Deposits (CD) on the financial performance of Saudi banks, measured both by Return On Equity (ROE) and Return On Assets (ROA).

Hypothesis (H02): There is no significant effect of Corporate Governance (CG) and Customer Deposits (CD) on Financial Inclusion (FI), measured both by Deposit to Asset Ratio (DAR) and Loan to Deposit Ratio (LDR).

*Hypothesis (H03):*There is no significant effect of Corporate Governance (CG) and Customer Deposits (CD) and Financial Inclusion (FI) on the financial performance of Saudi banks, measured both by Return On Equity (ROE) and Return On Assets (ROA).

*Hypothesis (H04):*There is no significant mediating effect of Financial Inclusion (FI) on the relationship between Corporate Governance (CG) and Customer Deposits (CD) on the financial performance of Saudi banks, measured both by Return On Equity (ROE) and Return On Assets (ROA).

Each of these hypotheses is accepted or rejected based on the outcome of panel regression at a 5% significance level (p Value <0.05).

3.5. Sample

This study covers eight selected banking institutions that operated in KSA, over the period 2018-2022, consisting of (8*5=40) observations.The researcher used financial statements, financial reports, and clarifications on the official websites of each bank and on the "Tadawul" website.

The number of banks operating in Saudi Arabia reached 24 banks, operating a network of branches that reached 2,078 branches by the end of the second quarter of 2018: 12 local banks, 6 foreign banks, and 6 foreign banks.

According to statistics from the Central Bank of Saudi Arabia (2022), the number of bank branches operating in Saudi Arabia reached 1,927, and 22 new branches were opened during the year 2022. This is due to the great development in banking technologies, including that all banks in Saudi Arabia have developed electronic applications for use in commercial transactions, which has facilitated financial transactions. All of this would help resist trade and tax cover-ups. It saves money and effort for banks and beneficiaries.

Table 5. Sample (8 Banks)

Name	Saudi National Bank	Riyad Bank		Bank Aljazira	Arab National Bank (anb)	Bank Albilad	Alinma Bank	The Saudi Investment Bank	Al Rajhi Bank
N	1	2		3	4	5	6	7	8

IV. Empirical results and discussion

a- Descriptive statistics

Table 6. Descriptive analysis results

	Variables		**Mean**	**Standard deviation (SD)**	**Min**	**Max**
1	**Dependent Variables**					
	1.1	ROE	0.100	0.004	0.00	0.22
	1.2	ROA	0.0148	0.006	0.00	0.03
2	**Independent Variables**					
	2.1	NED	0.54	0.06	0.4	0.6
	2.2	ACI	0.603	0.20	0.20	1
	2.3	Log (BSZ)	0.987	0.029	0.954	1.041
	2.4	DAR	0.71	0.06	0.6	0.82
	2.5	LDR	1.17	0.15	0.37	1.40
	2.6	ATM	0.70	0.04	0.62	0.74
	2.7	DA	0.78	1.406	0.08	0.82

Table 6 reports the descriptive statistics for the dependent and independent variable. For each variable, descriptive analysis includes mean, maximum, minimum, and standard deviation. The average value of ROA is 1.48% with a standard deviation of 0.6%. The minimum and maximum values are 0% and 3% respectively. When the mean ROE is 10%, minimum value is 0% and maximum is 22%.

The study was subjected to statistical analysis using the Statistical Package for the Social Sciences program (SPSS). Therefore, (OLS) regression was used to test the relationship between the corporate practice and bank performance. To determine, whether Corporate Governance and Customer Deposits (CD) affect the Performance of Saudi Banks, through financial inclusion as a mediator. James and Brett (1984), Judd and Kenny (1981), and Baron and Kenny (1986) proposed *four steps* in founding mediation. The effects in both steps 3 and 4 should be measured in the same equation. In this study, we will follow the same approach.

In the *first step* we regress the idenpendent variables on the firm performance: regressions were run with two performance variables as dependent variables as explanatory variable (**Table 7**: Dependent variable ROE, **Table 8**: Dependent variable ROA).

Figure 2: *Total effect* $[CG, CD] \xrightarrow{\text{Path c} \quad H01} PF$

Step 1: Results of testing (*H01*)

Table 7.	**Dependent Variable ROE**			
Variable	Coefficient	Std.Error	T-Student	*p* Value
Constant	10.928	2.958	3.694	0.001***
NED	1.809	1.429	1.266	0.214
ACI	2.568	0.520	4.938	0.000***
Log(Bsz)	12.440	2.990	4.161	0.000***
DAR	-2.630	1.848	-1.423	0.164
LDR	0.194	0.663	0.293	0.772
	R-Squared	0.657	Adj-R^2	0.606

Table 8.	**Dependent Variable ROA**			
Variable	Coefficient	Std.Error	T-Student	*p* Value
Constant	4.462	1.684	2.650	0.012*
NED	0.984	0.814	1.209	0.235
ACI	0.861	0.257	3.350	0.002**
Log(Bsz)	5.849	1.570	3.725	0.000***
DAR	-2.301	1.052	-2.187	0.036*
LDR	0.742	0.377	1.968	0.057
	R-Squared	0.529	Adj-R^2	0.455

*p<0.05; **p<0.01; ***p<0.001

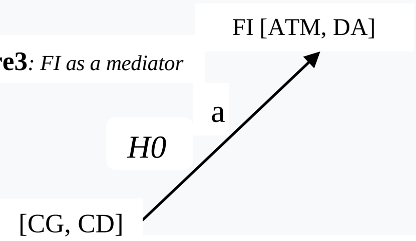
Regressions revealed a significant and positive relationship between, audit committee independence (ACI), board size (Log(Bsz)) and bank's performance and this for the two indicators: ROE and ROA.

Customer deposits (DAR) has a negative and significant relationship with financial performance measured by ROE and ROA, that validates the findings of the earlier research study by (Zhou et al., 2021) which stated that high level of debt is the cause of reduction in financial stability. In reference to accounting in the banking sector, customer deposits are treated as current liabilities. Results confirm that Corporate Governance and customer deposits variable are significant predictor of performance, then, the requirements of the first step have been met. We reject the null hypothesis (H01) and accept the alternative hypothesis.

This step launches that there is an effect that may be mediated, then the effect of [CG, CD] on PF[ROE, ROA] may be mediated by a mediating variable such financial inclusion [ATM, DA] and the independent variables [CG, CD] may still affect the dependent variable PF[ROE, ROA].

In the second step (Path a) we regress the mediator variables on the independent variable: regressions were run with two financial inclusion variables as dependent variables as explanatory variable (**Table 9**: Dependent variable ATM, **Table 10**: Dependent variable DA).

Figure3: *FI as a mediator*



Step 2: Results of testing (*H02*)

Table 9. Dependent Variable ATM				
Variable	Coefficient	Std.Error	T-Student	*p* Value
Constant	0.871	0.257	3.389	0.002**
NED	0.237	0.093	2.548	0.038*
ACI	0.391	0.473	0.827	0.352
Log(Bsz)	-0.214	0.264	-0.811	0.415
DAR	0.382	0.186	2.054	0.036*
LDR	-0.027	0.058	-0.466	0.640
	R-Squared	0.55	Adj-R^2	0.47

Table 10.Dependent Variable DA				
Variable	Coefficient	Std.Error	T-Student	*p* Value
Constant	0.880	0.696	1.264	0.900
NED	0.142	0.336	0.422	0.675
ACI	4.223	2.060	2.050	0.047*
Log(Bsz)	1.798	0.904	1.989	0.059
DAR	-1.397	0.635	-2.200	0.032*
LDR	0.070	0.156	0.450	0.656
	R-Squared	0.423	Adj-R^2	0.338

*p<0.05; **p<0.01; ***p<0.001

The results suggested that there is a positive relationship between Non-Executive Director (NED) and Deposit to Asset Ratio (DAR) and financial inclusion measured by ATM. Audit Committee Independence (ACI), Board size (LogBsz) and Deposits to Asset Ratio (DAR) have a significant and positive impact on financial inclusion measured by DA.

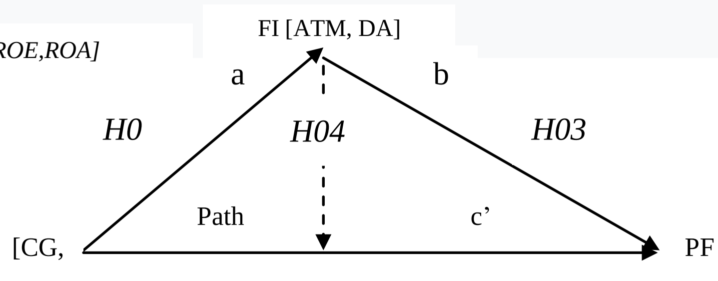
In both models mentioned above (table 9 and table 10) the importance of financial inclusion has been emphasized as a mediator.

Results suggested that independent variables are significant predictor of financial inclusion, then, the requirements of the second step have been met. Therefore, after testing (H02) and through the results explained above, we reject the null hypothesis (H02) and accept the alternative hypothesis.

In Third step (test of b) and Fourth step (test of c') we regress the dependent variable on both the independent variable and the mediator to test whether financial inclusion [FI (ATM, DA)] mediated the relationship [(CG,CG] on performance (test of H03) and we test the significance of the mediating effect (test of H04).Regressions were run with two performance variables as dependent variables as explanatory variable (Table 11: Dependent variable ROE, **Table 12**: Dependent variable ROA).

(a*b) is the *indirect effect.* Path c' is the *direct effect.*

Figure4:*[CG,CD]-[ATM,DA]–[ROE,ROA]*



Step 3 & 4: Results of testing (*H03*)

Table 11. Dependent Variable ROE				
Variable	Coefficient	Std. Error	T-Student	p Value
Constant	14.848	3.198	4.643	0.000***
NED	2.276	1.356	1.678	0.103
ACI	2.625	0.443	5.926	0.000***
Log(Bsz)	12.193	2.882	4.231	0.000***

Table 12.Dependent Variable ROA				
Variable	Coefficient	Std. Error	T-Student	p Value
Constant	5.343	1.839	2.905	0.007**
NED	0.974	0.780	1.249	0.221
ACI	0.705	0.255	2.765	0.09
Log(Bsz)	5.018	1.658	3.027	0.005**

DAR	2.998	1.810	1.656	0.107		DAR	1.919	1.041	1.843	0.074
LDR	0.393	0.621	0.633	0.531		LDR	-0.648	0.357	-1.815	0.079
ATM	0.990	0.394	2.513	0.017*		ATM	0.911	1.069	0.852	0.400
DA	-1.145	0.685	-1.672	0.105		DA	4.383	1.859	2.358	0.000***
R-Squared		0.721	Adj-R2	0.659		R-Squared		0.521	Adj-R2	0.416

*p<0.05; **p<0.01; ***p<0.001

Results suggested that there is a positive relationship between Audit Committee Independence (ACI), Board size (LogBsz) and financial inclusion measured by ATM and performance measured by ROE. In table 11, financial inclusion measured by DA is not significant. According to (BoHou et al, 2023), when the direct effect is not significant, this indicates the existence of mediating effect. Audit Committee Independence (ACI), Board size (LogBsz) and Deposits to Asset Ratio (DAR) have a significant and positive impact on financial inclusion measured by DA. Overall relation of CG (ACI, Board size) with financial performance (ROE and ROA) was significant. Financial inclusion measured by ATM has a positive impact on performance measured by ROE, Whereas, financial inclusion measured by DA has a positive impact on performance measured by ROA. Therefore, after testing (H03) and through the results explained above, we reject the null hypothesis (H03) and accept the alternative hypothesis.

Table 13. Hypotheses testing results

Hypotheses	Paths	Coefficient	Std.Error	T-Student	*p* Value	R^2	R2 Adjusted	Decision
HO1	Path c	2.568	0.520	4.938	0.000***	0.65	0.60	Accepted
HO2	Path a	4.223	2.060	2.050	0.047*	0.42	0.33	Accepted
HO3	Path c’	2.625	0.443	5.926	0.000***	0.72	0.65	Accepted

*p<0.05; **p<0.01; ***p<0.001

In mediational analyses, the indirect effect (a*b) is the measure of the amount of mediation (A. Alfons et *al,* 2022). The amount of mediation is called the indirect effect. Where, total effect (c) = [direct effect (c’) + indirect effect (a*b)]. Then, the reduction of the effect (c-c’) = a*b = the indirect effect. Numerous methods (Joint significance of paths, ratio indirect effect, Sobel test, Monte Carlo method, Bootstrapping method…etc.) have been proposed to test the significance of the indirect effect in previous studies. Bootstrapping method (OLS bootstrap, Box-Cox bootstrap, SNT bootstrap, Winsorized Bootstrap) is found to be robust statistics compared to other methods and can handle non-normal distribution (A. Alfons et al, 2022). In our study (Test of H04), we used Joint test of significance and OLS bootstrap.

Joint test of significance of Paths a and b. According to this method, we consider the null hypothesis (H04: a*b = 0). Since, in our study, results reveals that the product of coefficients ($a*b \neq 0$) with all significant variables mentioned above (Table 13), then, we reject the null hypothesis (H04) and accept alternative hypothesis. However, this test is rarely used as unique and definitive test to confirm the existence of mediation. Likewise, this method does not tell us about the degree of significance of the product of coefficients.

OLS Bootstra*pping*. For estimating the indirect effects, we used SPSS Script. The test results are presented in table 14 and table 15.

Table 14: Hypotheses testing by OLS Bootstrapping (Direct effects)

Direct Effects		Coefficient	Std.Error	T-Student	*p* Value	Decision
H01 → H03	Path c	2.175	0.81	2.69	0.011*	Accepted
	Path a	3.425	1.64	2.08	0.016*	Accepted
	Path b	-0.255	0.11	-2.29	0.022**	Accepted
	Path c’	2.411	0.28	8.45	0.000***	Accepted

*p<0.05; **p<0.01; ***p<0.001; Number of bootstrap samples = 1,000

As shown in table 14, Path (a,b) can be classified as a mediatory effect because the total effect est significant.

Table 15: Mediation analysis by OLS Bootstrapping (Indirect effects)

Indirect effects	Path a	Path b	Indirect effect (a*b)	T-Student	*p* Value	Bootstrapped Confidence Interval 95%		Decision
						Lower	Upper	
H04	3.425	-0.255	-0.873	-2.13	0.03*	-1.78	0.04	Moderate Mediation

*p<0.05; **p<0.01; ***p<0.001; Number of bootstrap samples = 1,000

Results from table 15 indicate that the indirect effect is significant, this finding confirm that financial inclusion partially mediates the relationship between corporate governance and financial performance at a significance level of 0.03. This finding is consistent with the study's results (Yunes et al 2023, Yussif et al 2022, Zaher 2023).

Therefore, after testing (H04) and through the results explained above, we reject the null hypothesis (H04) and accept the alternative hypothesis. Financial inclusion partially mediates (Moderate mediation) the relationship between corporate governance and financial performance.

V. Conclusion

This paper focused on the relationship between corporate governance and performance in Saudi banking sector. Themotivation of this study is based on the lack of detailed research onthe role of financial inclusion as mediator in the relationship between corporate governance practices and its relationship with financial performance. Since Financial inclusion is a prerequisite of financial development and is an important driver of economic growth (Shoaib et al, 2022) and sustainable development (Soyeni et *al*, 2020), we supposed, that it can play a mediator role between corporate governance and performance. This idea was confirmed by this empirical study.

This study reached several conclusions at the theoretical and empirical levels. Financial inclusion is in the interest of several parties: banks, beneficiaries, governments. It can be considered as a lever to achieve economic and social goals. Saudi Arabia's ranking has improved globally on the financial inclusion index (Saudi Arabia ranks 34th in 2023). Banking governance system in Saudi Arabia is a comprehensive, complies with international best practices and takes into account global changes, economic and financial developments and requirements of Basel Group (1999, 2006, 2015). Additionally, it provides a fertile database for those interested to conduct research in the banking sector.

Results obtained from Joint of significance and Bootstrapping method show that financial inclusion is statistically significant and has negative relation with financial performance. This finding is consistent with previous studies (Alfons, 2002; Aamir,2002). The results show that the relationship between CG and Performance is indirectly influenced by two dimensions of the financial inclusion. This implies, that Saudi banks are committed to the principles of banking governance, related to protecting shareholders and stakeholders.

Although hypothesis and model setting have been tested, there are still areas that need to be improved. Further researchers can study other dimensions of financial inclusion and focus on the impact of applying ethical governance and fintech in achieving financial sustainability.

Furthermore, we limited ourselves to quantitative data. It would have been interesting to carry out a survey among beneficiaries in order to understand the degree of their satisfaction and its impact on performance. Furthermore, it would be interesting to duplicate this study in the context of financial institutions in developing countries.

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