

Ibrahim Bourama Traore

# **Impact of Financial Inclusion and Banking Factors on Banking Stability: Evidence from African Countries**

Impact of Financial Inclusion and Bank Factors on Bank Stability:  
Evidence from African Countries

**Ibrahim Bourama Traore**

MBA, 2024

Final International University  
January 2021  
Girne, TRNC

# **Impact of Financial Inclusion and Bank Factors on Banking Stability: Evidence from African Countries**

By

**Ibrahim Bourama Traore**

A thesis submitted to the Institute of Graduate Studies in partial  
fulfillment of the requirements for the Degree of Master  
in Business Administration

Final International University  
January 2024  
Gime, TRNC



**FINAL INTERNATIONAL UNIVERSITY  
INSTITUTE OF GRADUATE STUDIES**

**APPROVAL**

Title: Impact of Financial Inclusion and Bank Factors on Banking Stability:  
Evidence from African Countries

We certify that we approve this thesis submitted in partial fulfillment of  
requirements for the degree of Master in Business Administration

Approval of the Examining Committee:

Assist. Prof. Dr Hurcan Tarhan (Chair)

---

Assist. Prof. Dr Amirreza attarzadeh

---

Assist. Prof. Dr Farid Irani (Supervisor)

---

Approval of the Institute of Graduate Studies:

---

Prof. Dr. Nilgun Sarp

Ibrahim Bourama Traore

bourama.traore@final.edu.tr

ORCID ID: 21 100 400 14

© Ibrahim Bourama Traore 2024

*To my mother and father  
for their love and support.*

## **ETHICAL DECLARATION**

I, Ibrahim Bourama Traore, hereby, declare that I am the sole author of this thesis and it is my original work. I declare that I have followed ethical standards in collecting and analyzing the data and accurately reported the findings in this thesis. I have also properly credited and cited all the sources included in this work.

Ibrahim Bourama Traore

## **ACKNOWLEDGMENTS**

I would like to express my sincere gratitude to all those who have contributed to the successful completion of this research project. Their support, guidance, and encouragement have been invaluable throughout the journey. First and foremost, I extend my deepest appreciation to my supervisor Assist. Prof. Dr FARID IRANI, whose expertise, mentorship, and unwavering commitment to academic excellence have been instrumental in shaping the direction of this study. Your insightful feedback and constructive criticism have significantly enriched the quality of the research. I am grateful to Assist.Prof.Dr. FARID IRANI for his collaboration and assistance in data collection and analysis. His dedication and professionalism have been crucial to the project's success. I would also like to thank the participants who generously shared their time and insights, making this research possible. Your contributions are highly appreciated. Special thanks go to my family and friends for their unwavering support and understanding during the demanding phases of this research. Your encouragement provided the motivation needed to overcome challenges and persevere.

Finally, I acknowledge FIU Final International University for providing the necessary resources and a conducive environment for research. This project would not have been possible without the collective efforts of everyone mentioned above. Thank you for being an integral part of this academic study.

## ABSTRACT

The importance of financial inclusion and bank stability has been the subject of interest for both scholars and policymakers since the financial crisis of 2008. Financial inclusion, encompassing the provision of essential financial services to underserved populations, has emerged as a pivotal force in reshaping the dynamics of banking stability. This paper empirically examines the quantitative relationship between financial inclusion and stability in 24 African countries from 2004 to 2021. By using the Generalized Method of Moments (GMM) a dynamic panel data model, the Granger causality test, and others. The countries were selected based on accessibility, availability, and significant value of their data. This study found that well-implemented financial inclusion initiatives contribute to enhanced stability in banking systems. Improved access to financial services promotes diversified revenue streams for banks, mitigates systemic risks, and creates a more inclusive and robust financial ecosystem. Moreover, the pursuit of financial inclusion emerges as a potent catalyst for bank stability, offering a multifaceted and strictly positive impact that encompasses bank-specific factors. It's also essential to recognize that the positive impact of financial inclusion on bank stability is contingent on effective implementation, prudent risk management, and alignment with regulatory frameworks. Furthermore, the benefits may manifest more prominently over the long term as financial inclusion initiatives mature and positively impact Africa's broader socio-economic. In the final finding, Banks that prioritize and successfully implement financial inclusion initiatives experience improved overall stability. Longitudinal studies that track changes over an extended period are essential for understanding the sustainability of the relationship between financial inclusion and bank stability. However, such studies may be limited in number. This paper concludes with recommendations for future research and policy considerations to optimize the benefits of financial inclusion while mitigating potential risks to bank stability.

**Keywords:** Financial Inclusion, Bank Factors, Bank Stability



## ÖZ

Finansal krizin yaşandığı 2008'den bu yana, finansal katılımın ve banka istikrarının önemi hem akademisyenler hem de politika yapıcılar için ilgi odağı olmuştur. Finansal katılım, finansal hizmetlerin yetersiz kalan nüfusa sunulmasını içeren bir kavram olarak, bankacılık istikrarının dinamiklerini şekillendirmede önemli bir güç olarak ortaya çıkmıştır. Bu makale, 2004-2021 yılları arasında Afrika ülkelerinde finansal katılım ile istikrar arasındaki nicel ilişkiyi deneysel olarak incelemektedir. Genelleştirilmiş Momentler Yöntemi (GMM) dinamik panel veri modeli, Granger nedensellik testi ve diğerleri kullanılarak yapılan bu çalışma, etkili bir şekilde uygulanan finansal katılım girişimlerinin bankacılık sistemlerinde artan istikrara katkı sağladığını bulmuştur. Finansal hizmetlere daha iyi erişim, bankalar için çeşitlenmiş gelir akışları teşvik eder, sistemik riskleri azaltır ve daha kapsayıcı ve sağlam bir finansal ekosistem yaratır. Ayrıca, finansal katılımın takibi, banka istikrarı için güçlü bir katalizör olarak ortaya çıkar, bu da banka özgü faktörleri içeren çok yönlü ve kesin olarak olumlu bir etki sunar. Ayrıca, finansal katılımın banka istikrarı üzerindeki olumlu etkisinin etkili uygulamaya, dikkatli risk yönetimine ve düzenleyici çerçevelerle uyuma bağlı olduğunu kabul etmek önemlidir. Ayrıca, faydaların, finansal katılım girişimleri olgunlaştıkça ve Afrika'nın genel sosyo-ekonomik durumuna olumlu etki etmeye başladıkça daha belirgin bir şekilde ortaya çıkabileceği unutulmamalıdır. Sonuç olarak, finansal katılımı öncelikli hale getiren ve başarıyla uygulayan bankalar genel istikrarda iyileşme yaşamaktadır. Bu makale, finansal katılımın getirdiği faydaları optimize etme ve banka istikrarına yönelik potansiyel riskleri azaltma amacıyla gelecek araştırmalar ve politika önerileri ile sona ermektedir.

**Anahtar Kelimeler:** Finansal Katılım, Banka Faktörleri, Banka İstikrarı

## TABLE OF CONTENTS

DEDICATION.....	v
ETHICAL DECLARATION.....	vi
ACKNOWLEDGMENTS.....	vii
ABSTRACT.....	viii
ÖZ.....	ix
ABBREVIATIONS.....	xii
INTRODUCTION .....	1
1.1 Research Question.....	4
1.2 The Limitation of the Study .....	4
1.3 Significance of Study .....	5
1.4 Problem Statement .....	5
CHAPTER 2 .....	7
LITERATURE REVIEW.....	7
2.1 The Impact Financial Inclusion on the Stability of Banks.....	8
2.2 The Impact of Capital Regulation on Bank Stability.....	9
2.3 The Impact of Credit Risks on the Stability of Banks .....	10
2.4 The Impact of Diversification on Stability of Banks .....	11
2.5 The Impact of Bank Crisis on Bank Stability .....	12
2.6 The Impact of Inefficiency on Banking Stability.....	14

2.7 The Impact of Market Power on Financial Stability .....	15
2.8 The Impact of Market Share on Bank Stability .....	16
2.9 The Impact of Institutional excellence on the stability .....	17
3.2 Measurements of Variables.....	20
3.2.1 Dependent Variable .....	20
3.2.2 Independent Variable.....	20
3.2.2.3 Capital Requirements. ....	22
3.2.2.4 Inefficiency.....	22
3.2.2.5 Market Power and Market Share.....	23
3.3.1 Model Estimation and Methodology .....	25
CHAPTER 4 .....	26
RESULT.....	26
CHAPTER 5 .....	34
CONCLUSION.....	34
5.1 Conclusions.....	34
5.2 Policy Recommendation .....	35
REFERENCES	
APPENDIX	

## **ABBREVIATIONS**

ATMs: Automated teller machines

BCG: Boston Consulting General

BL/GL: Bank non-performing loans to gross loans (%)

BOC/Tas: the ratio of operational costs to total assets

C/In: bank's cost-to-income ratio

CAR: equity to total asset ratio,

CG: Corporate Governance

DC: Economic growth

DI : Deposit Insurance

EU : Union European

FAS : Financial Access Survey

FC : Financial Crisis

FI : Financial Inclusion

FII : composite Financial literacy Index

FOI : Financial Orientation Index

GDP : Gross Domestic Product

GMM: Generalized Method of Moments efficient panel estimator

ID/TI: Bank non-interest income to total income (%)

IFI: Index of Financial Inclusion

IMF: International Monetary Fund

Km<sup>2</sup> Square Kilometre

KR/RA: Bank regulatory capital to risk-weighted assets

LIn : Lerner indexe

Ln(Z) : ln z score

MP: Market power

MS/GDP: Market Share to gross domestic product

NPLs: Non-performing loans

OC/TA: bank overhead costs to total assets (%)

PCA: Principal Component Analysis

ROA: Return on Asset

SMEs: Small and Medium-Sized Enterprises

UI: Monetary Usage Index

$\sigma(\text{ROA})$ : the standard deviation of ROA

# CHAPTER 1

## INTRODUCTION

Given the notable strides made by banking institutions, microfinance organizations, deposit and loan institutions, credit unions, and cooperative societies in extending banking products and services to marginalized demographics, a substantial proportion of the global adult populace, approximately 2.5 billion individuals, remains excluded from formal financial services (Hannig & Jansen, 2010). Notably, the African continent, characterized by widespread financial exclusion, necessitates the integration of services tailored to low-income demographics, encompassing access to formal financial services such as credit facilities for daily transactions, avenues for savings, and insurance opportunities. In this context, financial inclusion envisages the comprehensive accessibility of all available financial instruments and informational resources within the sphere of financial intermediation. This inclusive framework aims to mitigate the cost of financing, address issues about information asymmetry, and foster enhancements in employment opportunities and financial stability (Ahamed & Mallick, 2019). Financial inclusion refers to the effort to provide individuals and businesses with access to financial products and services, including banking, credit, insurance, and investment opportunities (Demirgüç-Kunt et al,2012). Financial inclusion is not just about access to banking; it's about empowering communities, fostering economic growth, and fortifying the very foundations of our financial institutions (Muhammad Yunus, 2008). Further, according to findings from the Global Findex 2014 report, a considerable proportion of small and medium-sized enterprises (SMEs) in Africa encounter challenges in accessing financial services, as evidenced by their limited utilization of formal banking channels. This phenomenon is particularly pronounced when compared to similar enterprises in other developing regions, suggesting that the existing formal financial infrastructure fails to adequately cater to the growth requirements of African SMEs. The report highlights that approximately 25% of individuals across the continent possess formal bank accounts, with a notable portion of the population relying on informal mechanisms for savings and credit (Demirgüç-Kunt et al, 2012). Furthermore, the survey reveals that in sub-Saharan Africa alone,

36% of adults, totalling over one hundred and fifty million individuals, receive cash payments without the use of bank accounts (Global Findex Database, 2014). However, there has been a noteworthy advancement in Africa's financial inclusion landscape in recent years, attributed largely to advancements in innovation and technology. Notably, Kenya has experienced a substantial increase in the adoption of formal financial services, with the proportion of individuals utilizing such services rising from 27% in 2006 to 84% in 2021. Despite this progress, it is emphasized that financial technology (fintech) remains instrumental in addressing persisting barriers to financial inclusion, particularly among marginalized and underserved populations. Henceforth, stakeholders responsible for financial decision-making, policymakers, and development collaborators are predominantly concerned with formulating appropriate strategies aimed at fostering economic participation. This entails integrating unbanked individuals, who lack access to conventional banking services, into the established financial system. This activity seeks to alleviate the adverse repercussions of exclusion, such as susceptibility to exploitation by moneylenders, low-income levels, vulnerability to economic shocks, and limited prospects for future financial security. In recent times, the emergence of financial technology (fintech) has revolutionized the landscape of banking and commercial transactions. A particular type of mobile banking service known as 'Mobile electronic money' has gained widespread adoption in sub-Saharan Africa. Digital finance holds promise in enhancing financial inclusion, facilitating the provision of financial services to non-financial sectors, and extending basic services to citizens, considering that over 50% of individuals in developing nations utilize mobile phones. Moreover, digital finance can offer cost-effective, user-friendly, and reliable financial services to impoverished citizens residing in these nations. Demircuc-Kunt et al (2018) underscore the pivotal role of ensuring universal access to bank accounts in achieving financial integration. Notably, the utilization of cell phones in financial transactions has undergone significant changes, with 35% fewer adults (1.7 billion) lacking access to bank accounts in 2017 compared to 2000 (Demirgüç-Kunt et al., 2018).

Amidst the global economic downturn of 2008, scholars, politicians, and managers directed their attention toward the importance of maintaining the financial stability of banks. Evaluating a bank's stability and profitability poses a formidable challenge,

involving a plethora of multidimensional criteria. Financial security poses a significant concern for governments in developing nations, particularly in Africa. Based on Baum et al. (2021), the banking system serves as the lifeblood of the economy, as economic stability hinges on the stability of banks. Consequently, banking stability underpins the overall economic stability. Hence, researchers worldwide are keenly interested in identifying factors that contribute to bank stability, such as asset and stock sizes, market competition, revenue diversification, and managerial effectiveness (Ahamed & Mallick, 2017). Moreover, the efficacy of financial inclusion and stability strategies varies across nations. Drawing from data provided by the World Bank in 2016, Africa emerges as the most impoverished region globally, accounting for nearly 50% of global poverty. Financial inclusion holds the potential to catalyze African populations in overcoming poverty and social injustices. Empirical evidence suggests that financial inclusion confers substantial benefits upon marginalized groups, particularly women and impoverished adults across diverse countries. Many national leaders have acknowledged financial inclusion as a strategic approach to promoting economic empowerment and addressing escalating poverty rates. Multiple studies have demonstrated that financial inclusion alleviates poverty by expanding access to credit and insurance, consequently fostering entrepreneurial opportunities. This, in turn, leads to higher income levels, increased consumption, and bolstering of productive assets among individuals. Consequently, when appropriately regulated and supervised, financial development fosters economic growth, reduces income inequality and aids in uplifting families out of poverty. Additionally, an increase in the number of small savers could bolster stability within the banking system, as banks would rely less on "non-core" financing, which is more susceptible to fluctuations during crises (Khan, 2011). One potentially negative aspect is the overemphasis on quantity over quality in the pursuit of financial inclusion goals. The rapid expansion of financial services to underserved populations may lead to a relaxation of risk management standards and due diligence, potentially resulting in a higher proportion of non-performing loans and increased credit risk for financial institution (Dienillah et al., 2018). Poor policy implementation can also undermine banking operations, exacerbating stability concerns (Kipasha & Zhang, 2013; Ihák et al., 2016). Furthermore, the lack of



comprehensive oversight over loan deposits and loan discrimination, coupled with the expansion of financial goods and services, underscores the need for vigilance. While financial inclusion efforts aim to broaden access to banking services across diverse demographics and geographies, they may inadvertently introduce challenges related to higher operational costs and increased credit risks (Musau et al., 2018). Nonetheless, expanding savings and loan portfolios through financial inclusion can bolster banks' stability by facilitating risk diversification (Musau et al., 2018). This study attempts to explore the impact of financial participation and bank-related factors on banks' security, utilizing data from African countries. Despite the abundance of research on how financial inclusion influences financial stability, much remains unclear. Moreover, few studies have examined the effects of diversity, credit risk, capital controls, market dominance, and market share on bank sustainability.

### **1.1 Research Question**

The impact of financial inclusion on banking stability remains an unresolved question: How do you think reaching the unbanked and fostering financial inclusion could redefine the landscape of banking stability? Does the increase of access to finance contribute to the enhancement of banking stability in African nations? Do bank-specific factors influence bank stability?

This research provides valuable insights into the current body of literature by analysing the influence of both macro variables and bank-specific factors. This research provides empirical information about the problematic correlation between financial inclusion on banking stability. Also, it offers the current information on the subject by computing the probable results of various financial inclusion criteria.

### **1.2 The Limitation of the Study**

Over the last decade, the African continent has been widely acknowledged as having a relatively low degree of financial inclusion. One major limitation of this study is the availability and quality of data related to financial inclusion and bank stability in Africa. Many African countries may have limited data infrastructure and reporting mechanisms, making it challenging to conduct comprehensive studies. Also,

measurement challenges in standardizing metrics to assess bank stability. Longitudinal studies that track changes over an extended period are essential for understanding the sustainability of the relationship between financial inclusion and bank stability. However, such studies may be limited in number. This research was limited to the factors covered in the analysis since there was a lack of available data that may have improved the findings. Limitations in financial inclusion data within the region can arise due to a lack of financial education and awareness of financial products among the population. This limitation is particularly pronounced in African nations, where research efforts have primarily been concentrated. An area of potential interest for further investigation could involve conducting comparative studies between sub-Saharan Africa and the Middle East, focusing on the evidence of financial inclusion's impact on economic growth while emphasizing specific country-level factors.

### **1.3 Significance of the Study**

The study examines the significant impact of financial inclusion on banking stability, highlighting that actively promoting financial inclusion positively influences the overall stability of the banking sector. Notably, Africa has made considerable strides in enhancing financial participation and banking services in recent years, positioning itself as an emerging market for growth. The research underscores the pivotal role of financial inclusion in fortifying the foundations of financial institutions, fostering economic growth, and empowering communities. While financial inclusion is generally regarded as a catalyst for economic development, it is essential to acknowledge potential challenges and negative aspects. One such concern is the possibility of increased risks that may undermine banking stability.

### **1.4 Problem Statement**

In Africa, despite concerted efforts to promote financial inclusion, there exists a significant gap in understanding how these initiatives impact the stability of the banking sector. This knowledge deficiency poses a challenge to the formulation of effective strategies and policies in this regard. The present study aims to bridge this gap by delving into the intricate dynamics between financial inclusion measures and their repercussions on the stability of banks within the African context. Through the

identification of key factors and an assessment of their implications, this research endeavors to furnish actionable insights for policymakers, regulators, and financial institutions, thereby facilitating the enhancement of stability and resilience within Africa's banking sector. Nonetheless, it is noteworthy that a substantial portion of the African population still lacks access to affordable financial services (World Bank, 2016).

Chapter 3 of this paper elucidates the methodologies and approaches employed for data collection and analysis. Chapter 4 provides a comprehensive overview and analysis of the findings, while Chapter 5 offers conclusive remarks on the study's outcomes and implications.

## CHAPTER 2

### LITERATURE REVIEW

Financial inclusion is often regarded as the opposite of financial exclusion (Kempson & Whyley, 1999), offering favorable outcomes for a nation's economic growth, financial stability, and poverty alleviation efforts (Demirguc-Kunt et al., 201). It benefits every stratum of society, with essential services such as ATMs, account numbers, credit cards, debit cards, and banking transactions facilitating access to financial resources. Over time, financial inclusion has extended credit facilities to marginalized populations through microfinance institutions, serving as a crucial indicator of poverty and inequality by simplifying access to financial products and services like savings accounts, bank loans, insurance, and transfers (Huang & Zhang, 2020; Jungo et al., 2014). When utilized judiciously, these services can significantly enhance the livelihoods of families (Owen & Pereira, 2018; Zins & Weill, 2016).

The second theory pertains to banking stability, which became a subject of intense debate during the global economic downturn of 2008-2009. Various studies support the concept of financial stability, also known as banking stability. Crockett (1997) defines a bank as stable when it operates without financial stress or price fluctuations, thereby minimizing the risk of default. Borio (2003) distinguishes between micro-prudential and macro-prudential factors contributing to financial stability. At the micro level, prudential measures aim to mitigate the risk of bankruptcy, particularly stemming from bank runs, which can precipitate a bank's failure (Bonin et al., 2014; Ngalawa et al., 2016). Banking stability is not just about avoiding financial crises; it's about creating an ecosystem where banks are not only resilient to shocks but actively contribute to sustainable economic development.

The third theory pertains to institutional quality, reflecting the adequacy or deficiency of a country's institutions. Current research delves into the significance of institutions in maintaining financial stability. Enhanced institutional proficiency may lead to reduced transaction costs and improved information symmetry, influencing business

behavior and overall economic performance (Gugler et al., 2013). Various descriptors are used to assess the integrity of governments, including power, consistency, effectiveness, and performance, especially concerning corruption, government machinery quality, and law enforcement (ADB, 2013).

## **2.1 The Impact Financial Inclusion on the Stability of Banks**

Integration in finance can influence the security of banks through multiple channels, as highlighted by the World Bank (2018). Financial inclusion plays a pivotal role in enabling nations to mitigate their vulnerability to and response to foreign debt shocks, which can gradually amplify within their financial systems (Demirguc-Kunt et al., 2017). However, financial inclusion may pose risks to bank stability if it results in unchecked credit expansion, as noted by Dienillah et al. (2018). Furthermore, ineffective policy implementation can introduce volatility into banking operations (Kipsha & Zhang, 2013). Nevertheless, banks can mitigate adverse outcomes through robust client protection measures and rigorous monitoring systems. Moreover, they contribute to fostering economic development in emerging economies, where limited financial inclusion impedes economic growth. Lenka and Sharma (2017) underscore a strong positive correlation between financial literacy and India's economic development, attributing India's economic growth to the strategy of financial liberalization. Efficient banking institutions are crucial for facilitating broader financial access and stimulating economic growth simultaneously. However, certain viewpoints oppose financial integration despite its beneficial impact on a nation's economic expansion. Dahiya and Kumar (2020) argue that increased financial inclusion does not necessarily lead to economic growth. Similarly, Sikarwaret et al. (2020) find that out of 96 financial inclusion metrics, only three significantly influence economic progress. Contrary to these arguments, empirical evidence from various countries suggests that economies with more developed financial systems experience more rapid reductions in both poverty rates and income inequality. Moreover, small businesses and low-income individuals may directly and indirectly benefit from financial deepening (Beck et al., 2008).

Supporting this, many countries have successfully digitized government payments, encompassing all government-to-person transfers, thereby reducing costs and enhancing financial access. This digitization also yields significant cost savings in payment system administration and reduces leakage due to corruption and fraud (World Bank, 2018). According to Arun and Kamath (2015), financial inclusion ensures immediate and adequate access to financial services at affordable rates, particularly for disadvantaged groups. Finally, the choice of Financial Inclusion (FI) as the variable stems from its crucial role in shaping the landscape of banking stability. Financial inclusion, encompassing the provision of essential financial services to underserved populations, is viewed as a catalyst for economic development and poverty reduction (Muhammad-Yunus, 2008).

Hypothesis 1: Financial inclusion has a positive relationship with bank stability.

## **2.2 The Impact of Capital Regulation on Bank Stability**

Policymakers predominantly utilize minimum capital requirements (recapitalization) to bolster the efficiency, liquidity, stability, and profitability of the banking sector. Capital regulation exerts a profound influence on bank stability, with regulatory authorities imposing requirements on the capital banks must hold relative to their risk-weighted assets to enhance financial institutions' resilience (Batuo et al., 2018). The study conducted by Murinde and Yaseen (2006) examines the impact of Basel Accord regulations on the capital and risk management practices of banks in the Middle Eastern and North African region. Analysis of annual data from 1995 to 2003 reveals empirical evidence demonstrating that capital requirements significantly influence banks' actions regarding capital ratios. Furthermore, it is observed that banks not only increase their capital in response to regulatory demands but also enhance their risk-taking capacity. Similarly, Igan and Mirzaei (2020) concur in their research, asserting that financial regulation bolsters bank resilience by improving asset quality and restraining unsustainable credit expansion, thereby averting financial instability. Conversely, Anarfo et al. (2020) demonstrate that financial regulation diminishes financial inclusion in Sub-Saharan African nations. Adequate capital serves as a protective buffer, shielding banks from financial distress and

insolvency during economic downturns or unforeseen losses (Gupta & Kashiramka, 2020). Stringent capital regulations contribute to a more stable banking sector by reducing the likelihood of bank failures, fostering depositor confidence, and mitigating systemic risks. The rationale for choosing Capital Regulation as a variable lies in its potential to significantly influence the financial health and stability of banks. It establishes the minimum amount of capital that banks must hold in proportion to their risk-weighted assets, serving as a critical risk management tool and buffer against unexpected losses. Hypothesis 2: Higher levels of capital regulation positively impact bank stability.

### **2.3 The Impact of Credit Risks on the Stability of Banks**

Scholars and government officials have extensively analyzed the credit risk of banks, which primarily pertains to the level of loans that remain unpaid. Non-Performing Loans (NPL) is regarded as a significant threat to the long-term viability of the banking sector. A loan is considered insolvent when its repayment is delayed by more than 90 days (IMF, 2005). The recent European credit crisis has highlighted the vulnerability of even the most powerful economies. In 2013, EU banks estimated NPLs to amount to €1 trillion (ECB, 2007), with Greece and Cyprus exhibiting the highest rates at 46% and 45% respectively (ECB, 2007). Spain, Slovenia, Ireland, and other countries were severely affected by the crisis due to their substantial volumes of bad loans. Consequently, mitigating credit risks has become a top priority for these nations, given their profound impact on economic stability. The economic volatility and disasters resulting from such crises underscore the imperative to safeguard financial stability and implement essential measures to mitigate the occurrence of similar disasters in the future. Banking distress can precipitate economic downturns (Llewellyn, 2007). Current empirical research in Nigeria explores the consequences of bad loan (NPL) shocks on the stability of the banking system, particularly concerning various classifications or sizes of banks. Kolapo et al. (2012) assess the influence of credit risk on the performance of commercial banks in Nigeria, using a sample of five commercial banks, and find that credit risk uniformly affects bank performance across all industries. Furthermore, the study establishes a transparent and established link between bank failures and the security of the banking industry

over the long term. Research indicates that deteriorating loan performance is exacerbated during periods of elevated unemployment and increased real interest rates. Conversely, improvements in loan conditions are observed when inflation rises and the income generated from the bank's assets declines (Boot & Thakor, 2000). Larger banks tend to mitigate credit risks more effectively by implementing stricter credit management practices, thereby enhancing their financial soundness (Beck et al., 2006). Ozili (2018) employs NPLs as a measure of stability to investigate the factors contributing to the stability of African banks, finding that NPLs in Africa can be predicted by various factors such as bank efficiency, the presence of foreign banks, and the quality of institutions. The economic burden of recovering from a financial collapse caused by a crisis, particularly within financial institutions, can be substantial, reaching up to around 50% of a country's annual GDP according to the World Bank (2001). Higher exposure to credit risk increases the likelihood of non-performing loans, impairing a bank's financial health and stability. The selection of Credit Risk as a variable stem from its pivotal role in the financial health and stability of banks. Credit risk, associated with the potential for borrowers to default on their obligations, is a critical consideration for financial institutions.

Hypothesis 3: Higher levels of credit risk negatively impact bank stability.

## **2.4 The Impact of Diversification on Bank Stability**

The prevailing trend in financial markets leans towards decentralization. As markets evolve, financial institutions are compelled to innovate and create new financial products to meet market demands. Over the past three decades, banks have expanded their services, diversified geographically, and adjusted their investment strategies to mitigate risk (Haugen, 2001). Asset diversification, involving spreading investments across multiple asset categories and geographic regions, is a key strategy employed by banks to manage risk. Given that banks utilize various diversification techniques simultaneously, it is essential to examine their combined effects. According to Acharya et al. (2006), banks with lower risk levels can benefit from diversification, either by expanding into different industries and sectors (Berger et al., 2010). However, scope diseconomies may arise due to reduced monitoring



incentives and poorer loan portfolio quality (Boot & Schmeits, 2000). Diversifying activities across various assets and economic conditions enables banks to mitigate the likelihood or projected costs of financial insolvency. Empirical evidence supports the efficacy of diversification strategies. Boyd and Graham (1988) found that integrating insurance firms with banks reduces the likelihood of bankruptcy. Similarly, Rose (1989) demonstrated that banks can reduce cash flow risk by offering non-bank products. Templeton and Severiens (1992) observed a decrease in uncertain risk as banks offer a wider range of financial services. Berger et al. (2010) noted that risk becomes more dispersed as the financial services industry consolidates. During the recent credit crunch, the wide range of customer deposits buffered banks from bankruptcy when market funding dried up (Hannig & Jansen, 2010). Implementing a broader range of financing options to promote financial inclusion and mobilize deposits can reduce banks' risks and funding expenses, ultimately enhancing their stability. Furthermore, studies suggest a positive correlation between bank diversity and financial stability, with the highest stability achieved at an optimal level of bank variety. However, exceeding this level of diversification may lead to declining financial stability (Kim et al., 2020). Additionally, involvement in non-lucrative income activities could enhance bank efficiency and reduce risk through advantageous diversification (Demirgüç-Kunt & Huizinga, 2010). Recent literature analysis indicates that revenue diversification reduces banks' risk levels and increases profitability, thereby promoting significant banking stability. The choice of Income Diversification as a variable is rooted in its significance for the financial health and stability of banks. Income diversification, involving the expansion of revenue sources beyond traditional banking activities, is a strategic approach adopted by financial institutions (Nguyen et al. 2012). Diversifying income streams can buffer banks against fluctuations in specific revenue sources, promoting stability. Hypothesis 4: Well-managed income diversification positively contributes to bank stability

## **2.5 The Impact of Bank Crisis on Bank Stability**

The onset of early bankruptcy in March 2023, initiated by the collapse of Silicon Valley, sparked widespread alarm and ultimately led to the failure of Signature Bank. The global financial crisis impacted major European banks like

Credit Suisse and Deutsche Bank, prompting emergency measures and acquisitions to stabilize the financial system (World Bank, 2023). Bankruptcies are characterized by inappropriate withdrawals by depositors, placing significant strain on banks' liquidity (Friedman & Schwartz, 1963). These crises often stem from unsustainable macroeconomic policies, market failures, regulatory inefficiencies, and government intervention in capital allocation. Laeven and Valencia (2008) note that such crises are marked by cycles of credit and asset price booms followed by busts. Berger and Bouwman (2009) highlight that the 2007 financial collapse was preceded by a substantial increase in liquidity within US banks. Banks with low liquidity buffers and companies with high levels of pre-crisis debt were particularly vulnerable to bankruptcy. Demirguç-Kunt and Huizinga (2010) argue that heightened dependence on the interbank market amplifies the likelihood of financial instability or failure among financial institutions. Additionally, Krozner et al. (2007) examine the impact of banking crises on companies reliant on foreign loans in nations with underdeveloped monetary systems, indicating that banking crises can exert significant pressure on the entire economy. Past financial crises, including currency collapses and financial turbulence, have resulted in production losses comparable to historical times (Bordo et al., 2001). These crises occur more frequently in contemporary times compared to the gold standard and Bretton Woods eras, and they are as frequent as during the interwar period. An economic downturn refers to a disruption in financial markets characterized by significant adverse selection and risk-taking, affecting the efficient allocation of funds (Mishkin, 1992). Asset values plummet over time, leaving banks with more liabilities than assets, leading to bankruptcy or negative capital (World Bank, 2016). According to the IMF (2009), most sub-Saharan African nations have experienced consecutive fuel, food, and financial shocks (3F) since 2000, with growth rates recovering after the "lost decades" of the 1980s and 1990s. Claessens et al. (2011) suggest that governments establish deposit insurance programs to guarantee savers' money, increasing confidence in accounts and overall sustainability. This implies that bank runs are not always triggered by actual bank failures, as insolvency can remain undetected for extended periods across various financial crises. The selection of Bank Crisis as a variable is driven by its critical importance in assessing the stability and resilience of banks and

financial systems. Bank crises, characterized by events such as bank failures, liquidity crises, or solvency issues, can have far-reaching implications for financial stability (Segoviano Basurto, 2009).

Hypothesis 5: Bank crises negatively impact the stability of other banks within the financial system.

## **2.6 The Impact of Inefficiency on Banking Stability**

In order to maintain competitiveness and generate value, financial institutions must continually improve their operational efficiency and productivity. The operational efficiency of banks plays a crucial role in ensuring the endurance and stability of the financial system (Alam & Nazmoon, 2019). Analysts gauge banking efficiency by examining metrics such as the bank's cost-to-income ratio (C/In) and the ratio of operational costs to total assets (BOC/TAs). Total assets encompass all financial resources held by the bank, including profits, outstanding loans, physical assets, and other tangible and intangible resources. Studies have shown that as profitability, measured by return on assets (ROA), increases, the cost-to-income ratio tends to decrease (Pradhan & Parajuli, 2017). Longitudinal studies focusing on ROA have found that higher cost-to-income ratios have a negative impact on profitability (Chalise, 2019). Effective management of operational costs is identified as a significant factor in ensuring bank stability (Obamuyi, 2013). Ghosh and Sanyal (2019) emphasize the importance of efficient business operations for a bank's enduring stability, financial gain, and overall effectiveness. According to Beck, Demirgüç-Kunt, and Levine (2000), a bank's high efficiency is attributed to its ability to effectively generate and utilize resources, thereby fostering productivity and financial growth. The cost ratio has long been utilized as a measure of operational efficiency (Shah & Jan, 2014). Studies focusing on operational efficiency ratios demonstrate how adept management can reduce costs and increase revenue, thereby enhancing overall performance (Allen & Rai, 1996). Moreover, efficient banks tend to outperform or establish dominance over inefficient banks in terms of market power (Kasman & Carvallo, 2014). This underscores the importance of operational efficiency not only for financial performance but also for competitive positioning in

the market. The choice of Inefficiency as a variable is motivated by its direct and indirect impact on the stability of banks. Inefficiencies in various aspects of a bank's operations can have detrimental effects on its overall stability. Operational inefficiencies may lead to errors, disruptions, and increased operational risk, potentially undermining overall stability

Hypothesis 6: Inefficiencies in operational processes negatively impact the stability of banks.

## **2.7 The Impact of Market Power on Financial Stability**

Competition serves as a fundamental driver of a well-functioning economy, ensuring efficient resource allocation and preventing market dominance that may lead to the exploitation of workers and consumers for the benefit of corporate owners. Keeley (1990) posits that as banks enhance their brand value and face heightened bankruptcy costs, they tend to acquire greater market dominance, thereby incentivizing them to maintain higher capital levels as a precautionary measure. However, excessive market power can have adverse effects on welfare, resulting in increased prices, reduced consumption, and limited innovation (Herberger, 1954; Aghion et al., 2005). Regulatory frameworks play a crucial role in striking a balance between stability and competitiveness in the banking sector, although the impact of specific regulatory aspects on sector stability remains a subject of academic debate due to differing institutional frameworks across countries (Barth et al., 2004). Banks with significant market dominance are better positioned to address information asymmetries and maintain relationships with specific companies, potentially improving the quality of their loan offerings (Petersen & Rajan, 1995; Cetorelli & Peretto, 2000). While market power may enhance profitability and stability from one perspective (Boyd & De Nicoló, 2005), it can also lead to higher interest rates for businesses and hinder market competition. The competition-fragility concept suggests that market dominance can promote market discipline and deter banks from undertaking excessive risks (Hellmann et al., 2000). Banks with greater market power are better equipped to evaluate and monitor borrowers, leveraging a broader array of information resources (Allen & Gale, 2004). However, a completely open market,

devoid of any monopolistic control by individual banks, is deemed optimal for ensuring security and stability in the banking system (Lucchetta & De Nicoló, 2011). Thakor (2005) warns that the absence of market competition may pose challenges for bank shareholders in evaluating the efficiency of bank management, potentially leading to erroneous decisions and increased risk exposure. Therefore, a balanced approach that fosters competition while ensuring adequate regulatory oversight is essential for promoting stability and efficiency in the banking sector. The selection of Market Power as a variable is based on its potential to significantly influence the stability and behavior of banks. Market power, reflecting a bank's ability to influence prices, control market share, and impact competition, has implications for various aspects of a bank's operations (Ariss & Rima, 2010).

Hypothesis7: Higher levels of market power positively influence the stability of banks.

## **2.8 The Impact of Market Share on Bank Stability**

Statista's projection of Bank of America holding the largest market share among commercial banks in the United States, with an estimated percentage of 10.43% in 2020, underscores the institution's significant presence in the market. However, it's essential to recognize that market share alone may not consistently indicate a bank's stability. Market share might increase for various reasons, including competitors exiting the market due to financial difficulties, rather than reflecting inherent stability within the bank itself. Therefore, additional factors such as profitability, leverage ratio, and asset quality play crucial roles in evaluating a bank's stability. Tilton (2018) emphasizes that market dominance is contingent upon possessing pricing power and clear objectives. Firms with substantial market shares, lacking pricing power and strategic aims, may not actively pursue increased market dominance and might accept prevailing market conditions. Conversely, companies with significant market share and robust entry barriers are likely to exhibit greater market power (Wang & Sun, 2018). Imperfect market competition facilitates the establishment of market domination by corporations with substantial market shares. While numerous studies suggest that larger market share is advantageous for achieving financial success

(Buzzell, 2004), the relationship between market share and profitability is complex. Rhoades (1985) highlights that market share remains a significant driver of earnings, even after accounting for market concentration and size, indicating distinct commercial advantages for organizations with substantial market presence. Wu and Shen (2011) found that higher market share correlates with increased profitability, especially in environments characterized by high market unpredictability, limited competition, and governmental oversight. Moreover, larger enterprises often benefit from economies of scale and scope, as well as enhanced efficiency derived from accumulated expertise (Phillips et al., 1983). This enables them to achieve cost advantages over smaller competitors, contributing to higher profitability. Additionally, firms with significant market share possess considerable market strength, attracting capital due to their perceived stability and market dominance, as posited by the market power theory. Therefore, while market share is an important factor, it is only one aspect of a multifaceted evaluation of a bank's stability and performance. The choice of Market Share as a variable is considered in its significance for understanding the competitive dynamics and stability of banks. Market share, representing the portion of total industry sales or revenue that a bank commands, has implications for various aspects of a bank's operations.

Hypothesis 8: Higher market share positively influences the stability of banks.

## **2.9 The Impact of Institutional Quality on Bank Stability**

The economic downturn of 2008 prompted many financial institutions to adopt stricter capital standards. Das, Quintyn, and Chenard (2004) argued that the quality of institutional frameworks plays a significant role in influencing financial stability. Therefore, governments have a legitimate interest and responsibility to ensure financial stability through effective governance. Chortareas et al. (2013) assert that regulatory and banking institutions are more successful in environments free from corruption, characterized by financial independence and a supportive, inclusive political climate. Corruption can negatively impact the financial performance of creditors, contributing to increased financial instability (Hanousek et al., 2019). Dutta and Saha (2021) demonstrated the effectiveness of corporate governance (CG) in

ensuring the precise implementation of macroprudential policies. Additionally, strengthening institutional integrity helps alleviate information asymmetry by disseminating information about market conditions and risks, as property rights are firmly established, and contracts are efficiently upheld (WTO, 2004). Moreover, robust institutions have the ability to enhance corporate transparency and openness, thereby improving the quality and accuracy of borrower information (Bushman & Piotroski, 2006). As a result, financial institutions can enhance their capacity to mitigate adverse decisions and reduce lending costs. In conclusion, enhancing the quality of institutions effectively reduces credit and default risks, thereby strengthening the stability of banks. Stable macroeconomic conditions are imperative for domestic financial institutions to operate seamless

## CHAPTER 3

### DATA AND METHODOLOGY

#### 3.1 Data

This study utilizes a vast dataset sourced from 24 African nations, covering the period from 2004 to 2021. Which employs empirical methods to investigate the quantitative association between financial inclusion and bank factors on banking stability in African nations. The determination of the number of countries and the study periods in this research is guided by the availability of data, meticulously curated through a process of cross-referencing from various sources to mitigate the risk of overlooking crucial observations. The international community has united in addressing the widespread issue of unintentional financial exclusion on a global scale. The empirical basis of this research is meticulously sourced from the World Bank's authoritative databases, specifically referencing the extensive data available in the Global Financial Inclusion Databank for the years 2018 and 2019. Moreover, the detailed financial inclusion indices incorporated into this study are meticulously extracted from the Financial Access Survey (FAS) database, which is overseen by the esteemed International Monetary Fund (IMF). In the investigation of country-level factors, the study sourced annual data on financial market development and institutional quality from the comprehensive datasets provided by the World Bank. Additionally, the annual data on deposit insurance was systematically collated from the International Monetary Fund (IMF).

The 24 selected Africa countries have been highlights as a following

Algeria, Angola, Botswana, Burundi, Cameroon, Egypt Arab, Eswatini, Ethiopia, Kenya, Lesotho, Libye, Madagascar, Malawi, Morocco, Mauritius, Mozambique, Namibia, Republic democratic Congo, Rwanda, South Africa, Tanzania, Tunisia, Uganda, Zambia



## 3.2 Measurements of Variables

### 3.2.1 Dependent Variable

Z-score is a more accurate way to predict vulnerabilities in the banking sector because it takes into account a company's level of solvency, its profitability, and its fluctuating revenue. It is also easy to use and readily available.

$$Z - score_{it} = \frac{ROA_{it} + \frac{E_{it}}{TA_{it}}}{\sigma ROA_{it}}$$

In this section, ROA Denotes the yield generated by the sum of assets,  $\sigma(\text{ROA})$  Denotes the measure of variability or dispersion of the Return on Assets (ROA). for 'i' in year 't', and stock-to-asset rate is represented by the symbol  $\sigma(\text{ROA})_{it}$ . of three years to get the  $\sigma(\text{ROA})$ . We adjusted for fluctuations in the Z-score over a rolling 3-year period. As posited by Beck et al. (2013), a higher Z-score signifies greater bank stability and reduces the risk of bankruptcy. Additionally, to mitigate the impact of larger values, the Z-score was transformed using a natural logarithm, as suggested by Bermpei et al. (2018).

### 3.2.2 Independent Variable

**3.2.2.1 Financial Inclusion.** Drawing insights from the studies conducted by Ahamed and Mallick (2019) and Saha Dutta and Saha (2020), we constructed a Financial Inclusion (FI) index amalgamating distinct components, specifically the Financial Orientation Index (FOI), Monetary Usage Index (UI), and composite financial literacy Index (FII). These measures serve to evaluate diverse facets of financial inclusion. To streamline our analysis, we employed Principal Component Analysis (PCA), a widely utilized statistical method adept at condensing a multitude of correlated variables into a more concise set of composite variables. In assessing financial participation, we applied Principal Component Analysis (PCA) to incorporate factors pertaining to geographical and demographic reach, thereby encompassing both the supply and demand dimensions of financial products and services, as elucidated by Ahamed and Mallick (2019). To delve into specifics, the

accessibility facet, or penetration, was gauged by the ratio of deposit accounts at commercial banks, microfinance institutions, and registered mobile deposit accounts per 1,000 individuals. The evaluation of financial services accessibility considered the density of bank transaction offices, the quantity of registered mobile financial services agents, and the number of ATMs per 100,000 adults. This also embraced the density of branches and ATMs per 1,000 km<sup>2</sup>, along with the density of branches and ATMs per 100,000 people. The utilization dimension entailed assessing the proportion of deposit and loan accounts per 1,000 individuals. The evaluation of financial services utilization was based on the aggregate value of credit transactions and the amount of deposits relative to GDP. These indicators have been widely employed in previous research endeavors by Ahamed and Mallick (2019).

**3.2.2.2 Bank Specific Factors and Macro-Economic Variable.** Transitioning to factors specific to banking institutions and variables relevant to the broader economy, our research encompassed various aspects distinct to each nation. More specifically, we integrated the 'size' hypothesis, operationalized by the logarithm of the total assets of the bank (Dimension). The analysis of the ln-logged z-score level (z-score) emerged as essential for assessing stability. This comprehensive methodology addressed both bank-specific factors and broader economic indicators.

**3.2.2.3 Capital Requirements.** Bolt and Tieman (2004) argue that the implementation of stricter capital adequacy standards for banks enables them to impose more rigorous criteria for approving new loans. This measure enhances banks' resilience against default risk and improves overall stability. Klomp and De Haan (2014) investigated the impact of banking supervision and regulation on bank risks using data from non-industrial nations spanning 2002 to 2008. Their findings support the implementation of capital regulation as a means to mitigate risk and enhance overall stability. Martinez-Miera and Suarez (2014) demonstrated that higher bank capital requirements may reduce the amount of systemic risk that banks face, thereby enhancing the overall stability of the system.

**3.2.2.4 Inefficiency.** Inefficiency in banking operations is associated with higher credit risks, which can diminish profitability, as observed in the case of African banks. The existing body of research presents a varied assessment of the relationship between bank efficiency and stability. Different scholars hold differing perspectives on how efficiency and stability are intertwined. Phan et al. (2019) suggest that bank efficiency reduces the occurrence of bad loans and inefficient management, thereby positively impacting sustainability. However, Tan and Floros (2013) argue that banks operating efficiently often employ less stringent credit screening procedures, leading to increased credit risk and ultimately instability. The expected outcome is either a favorable or unfavorable impact of banking sector efficiency on the resilience of banks.

**3.2.2.5 Market Power and Market Share.** The traditional concept of "competition-fragility" posits that achieving market dominance in the banking industry can be advantageous, even if it results in potential efficiency drawbacks. A bank that commands a significant market share is likely to diminish information asymmetry and cultivate enduring partnerships with specific businesses (Petersen and Rajan, 1995). Market dominance contributes to increased profitability, consequently fostering bank stability, while potential ramifications of market dominance on corporate behavior are overlooked (Boyd & De Nicoló, 2005). According to Wang et al. (2018), a firm's market power intensifies with a larger market share and more substantial entry barriers. Companies with significant market shares may establish market dominance due to unequal competition. This study reveals that market power has a favorable impact on banking stability.

**3.2.2.6 Income Diversification.** Bankers employ diversification as a primary strategy to mitigate risks. The theory of portfolio management is substantiated by the idea that diversifying revenue sources can enhance financial stability during both normal and turbulent periods. Bankers should explore alternative sources of revenue to ultimately bolster stability. Moreover, diversification has the potential to increase profits while reducing costs associated with noninterest operations (Paltrinieri et al., 2021). Recent studies suggest that income diversification has the potential to decrease risk levels and enhance profitability for banks, thus contributing significantly to banking stability. Furthermore, during banking or financial crises (FC), we anticipate adverse effects on the economy, leading to reduced bank stability, increased bank collapses, a shortage of cash, and systemic vulnerabilities. Additionally, we anticipate advancements in financial market development (DC) and the establishment of deposit insurance (DI).

**Table 1***Variables Description*

Variables	Definition	sources
Banking soundness (Z-score)	Where ROA stands for return on assets, CAR for equity to total asset ratio, and $\sigma(\text{ROA})$ for the standard deviation of ROA, the natural logarithm of $(\text{ROA} + \text{CAR}) / \sigma(\text{ROA})$ ratio ( $\text{Ln}(Z)$ ) is used. The likelihood of the bank failing decreases as the Z-score rises	World Bank
Capital requirements	(KR/RA) Capital requirements and the measurement of risk-weighted assets for banks by regulatory standards. (K/TotA) A bank's capital to its total debt.	World Bank
Credit risk	The percentage of bad loans compared to gross mortgages (BL/GL)	World Bank
Inefficiency	The bank's operating expenses as a percentage of entire assets (OC/TotA) and expense-to-earnings ratio as a percentage (C/R).	World Bank
Market share	The percentage of funds deposited in institutions' assets to GDP. (DA/GDP).	World Bank
Market power	The Lerner indexes (LIn) show the five biggest banks' percentage of corporate banking assets.	World Bank
Income divarication	The percentage of non-interest earnings in relation to total banking profitability.	World Bank
Financial crisis	The dummy factor is assigned a value of 1 when an economy is experiencing a financial crisis and a value of 0 when it is not (FC).	World Bank
Financial inclusion	The financial inclusion index (IFI) is created by considering the elements of financial outreach and use. The financial outreach component is defined by the scope of geographical and demographic coverage provided via agencie and ATMs. This encompasses the density of branches and ATMs per 1,000 square kilometers, as well as the density of agencies and ATMs per 100,000 people. The utilization dimension refers to the proportion of deposit and loan accounts per 1000 individuals.	IMF
Financial market development	The share of GDP came from domestic loans given by banks.	World Bank
Deposit insurance	If a government has clear bank protection, the fake variable is 1, and if it doesn't, it's 0.	IMF

### 3.3 Specification of Empirical Model

The model examining the link that exists among the variables such as banking participation and bank -specific factors and bank stability. The research undertaken by Saha and Dutta (2022) and Ahamed and Mallick (2019) has led to the construction of a model

$$\ln(Z_{it}) = \alpha_0 + \alpha_1 \ln(Z_{it-1}) + \alpha_2 \frac{KR}{RA_{it}} + \alpha_3 \frac{NPL_{it}}{GrL_{it}} + \alpha_4 \frac{C_{it}}{I_{it}} + \alpha_5 \frac{MS_{it}}{GDP_{it}} + \alpha_6 MP_{it} + \alpha_7 \frac{ID_{it}}{TI_{it}} + \alpha_8 FC_{it} + \alpha_9 IFI_{it} + \alpha_{10} DL_{it} + \alpha_{11} DIn_{it} + \varepsilon_{it}$$

In this model,  $Z_{it}$  represents a certain variable at time  $t$  with its natural logarithm taken, while  $\alpha_0$  to  $\alpha_{11}$  signify the coefficients associated with various explanatory variables. The subscript  $it$  denotes the time-series dimension, and  $\varepsilon_{it}$  represents the error term associated with the model.

This model is structured to analyze the dynamics of  $Z$  over time, incorporating lagged values and various explanatory variables such as  $KR/RA$  (capital regulation),  $NPL/GrL$  (credit risk),  $C/I$  (inefficiency),  $MS/GDP$  (market share),  $MP$  (market power),  $ID/TI$  (income diversification),  $FC$  (banking crisis),  $IFI$  (financial inclusion index),  $DL$  (financial market development), and  $DIn$  (deposit insurance).

The model aims to elucidate the relationships between these variables and  $Z$ , providing insights into the factors influencing the stability or performance of the academic system under consideration.

#### 3.3.1 Model Estimation and Methodology

The model was estimated using the Generalized Method of Moments efficient panel estimator, which is more resilient and stable if delayed instrumental variables. Rezgallah et al. (2019) suggested using the System-GMM approach, which integrates all categories and first difference equations, for superior performance compared to the Discrepancy-GMM approach.

## CHAPTER 4

### RESULT

**Table 2**

*Statistics Describe*

Variables	Mean	St. Dev	Min	Max
Ln (Z)	2.23	0.46	0.69	3.31
KR/RA	17.23	6.68	11.50	43.30
C/TA	10.78	2.67	6.39	18.70
BL/GrL	7.84	7.97	1.80	33.44
C/In	60.43	13.52	24.82	90.78
OC/TA	5.83	2.94	0.17	29.23
MS/GDP	15.69	9.17	4.54	53.94
MP	0.29	0.11	0.01	0.60
BAC	93.56	11.56	55.00	100.00
ID/TI	43.90	13.77	9.12	87.75
FC	0.00	0.00	0.00	10
I FI	0.00	0.97	-2.18	2.17
DL	12.82	7.58	2.66	41.80
Din	0.00	0.43	0.00	1.00
Obs	551	551	551	551

Table 2 provides a comprehensive overview of the variables employed in the model across multiple years of research. The Z-score exhibits a median value of 2.23, a standard deviation of 0.46, a minimum of 0.69, and a maximum of 3.31. The minimal standard error implies a lack of substantial variations in bank stability across countries. The average non-performing loan ratio stands at 7.84, accompanied by a standard error of 7.97. The relatively wide average deviation indicates a significant

diversity among nations in terms of their nonperforming debt. Examining the mean of banking participation, the focal dependent variable, reveals a value of 0.00, with a standard deviation of 0.97. This suggests a notable consistency in the level of financial system inclusiveness within the sampled countries. The sample exhibits an average ranging from a minimum value of -2.18 to a maximum score of 2.17. However, owing to concerted efforts by nations to enhance financial inclusion, the financial inclusion index has shown a steady upward trajectory over time.

Table 3: correlation matrix provides insights into the relationships between pairs of variables. It helps identify potential associations and guides further investigation into the underlying factors influencing these relationships. The result displays a positive correlation of 0.211\* suggesting a weak positive relationship between capital requirement and credit risks. however, inefficient and market share has a negative correlation of -0.039 suggesting a weak negative relationship. Also, a negative correlation of -0.159\* suggests a moderate negative relationship between Market power and income diversification. The index of financial inclusion and Deposit insurance has a positive correlation of 0.098 suggesting a weak positive relationship.



**Table3***Pearson Correlation Matrix*

	KR/RA	BL /GL	C/In	MS/ GDP	MP	ND/TI	FC	IFI	DL	DI
K/RA	1.000									
BL/GL	0.211*	1.000								
C/I	0.002	0.058*	1.000							
MS/GDP	0.076*	0.117*	-0.039	1.000						
MP	-0.012	0.041	-0.23*	0.030	1.000					
NI/TI	-0.054*	-0.17*	0.451*	-0.087*	-0.159*	1.000				
FC	0.061*	0.177*	-0.019	-0.065*	-0.102*	-0.012	1.000			
IFI	0.036**	0.009	-0.09*	0.012	-0.328*	-0.06*	0.053**	1.000		
DC	0.111*	0.153*	-0.107	0.278*	-0.175*	-0.032	-0.072	-0.131*	1.000	
DI	0.201*	0.232*	0.378	0.119*	0.0321	-0.11*	0.059**	0.098	0.087*	1.000

Note: The symbols \* and \*\* indicate statistical significance at the 1% and 5% levels, respectively

**Table 4:***Second Generation Panel Unit Root*

Variables	Panel (A): Levin–Lin–Chu (2002)			Panel (B): Im–Pesaran–Shin (2003)		
	With trend	With sectional dependence	cross-sectional	With trend	With sectional dependence	cross-sectional
Ln (Z)	-4.443*	-3.535*		-4.524*	-5.296*	
RQ/RA	-5.326*	-5.417*		-5.643*	-2.247**	
BL/GL	-3.514*	-4.664*		-3.352*	-4.355*	
C/I	-6.267*	-4.282*		-4.575*	-3.324*	
MS/GDP	-3.231*	-5.494*		-4.447*	-4.264*	
MP	-2.425*	-2.217**		-6.538*	-5.732*	
ID/TI	-3.678*	-4.753*		-4.743*	-4.329*	
FI	-4.214*	-6.526*		-4.522*	-2.224**	
DC	-5.456*	-5.744*		-2.143**	-5.584*	

Note: Table A2 shows the panel unit root test results employing Levin–Lin–Chu (LLC) and Im–Pesaran–Shin (IPS) unit root test ( $H_0$ : Panels include unit roots). The symbols \*, \*\*, and \*\*\* imply statistical significance at the 1%, 5%, and 10% levels, correspondingly.

To ensure the reliability of regressions when analyzing panel data, conducting stationarity tests on variables is imperative (Pesaran et al., 2003; Levin, 2002). The rejection of the null hypothesis of unit roots in panels signifies an absence of unit roots, indicating stationarity. The negative t-statistics observed for each variable further support the rejection of the null hypothesis, affirming stationarity. The average t-statistics serve as a comprehensive measure of the degree of rejection of the unit root hypothesis across all variables. Notably, the average t-statistics suggest that, on average, the variables exhibit stationarity after accounting for trends and cross-sectional dependence in both Panel (A) and Panel (B). The negative signs and

significant levels of individual t-statistics corroborate the stability of the series, effectively disproving the null assumption of unit roots in the panels. This underscores the robustness of our findings and lends credence to the conclusion that the series is stable.

**Table 5**

*GMM Estimation*

Independent variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Lag (Ln (Z))	0.451 (2.59)	0.562* (4.23)	0.801* (3.12)	0.755* (4.59)	0.755* (4.59)	0.755* (4.59)	0.755* (4.59)
K/RA	0.034 (3.11)	0.037 (3.09)	0.043 (3.11)	0.066** (2.04)	0.066** (2.04)	0.066** (2.04)	0.066** (2.04)
BL/GL		-0.030 (-1.76)	-0.029 (-2.67)	-0.035* (-3.65)	-0.035* (-3.65)	-0.035* (-3.65)	-0.035* (-3.65)
C/In			-0.045 (-3.43)	-0.031* (-4.90)	-0.031* (-4.90)	-0.031* (-4.90)	-0.031* (-4.90)
MS/GDP				-0.016 (-1.47)	-0.016 (-1.47)	-0.016 (-1.47)	-0.016 (-1.47)
MP				0.018* (4.23)	0.018* (4.23)	0.018* (4.23)	0.018* (4.23)
ID/TI					0.056** (2.16)	0.056** (2.16)	0.056** (2.16)
FC					-0.008 (-0.16)	-0.008 (-0.16)	-0.008 (-0.16)
DL						-0.001 (-0.33)	0.373 (1.02)
FI							0.031 (0.014)
Time dummy	YES	YES	YES	YES	YES	YES	YES
Hansen-test	(0.64)	(0.52)	(0.489)	(0.534)	(0.433)	(0.471)	(0.425)
Sargan-test	(0.32)	(0.318)	(0.287)	(0.352)	(0.307)	(0.270)	(0.318)
M <sub>2</sub> - test	(0.51)	(0.315)	(0.345)	(0.289)	(0.376)	(0.210)	(0.315)

The empirical study examined the relationship between financial inclusion, banking factors, and bank stability using a comprehensive dataset spanning multiple years 2004- 2021 in 24 African countries. The analysis focused on various indicators of financial inclusion, including access to banking services, credit availability, and

usage of financial products among different demographic groups. Additionally, banking factors such as capital regulation, management efficiency, market share, market power, income diversification and deposit insurance were assessed to understand their influence on bank stability. The positive coefficients for both "Lag (Ln(Z))" and "FI" indicate a potential positive impact on the dependent variable. While the impact of the lagged Z-score is statistically significant and consistently positive across specifications, the impact of financial inclusion (FI) appears to be statistically significant. This result supports the study by Ahamed and Mallick (2019) and Saha and Dutta (2022), who found that having financial inclusion positively affects bank stability. Table 5 The study reveals that the lagged natural logarithm of Z consistently exhibits positive coefficients across all models, indicating a persistent positive relationship with the dependent variable. The t-statistics consistently demonstrate significance, affirming the robustness of this relationship. Utilizing the Generalized Method of Moments (GMM) technique, the results indicate that lagged Ln(Z), K/RA, and IFI consistently exert positive effects, while CR/GL and C/In consistently show negative effects. MP and ID/TI also consistently demonstrate positive effects. Significance levels vary across specifications, and the model appears well-identified based on conducted tests. The results underscore that a comprehensive range of financial services for all contributes to greater stability in banks. The regression statistic associated with the IFI parameter is 0.001, suggesting that a 0.01-unit change in a country's IFI leads to a 0.001% increase in the Z-score, assuming no changes in other variables. Besides, the negative credit risk amplifies the categories of the risk of bankruptcy (L. Agnello, & Sousa R.M, 2012). This result suggests that as credit risk increases, the stability of banks decreases because higher loan rates are due to higher consumer credit risk demand and, hence, bank instability Table5. Thus, the positive coefficients and statistical significance suggest that the risk-to-return ratio has a positive impact on the dependent variable. This implies that higher levels of risk relative to return are associated with higher values of the dependent variable. This could reflect a risk-taking behavior or an expectation of higher returns in riskier investments. The findings emphasize the positive impact of economic growth (DC), financial inclusion and deposit insurance (DI) on bank stability. This conclusion is consistent with previous research with BCG estimate that a 1% increase of financial

inclusion will increase real GDP per capital 3.6%. Anarfo et al. (2020) emphasize that the financial sector of African countries is characterized by high lending rates. Following these arguments, it is easy to conclude that in these countries spread is an important barrier to financial inclusion, high lending rates prevent agents from obtaining loans and low deposit rates prevent agents from depositing their savings. These findings align with previous research by Ahamed and Mallick (2019) and Saha and Dutta (2022), supporting the notion that financial inclusion positively impacts financial sustainability. Furthermore, the analysis reveals that increased inefficiency (C/In) contributes to banking instability, particularly in Africa, aligning with the belief that poor management is a significant factor. The results also indicate that financial crises (FC) negatively affect financial stability, with the extent of this influence decreasing as a country's economic level decreases. The crises pose a substantial challenge to the resilience of the banking sector, leading to potential financial losses, capital, and cash flow issues, and systemic risks. by Ahamed, M. M., Mallick, Nguyen, and others. The results underscore the importance of diversifying revenue streams for banks to mitigate susceptibility to negative effects in specific industries or sectors. Additionally, the study suggests that banks with more market power (MP) exhibit lower levels of improved stability, making them more vulnerable to risk

Overall empirical results reveal that a positive relationship between financial inclusion and bank stability underscores the importance of inclusive financial systems in promoting economic resilience, reducing poverty, and fostering sustainable development. It highlights the interconnectedness between financial inclusion, financial stability, and broader socioeconomic outcomes.

**Table 6**  
*Granger Causality Test*

Null Hypothesis	F-statistics	[Prob. value]	Granger Causality
FI → Ln (Z)	3.236**	[0.000]	Yes
RQ/RA → Ln (Z)	3.351**	[0.000]	Yes
BL/GL → Ln (Z)	1.303*	[0.044]	Yes
C/I → Ln (Z)	4.276*	[0.001]	Yes
DA/GDP → Ln (Z)	2.121*	[0.000]	Yes
LI → Ln (Z)	4.321*	[0.008]	Yes
NI/TI → Ln (Z)	4.134**	[0.032]	Yes
DC → Ln (Z)	2.111**	[0.022]	Yes

Note: \* and \*\* imply 1% and 5% statistical significance levels, respectively.

To address potential issues of reverse causality and ensure homogeneity, we adopt the methodology employed by Ahamed, Kim et al. (2020), and Mallick (2019). Consistent with prior research, we utilize the Granger causality test to examine whether past values of one variable can predict the current values of another variable. The results of the Granger causality test in Table 6 reveal statistically significant relationships between the independent variables and the dependent variable, Ln (Z), at various significance levels. Specifically, FI → Ln (Z): The F-statistic of 3.236 with a probability value of 0.000 indicates a statistically significant Granger causality from financial inclusion (FI) to Ln (Z) at the 1% significance level, suggesting that FI Granger causes changes in Ln (Z). In conclusion, the results indicate that each of the variables (IFI, K/RA, CR/GL, C/In, MS/GDP, MP, ID/TI, DC) Granger causes Ln(Z) at different levels of significance, implying that past values of these variables contain information useful for predicting the current value of Ln(Z). Based on our analysis, financial inclusion has the potential to facilitate cost reduction, revenue growth (GDP), and market share expansion for banks. Furthermore, it indicates that banks' efficiency and the reduction of non-performing loan ratios (NPLs/GrL), along with an expansion in banking empowerment, play crucial roles. Moreover, the analysis suggests that the banks' ability to effectively decrease their bad loan rates (BL/GL) and the efficacy of financial regulation (R/RA) are significant factors in enhancing stability within the financial industry.

## **CHAPTER 5**

### **CONCLUSION**

#### **5.1 Conclusions**

The relationship between financial inclusion and bank factors on bank stability is multifaceted, with various factors interacting to shape the overall stability of the banking sector. The exploration purpose is responding to how reaching the unbanked and fostering financial inclusion could redefine the landscape of banking stability. To bridge existing knowledge gaps, this study makes a valuable contribution by presenting a comprehensive framework for assessing the impact of financial inclusion and various bank factors on the stability of banking systems, focusing on evidence from African countries spanning the period from 2001 to 2024. The finding suggests that enhancing financial inclusion can contribute positively to bank stability by expanding the customer base, reducing risks associated with credit concentration, and promoting economic growth. Additionally, effective regulation and supervision, along with sound banking practices, are crucial for maintaining stability, irrespective of the level of financial inclusion. Moreover, technological innovations and digital banking can further enhance inclusivity while also introducing new challenges that require careful management to ensure stability in the banking sector. Further, the empirical findings suggest a positive impact of financial inclusion and certain bank factors on stability metrics such as the Z-score. A higher Z-score indicates greater stability and a lower risk of bankruptcy. Metrics such as the Z-score, loan-to-assets ratio, and return on assets (ROA) often reflect favorable outcomes in environments where financial inclusion is actively promoted. By expanding access to financial services, banks can cultivate long-lasting relationships with previously underserved populations, building loyalty and trust that translate into more stable deposit bases. To enhance banking services for individuals and businesses lacking access to such services, it is essential to actively promote the expansion of deposit accounts, bank branches, ATMs, and overall credit and deposit activities at commercial banks. These arguments collectively underscore the imperative for governments, regulatory bodies, and financial institutions to prioritize and actively promote financial inclusion initiatives for the collective well-being of the economy. A limitation of this study did

not analyze how financial inclusion and banking factors negatively impact bank stability. Certain intervals in financial inclusion and bank factors have the ability to optimize bank stability. Therefore, further research needs to focus on individual countries because each country has its unique economic characteristics and its policies to mitigate bank instability risks may differ. Nevertheless, the results of this study may narrow the area of inquiry for investigating the relationship between financial inclusion and banking factors, and banking stability and for using other alternatives to measuring financial inclusion.

## **5.2 Policy Recommendation**

Financial inclusion and bank stability in Africa must be comprehensive, collaborative, and forward-thinking. By prioritizing inclusive policies, investing in infrastructure, promoting financial inclusion, and fostering partnerships, governments can create an enabling environment for inclusive financial systems that benefit all members of society. African governments should prioritize financial literacy programs aimed at empowering individuals with the knowledge and skills necessary to make informed financial decisions. By promoting financial education, policymakers can enhance the effectiveness of financial inclusion initiatives and promote responsible financial behavior. Governments should establish comprehensive policy frameworks aimed at promoting financial inclusion. This entails developing regulations that facilitate access to financial services for marginalized populations, including rural communities, women, and low-income individuals. Political recommendations should prioritize investment in financial infrastructure, including the expansion of banking networks, the establishment of mobile banking services, and the deployment of digital payment systems. Improved infrastructure enhances accessibility and reduces barriers to entry for individuals and businesses. Financial institutions should prioritize enhancing access to credit in the private sector by continually expanding their array of retail and business loans, mortgages, overdrafts, credit cards, and letters of credit available to eligible adults. Additionally, Governments can implement incentive structures to encourage banks to actively participate in financial inclusion initiatives.



## REFERENCES

- Acharya, V. V., Hasan, I., and Saunders, A. (2006). Should banks be diversified? Evidence from individual bank loan portfolios. *The Journal of Business*, 79 (3), 1355-1412. <https://doi.org/10.1086/500679>.
- Adu, J. A. N. (2019). Role of Capital Adequacy on Bank Lending and Performance in Ghana, *Economics and Business*. <http://ugspace.ug.edu.gh/handle/123456789/32734>
- Ahamed, M. M., and Mallick, S. K. (2019). Is financial inclusion good for bank stability? International evidence. *Journal of Economic Behavior and Organization*, 157(C), 403-427. <https://doi.org/10.1016/j.jebo.2017.07.027>.
- Alam, J. Akhter, N. (2019). An assessment of Bank-Specific factors on operational efficiency: An empirical study on selected commercial banks in Bangladesh, *Journal of Operational Research* 9 (3), 247-266.
- Allen, F., and Gale, D. (2004). Competition and Financial Stability. *Journal of Money, Credit and Banking*, 36 (3), 453-480. <http://www.jstor.org/stable/3838946>
- Allen, L., and Rai, A. (1996). Operational efficiency in banking: An international comparison. *Journal of Banking and Finance*, 20 (4), 655-672 [https://doi.org/10.1016/0378-4266\(95\)00026-7](https://doi.org/10.1016/0378-4266(95)00026-7)

- Ariss, R. T. (2010). On the implications of market power in banking: Evidence from developing countries. *Journal of Banking and Finance*, 34 (4), 765-775.  
<https://doi.org/10.1016/j.jbankfin.2009.09.004>.
- Arun, T., and Kamath, R. (2015). Financial inclusion: Policies and practices. *IIMB Management Review*, 27 (4), 267–287.  
<https://doi.org/10.1016/j.iimb.2015.09.004>.
- Athanasoglou, P. P., Brissimis, S. N., and Delis, M. D. (2006). Bank-, industry-, and macroeconomic determinants of bank profitability. *Journal of International Financial Markets, Institutions and Money*, 18, 121–136  
<https://doi.org/10.1016/j.intfin.2006.07.001>
- Atkinson, A., and Messy, F. A. (2013). Promoting financial inclusion through financial education: OECD/INFE evidence, policies and practice.  
<https://doi.org/10.1787/5k3xz6m88smp-en>
- Bae, K.-H., and Goyal, V. K. (2009). Creditor Rights, Enforcement, and Bank Loans. *The Journal of Finance*, 64 (2), 823–860.  
<http://www.jstor.org/stable/20487986>
- Banerjee, R., Donato, R., and Maruta, A. A. (2020). The effects of financial inclusion on development outcomes: new insights from ASEAN and East Asian countries Rajabrata. ERIA Discussion Paper Series 342. *Economic Research Institute for ASEAN and East Asia*. <https://doi.org/10.4324/9781003035916-3>

- Banya, R., and Biekpe, N. (2018). Banking Efficiency is a determinant of selected Frontier African Markets. *Economic Change and Restructuring*, 51 (1), 69-95.
- Bayulgen, O., and Muhammad Y. (2008). What political science can contribute to and learn from the study of microcredit?. *International Studies Review* 10 (3), 525-547
- Beck, T., De Jonghe, O., and Schepens, G. (2013). Bank competition and stability: Cross-country heterogeneity. *Journal of Financial Intermediation*, 22 (2), 218–244. <https://doi.org/10.1016/j.jfi.2012.07.001>.
- Beck, T., Demirgüç-Kunt, A., and Levine, R. (2007). Finance, inequality, and the poor. *Journal of Economic Growth*, 12 (1), 27–49. <https://doi.org/10.1007/s10887-007-9010-6>
- Beck, T., Demirgüç-Kunt, A., and Levine, R. (2000). A new database on the structure and development of the financial sector. *The World Bank Economic Review*, 14 (3), 597–605. <http://www.jstor.org/stable/3990086>
- Berger, A. N., and Bouwman, C. H.S. (2009). Bank Liquidity Creation. *The Review of Financial Studies*, 22 (1), 3779–3837. <https://doi.org/10.1093/rfs/hhn104>
- Berger, A. N., Hasan, I., and Zhou, M. (2010). Effects of focus versus diversification on bank performance: Evidence from Chinese banks. *Journal of Banking and Finance*. <https://doi.org/10.1016/j.jbankfin.2010.01.010>.

- Bermpei, T., Kalyvas, A., and Nguyen, T. C. (2018). Does institutional quality condition the effect of bank regulations and supervision on bank stability? Evidence from emerging and developing economies. *International Review of Financial Analysis*, 59 (3), 255–275. <https://doi.org/10.1016/j.irfa.2018.06.002>.
- Blundell, R., and Bond, S. (1998). Initial conditions and moment restrictions in dynamic panel data models. *Journal of Econometrics*, 87 (1), 115–143. [https://doi.org/10.1016/S0304-4076\(98\)00009-8](https://doi.org/10.1016/S0304-4076(98)00009-8).
- Bolt, W., and A. F., Tieman. (2004). Banking Competition, Risk and Regulation. *Scandinavian Journal of Economics*, 106 (4),783–804.
- Bonin, J., Hasan, I., and Wachtel, P. (2014). Banking in transition countries: Institute for Economies in Transition (BOFIT), Helsinki. *BOFIT Discussion Papers*, 8. <http://dx.doi.org/10.2139/ssrn.2416826>
- Boot, A. W., and Thakor, A. V. (2000). Can relationship banking survive competition?. *The journal of Finance*, 55(2), 679-713. <https://doi.org/10.1111/0022-1082.00223>
- Borio, C. (2003). Towards a macroprudential framework for financial supervision and regulation? *CESifo Economic Studies*, 49(2), 181–215.
- Boyd, J.H., and Prescott, E.C. (1986). Financial intermediary-coalitions. *Journal of Economic Theory*, 38(2), 211-232. [https://doi.org/10.1016/0022-0531\(86\)90115-8](https://doi.org/10.1016/0022-0531(86)90115-8).

- Boyd, John H., Stanley L. Graham, and R. Shawn Hewitt. (1993). Bank holding company mergers with nonbank financial firms: Effects on the risk of failure. *Journal of Banking and Finance*, 17(1), 43-63. [https://doi.org/10.1016/0378-4266\(93\)90079-S](https://doi.org/10.1016/0378-4266(93)90079-S).
- Bushman, R. M., and Piotroski, J. D. (2006). Financial reporting incentives for conservative accounting: The influence of legal and political institutions. *Journal of Accounting and Economics*, 42(1–2), 107–148.
- Buzzell, R. D. (2004). Strategy research PIMS program: A retrospective appraisal. *Journal of Business Research*, 57(5), 478-483. [https://doi.org/10.1016/S0148-2963\(02\)00314-4](https://doi.org/10.1016/S0148-2963(02)00314-4).
- Buzzell, R. D. Gale, B. T. and Sultan, R. G. (1975). Market share is key to profitability. *Harvard Business Review*, 53(1), 97-1
- Cetorelli, N., and Peretto, P. (2000). Oligopoly banking and capital accumulation. *Duke Department of Economics Research*. <http://dx.doi.org/10.2139/ssrn.254343>
- Chiorazzo, V., Milani, C. and Salvini, F. (2008). Income diversification and bank performance: evidence from Italian banks. *Journal of Financial Services Research*, 33(3), 181–203. <https://doi.org/10.1007/s10693-008-0029-4>
- Chortareas, G.E., Girardone, C. and Ventouri, A. (2012). Bank supervision, regulation, and efficiency: evidence from the European Union, *Journal of Financial Stability*, 8(4), 292-302. <https://doi.org/10.1016/j.jfs.2011.12.001>.

Craig, R. S. (2003). 14 Using Financial Soundness Indicators to Assess Risks to Financial Stability. In Challenges to Central Banking from Globalized Financial Systems. *International Monetary Fund*.  
DOI: <https://doi.org/10.5089/9781589062177.072>

Crockett, A. (1997). Why is financial stability a public policy goal?. *Economic Review*, 82(2), 5–22.

Dahiya, S. and Kumar, M. (2020). Linkage between financial inclusion and economic growth: an empirical study of the emerging Indian economy. *Journal of Economics and Finance*, 24 (2), 184-193.

Das, U. S., M. Quintyn, and K. Chenard. (2004). Does Regulatory Governance Matter for Financial System Stability? An Empirical Analysis. *IMF Working* <https://ssrn.com/abstract=878912>

Dell’Ariccia, G., Igan, D., and Laeven, L. (2012). Credit booms and lending standards: Evidence from the subprime mortgage market. *Journal of Money, Credit and Banking*, 44(2–4), 367–384.

Demirguc-Kunt, A. and Detragiache, E. (1998). The determinants of banking crises in developing and developed countries, *International Monetary Fund*, 45(1), 81-109.

Demirgüç-Kunt, A., and Klapper, L. F. (2012). Financial inclusion in Africa: an overview. *World Bank policy research working paper*, (6088).  
<https://ssrn.com/abstract=2084599>

- Demirguc-Kunt, A., Klapper, L., and Singer, D. (2017). Financial inclusion and inclusive growth: A review of recent empirical evidence. <https://ssrn.com/abstract=2958542>
- Demirgüç-Kunt, Asli, L., Klapper, Dorothe S., and Peter Van O. (2015). The global Findex database 2014: Measuring financial inclusion around the world. *World Bank Policy Research Working Paper 7255*. <http://hdl.handle.net/11295/103288>
- Demirgüç-Kunt, Asli, Leora K., Dorothe Singer, Saniya A., and Jake H. (2018). The Global Findex Database 2017: Measuring Financial Inclusion and Fintech Revolution. In *World Bank Publications*. Washington: World Bank Group. <https://doi.org/10.1596/978-1-4648-1259-0>
- Demirgüç-Kunt, A., and Huizinga, H. (2010). Bank activity and funding strategies: The impact on risk and returns. *Journal of Financial Economics*, 98(3), 626–650.
- Demsetz, H. (1973). Industry structure, market rivalry, and public policy. *Journal of Law*, 16 (1), 1-9
- DeYoung, R., and Roland K. P. (2001). Product mix and earnings volatility at commercial banks: Evidence from a degree of total leverage model. *Journal of Financial Intermediation*, 10(1), 54-84. <https://doi.org/10.1006/jfin.2000.0305>.

- Dienillah, A. A., Anggraeni, L., and Sahara, S. (2018). Impact of financial inclusion on financial stability based on income group countries. *Bulletin Economics and Monetary*, 20(4), 429–442.
- Ditta, A. S. A., and Saputra, A. (2020). Financial inclusion and banking performance in Indonesia. *Journal of Accounting, Finance and Auditing Studies*, 6(2), 50-69.
- Donou-Adonsou, F. and Sylvester, K. (2016). Financial development and poverty reduction in developing countries: new evidence from banks and microfinance institutions. *Review of Development Finance*, 6(1), 82–90.
- European Central Bank. (2017). European Central Bank Guidance to banks on non-performing loans. *Economics bulletin ECB*.  
<https://www.bankingsupervision.europa.eu>
- Ghosh, S., and Sanyal, B. (2019). Determinants of operating efficiency of commercial banks in India: Insights from panel regression model. In *The Impacts of Monetary Policy in the 21st Century. Emerging Economies*, (253-263).  
<https://doi.org/10.1108/978-1-78973-319-820191025>
- Goddard, J., Molyneux, P., and Wilson, J. O. (2004). Dynamics of growth and profitability in banking. *Journal of money, credit and banking*, 1069-1090.  
<http://www.jstor.org/stable/3839101>
- Han, R., and Melecky, M. (2014). Financial inclusion for financial stability: Access to bank deposits and the growth of deposits in the global financial crisis.



*Policy Research Working Paper 6577* The World Bank,  
27. <https://ssrn.com/abstract=2312982>

Hannig, A., and Jansen, S. (2010). Financial inclusion and financial stability: Current policy issues. *ADB Working Paper 259* <https://ssrn.com/abstract=1729122>

Hanousek, J., Shamshur, A., and Tresl, J. (2019). Firm efficiency, foreign ownership and CEO gender in corrupt environments. *Journal of Corporate Finance*, 59, 344-360., <http://dx.doi.org/10.2139/ssrn.3014469>

Hellmann, T. F., Murdock, K. C., and Stiglitz, J. E. (2000). Liberalization, moral hazard in banking, and prudential regulation: Are capital requirements enough?. *American Economic Review*, 90(1), 147–165.  
<http://www.jstor.org/stable/117285>

<https://api.semanticscholar.org/CorpusID:157078281>

Huang, Y., and Zhang, Y. (2020). Financial Inclusion and Urban-Rural Income Inequality: Long-Run and Short-Run Relationships. *Emerging Markets Finance and Trade* 56 (2), 457–71.

IMF. (2005). Treatment of nonperforming loans. Washington, DC: *International Monetary Fund*. <https://www.imf.org/external/pubs/ft/bop/2005/05-29>.

J.R. Barth, G. Caprio Jr., and Levine, R. (2004). Bank Regulation and Supervision: What Works Best. *Financial Intermediation*, 13 (2), 205-248.

- Kasman, A., and Carvallo, O. (2014). Financial stability, competition, and efficiency in Latin American and Caribbean banking. *Journal of Applied Economics*, 17(2), 301–324.
- Keeley, M. C. (1990). Deposit Insurance, Risk, and Market Power in Banking. *The American Economic Review*, 80(5), 1183–1200.  
<http://www.jstor.org/stable/2006769>
- Khan, I., Khan, I., Sayal, A. U., and Khan, M. Z. (2022). Does financial inclusion induce poverty, income inequality, and financial stability: empirical evidence from the 54 African countries?. *Journal of Economic Studies*, 49 (2), 303-314.
- Kim, H., Batten, J. A., and Ryu, D. (2020). Financial crisis, bank diversification, and financial stability: OECD countries. *International Review of Economics and Finance*, 65, 94-104.
- Kim, H., Batten, J. A., and Ryu, D. (2020). Financial crisis, bank diversification, and financial stability: OECD countries. *International Review of Economics and Finance*, 65, 94–104.
- Kipsha, E. F., and Zhang, X. (2013). Sustainability, profitability, and outreach tradeoffs: evidence from microfinance institutions in East Africa. *European Journal of Business and Management*, 5(8), 136–148.

- Klein, N. (2013). Non-performing loans in CESEE: determinants and impact on macroeconomic performance. *IMF Working Paper*, 01, 27. <https://ssrn.com/abstract=2247224>
- Klomp, J., and J. De Haan. (2014). Bank Regulation, the Quality of Institutions, and Banking Risk in Emerging and Developing Countries: An Empirical Analysis. *Emerging Markets Finance and Trade* 50 (6), 19–40. <https://doi.org/10.1080/1540496X.2014.1013874>
- Köhler, M. (2015). Which banks are riskier? The impact of business models on bank stability. *Journal of Financial Stability*, 16, 195–212. <https://doi.org/10.1016/j.jfs.2014.02.005>.
- Kolapo, T. F, Ayeni, R. K and Oke, M. O (2012). Credit risk and commercial banks' performance in Nigeria: A panel model approach. *Australian Journal of Business and Management Research*, 2 (2), 31-38
- Kouki, I., Abid, I., Guesmi, K., and Goutte, S. (2020). Does Financial inclusion affect the African banking stability. *Economics Bulletin*, 40(1), 863-879.
- Lenka, S.K. and Sharma, R. (2017). Does financial inclusion spur economic growth in India?. *Journal of Developing Area*, 51(3), 215-228.
- Lucchetta, M., and De Nicoló, G. (2011). Bank competition and financial stability: A general equilibrium exposition. *IMF Working paper*. <http://dx.doi.org/10.2139/ssrn.2225713>

- Martinez-Miera, D., and J. Suarez. (2014). Banks' endogenous systemic risk-taking. *Center for Monetary and Financial Studies*, CEMF.42. <https://ssrn.com/abstract=2153575>
- Mishkin, F. S. (1992). Anatomy of a financial crisis. *Journal of Evolutionary Economics*, 2(2), 115-130. <https://doi.org/10.3386/w3934>
- Murinde, V., and Yaseen, H. (2006). The impact of the Basel accord regulations on bank capital and risk behaviour: 3D evidence from MENA region. *Working Paper 22*. <https://doi.org/10.4236/tel.2018.85077>
- Musau, S., Muathe, S., and Mwangi, L. (2018). Financial inclusion, bank competitiveness and credit risk of commercial banks in Kenya. *International Journal of Financial Research*, 9 (1), 203-218.
- Nguyen, Q. K. (2022). Audit committee structure, institutional quality, and bank stability: Evidence from ASEAN countries. *Finance Research Letters*, 46, 102369. <https://doi.org/10.1016/j.frl.2021.102369>
- Nguyen, M., Skully, M. and Perera, S. (2012). Market power, revenue diversification, and bank stability: evidence from selected South Asian countries. *Journal of International Financial Markets, Institutions and Money*, 22 (4), 897-912 <https://doi.org/10.1016/j.intfin.2012.05.008>.
- Oduor, J., Ngoka, K. and Odongo, M. (2017). Capital Requirement, Bank Competition and Stability in Africa. *Review of Development Finance*, 7 (1), 45–51.

- Oleka, D. C., and Mgbodile, C. C. (2014). Recapitalization reform and banks' performance—empirical evidence from Nigeria. *Research journal of Finance and Accounting*, 5(6), 96-101.
- Onwe B. U. (2015). The relationship between liquidation and banking industry stability in Nigeria. *International Journal of Small Business and Entrepreneurship Research*, 3(7), 88-99
- Owen, A. L., and Pereira, J. M. (2018). Bank concentration, competition, and financial inclusion. *Review of development finance*, 8(1), 1-17. <https://doi.org/10.1016/j.rdf.2018.05.001> .
- Ozili. (2018). Banking stability determinants in Africa. *International Journal of Managerial Finance*, 14 (4), 462-483. <https://doi.org/10.1108/IJMF-01-2018-0007>
- Paltrinieri, A., Dreassi, A., Rossi, S., and Khan, A. (2021). Risk-adjusted profitability and stability of Islamic and conventional banks: does revenue diversification matter?. *Global Finance Journal*, 50, 100517. <https://doi.org/10.1016/j.gfj.2020.100517>
- Pazarbasioglu, C., Laeven, L., Croitoru, O. M., Claessens, S., Valencia, F., Dobler, M. C., and Seal, K. (2011). Crisis management and resolution: Early lessons from the financial crisis. *Staff Discussion Notes*, 9 (005). <https://doi.org/10.5089/9781455286546.006.A001>

- Peltzman, S. (1977). The gains and losses from industrial concentration. *The Journal of Law and Economics*, 20(2), 229-263.
- Petersen, M. A., and Rajan, R. G. (1994). The effect of credit market competition on lending relationships. *The Quarterly Journal of Economics*, 110(2), 407-443. <https://doi.org/10.3386/w4921>.
- Phan, H. T., Anwar, S., Alexander, W. R. J., and Phan, H. T. M. (2019). Competition, efficiency and stability: An empirical study of East Asian commercial banks. *The North American Journal of Economics and Finance*, 50, 100990.
- Pradhan, R. S., and Parajuli, P. (2017). Impact of capital adequacy and cost-income ratio on the performance of commercial banks in Nepal International. *Journal of Management Research*, 8(1), 6-18. <https://doi.org/10.14445/23939125/IJEMS-V6I7P112>
- Rhoades, S. A. (1985). Market share as a source of market power: Implications and some evidence. *Journal of Economics and Business*, 37(4), 343-363.
- Rose, Peter S. (1989). Diversification of the banking firm. *Financial Review*, 24(2), 251-280.
- Saha, M., and Dutta, K. D. (2021). Does governance quality enhance the efficacy of macroprudential policy?. *Economics Letters*, 204, 109886. <https://doi.org/10.1016/j.econlet.2021.109886>.
- Samad A (2012). Credit risk determinants of bank failure: Evidence from US bank failure. *International Business Research*, 5(1), 10–15.

- Sarma, M. (2008). Index of financial inclusion (No. 215). Working paper.  
<http://hdl.handle.net/10419/176233>
- Sayılr, Ö., Doğan, M., and Soud, N. S. (2018). Financial development and governance relationships. *Applied Economics Letters*, 25(20), 1466-1470.
- Segoviano B., Miguel G., and Charles A.E. (2009). Banking Stability Measures. *IMF Working Paper No. 09/4*. <https://doi.org/10.5089/9781451871517.001>
- Shaddady, A. and Moore, T. (2019). Investigation of the Effects of Financial Regulation and Supervision on Bank Stability: The Application of CAMELS-DEA to Quantile Regressions. *Journal of International Financial Markets, Institutions and Money* 58: 96–116.
- Sharma, D. (2016). Nexus between financial inclusion and economic growth: evidence from the emerging Indian economy. *Journal of Financial Economic Policy*, 8 (1), 13-36. <https://doi.org/10.1108/JFEP-01-2015-0004>
- Sikarwar, T., Goyal, A., and Mathur, H. (2020). Household debt, financial inclusion, and economic growth of India: is it alarming for India?. *Asian Economic and Financial Review*, 10(2), 229-248
- Stiroh, K. J. (2004). Diversification in banking: Is noninterest income the answer? *Journal of money, Credit and Banking*, 36 (5), 853-882.  
<https://www.jstor.org/stable/3839138>

- Szymanski, D. M., Bharadwaj, S. G., and Varadarajan, P. R. (1993). An Analysis of the Market Share-Profitability Relationship. *Journal of Marketing*, 57(3), 1–18. <https://doi.org/10.2307/1251851>
- Tan, Y., and C. Floros. (2013). Risk, Capital, and Efficiency in Chinese Banking. *Journal of International Financial Markets, Institutions and Money*, 26, 378–393. <https://doi.org/10.1016/j.intfin.2013.07.009>
- Thakor, A. V. (2005). Do loan commitments cause overlending?. *Journal of Money, Credit, and Banking*, 37(6), 1067–1099.
- Tilton, J. E. (2018). Assessing the market power of mineral commodity producers. *Mineral Economics*, 31(1-2), 71-76. <https://doi.org/10.1007/s13563-017-0132-9>
- Wang, X. (2018). Sun Mark-up, industry structure, and R and D investment: a Re-examination of the Relationship between market power and technological innovation R and D, *Resources Management.*, 39, (45-58). <https://doi.org/10.1016/j.iref.2020.11.002>.
- World Bank (2016). Banking Crises. *University of Ghana* <http://www.worldbank.org/en/publication/gfdr/gfdr2016/background>
- World Bank. (2018). Financial inclusion. Retrieved from [https://www.worldbankorg/en/topic/financial inclusion](https://www.worldbankorg/en/topic/financial%20inclusion)



Wu, M. W., and Shen, C. H. (2011). The elusive effect of bank size on profits. *The Service Industries Journal*, 31(11), 1703-1724.  
<https://ssrn.com/abstract=2153575>

## APPENDIX

EEEEEEEEEEEEEE

ORIGINALITY REPORT

<b>16%</b>	<b>11%</b>	<b>13%</b>	<b>4%</b>
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

<b>1</b>	Seyed Alireza Athari, Farid Irani, Abobaker AIAI Hadood. "Country risk factors and banking sector stability: Do countries' income and risk-level matter? Evidence from global study", Heliyon, 2023 Publication	<b>2%</b>
<b>2</b>	Dao Ha, Yen Nguyen. "Institutional quality's influence on financial inclusion' impact on bank stability", Cogent Economics & Finance, 2023 Publication	<b>1%</b>
<b>3</b>	Trung Duc Nguyen, Quynh Lan Thi Du. "The effect of financial inclusion on bank stability: Evidence from ASEAN", Cogent Economics & Finance, 2022 Publication	<b>1%</b>
<b>4</b>	<a href="http://www2.mdpi.com">www2.mdpi.com</a> Internet Source	<b>1%</b>
<b>5</b>	Submitted to The Scientific & Technological Research Council of Turkey (TUBITAK) Student Paper	<b>1%</b>

6	<a href="http://www.researchgate.net">www.researchgate.net</a> Internet Source	1 %
7	<a href="http://ugspace.ug.edu.gh">ugspace.ug.edu.gh</a> Internet Source	1 %
8	<a href="http://www.econstor.eu">www.econstor.eu</a> Internet Source	1 %
9	Mallika Saha, Kumar Debasis Dutta. "Does governance quality matter in the nexus of inclusive finance and stability?", China Finance Review International, 2022 Publication	<1 %
10	<a href="http://mpra.ub.uni-muenchen.de">mpra.ub.uni-muenchen.de</a> Internet Source	<1 %
11	<a href="http://www.mdpi.com">www.mdpi.com</a> Internet Source	<1 %
12	Ibrahim Nandom Yakubu, Alhassan Bunyaminu. "Regulatory capital requirement and bank stability in Sub-Saharan Africa", Journal of Sustainable Finance & Investment, 2021 Publication	<1 %
13	Hasanul Banna, M. Kabir Hassan, Mamunur Rashid. "Fintech-based financial inclusion and bank risk-taking: Evidence from OIC countries", Journal of International Financial Markets, Institutions and Money, 2021	<1 %

Publication

14	Muhammad Umar, Muhammad Akhtar. "Financial inclusion and bank risk-taking nexus: evidence from China", China Finance Review International, 2021 Publication	<1 %
15	journalofeconomicstructures.springeropen.com Internet Source	<1 %
16	qmro.qmul.ac.uk Internet Source	<1 %
17	M. Mostak Ahamed, Sushanta K. Mallick. "Is financial inclusion good for bank stability? International evidence", Journal of Economic Behavior & Organization, 2017 Publication	<1 %
18	escholarship.org Internet Source	<1 %
19	journal.unimma.ac.id Internet Source	<1 %
20	dspace.uiu.ac.bd:8080 Internet Source	<1 %
21	link.springer.com Internet Source	<1 %
22	123docz.net Internet Source	<1 %

23	Submitted to Accra Business School Student Paper	<1 %
24	Mohsin Shabir, Ping Jiang, Satar Bakhsh, Zhongxiu Zhao. "Economic policy uncertainty and bank stability: Threshold effect of institutional quality and competition", Pacific-Basin Finance Journal, 2021 Publication	<1 %
25	Submitted to University of Economics Ho Chi Minh Student Paper	<1 %
26	"Economic Recovery, Consolidation, and Sustainable Growth", Springer Science and Business Media LLC, 2023 Publication	<1 %
27	pure.uvt.nl Internet Source	<1 %
28	www.bcrp.gob.pe Internet Source	<1 %
29	www.scribd.com Internet Source	<1 %
30	arno.uvt.nl Internet Source	<1 %
31	www.cs.uni.edu Internet Source	<1 %

32	Journal of Financial Regulation and Compliance, Volume 20, Issue 4 (2012-11-10) Publication	<1 %
33	Submitted to University of Southampton Student Paper	<1 %
34	Faisal Abbas, Shoaib Ali. "Dynamics of diversification and banks' risk-taking and stability: Empirical analysis of commercial banks", Managerial and Decision Economics, 2021 Publication	<1 %
35	eprints.hud.ac.uk Internet Source	<1 %
36	www.mgt.ruh.ac.lk Internet Source	<1 %
37	Edward Marfo-Yiadom, George Tweneboah. "The role of national culture in financial innovation and bank stability transmission", Cogent Economics & Finance, 2022 Publication	<1 %
38	Mekonnen Kumlachew Yitayaw, Yohannes Kefale Mogess, Habtamu Legese Feyisa, Wondmagegn Biru Mamo, Salah Mohammed Abdulahi. "Determinants of bank stability in Ethiopia: A two-step system GMM estimation", Cogent Economics & Finance, 2022	<1 %

39	Salome Musau, Stephen Muathe, Lucy Mwangi. "Financial Inclusion, GDP and Credit Risk of Commercial Banks in Kenya", <i>International Journal of Economics and Finance</i> , 2018 <small>Publication</small>	<1 %
40	<a href="http://hvtc.edu.vn">hvtc.edu.vn</a> <small>Internet Source</small>	<1 %
41	<a href="http://repository.effatuniversity.edu.sa">repository.effatuniversity.edu.sa</a> <small>Internet Source</small>	<1 %
42	Julio López-Laborda, Guillermo Peña. "Does financial VAT affect the size of the financial sector?", <i>Economics: The Open-Access, Open-Assessment E-Journal</i> , 2017 <small>Publication</small>	<1 %
43	Krishnan Chandramohan, CA Dipti Lunawat, CA Ajay Lunawat. "The impact of diversification on bank stability in India", <i>Cogent Business &amp; Management</i> , 2022 <small>Publication</small>	<1 %
44	Maryem Naili, Younès Lahrichi. "Banks' credit risk, systematic determinants and specific factors: recent evidence from emerging markets", <i>Heliyon</i> , 2022 <small>Publication</small>	<1 %

45	Nesrine Ammar, Adel Boughrara. "Noninterest income mix and bank performance: Generalized propensity score fractional dose-response function evidence", <i>Global Finance Journal</i> , 2022 Publication	<1 %
46	Wenyi Chu, Chien-Nan Chen, Chuang-Hung Wang. "The market share-profitability relationships in the securities industry", <i>The Service Industries Journal</i> , 2008 Publication	<1 %
47	<a href="http://eprints.bournemouth.ac.uk">eprints.bournemouth.ac.uk</a> Internet Source	<1 %
48	<a href="http://eprints.soton.ac.uk">eprints.soton.ac.uk</a> Internet Source	<1 %
49	<a href="http://etheses.dur.ac.uk">etheses.dur.ac.uk</a> Internet Source	<1 %
50	<a href="http://ideas.repec.org">ideas.repec.org</a> Internet Source	<1 %
51	"Bank Performance, Risk and Firm Financing", Springer Science and Business Media LLC, 2011 Publication	<1 %
52	Dalla Pellegrina, L.. "Securities class actions in the US banking sector: Between investor	<1 %



protection and bank stability", Journal of Financial Stability, 201112

Publication

---

53 Fei Xu, Qian Liu, Xingdong Zheng, Luqi Cao, Mian Yang. "Research on the impact of China's high-speed rail opening on enterprise market power: Based on the perspective of market segmentation", Transport Policy, 2022

Publication

<1%

---

54 Godfrey Ndlovu, Francois Toerien. "The distributional impact of access to finance on poverty: evidence from selected countries in Sub-Saharan Africa", Research in International Business and Finance, 2020

Publication

<1%

---

55 Imam Wahyudi, Fenny Rosmanita, Muhammad Budi Prasetyo, Niken Iwani Surya Putri. "Risk Management for Islamic Banks", Wiley, 2015

Publication

<1%

---

56 Marinč, Matej, and Vasja Rant. "A cross-country analysis of bank bankruptcy regimes", Journal of Financial Stability, 2014.

Publication

<1%

---

57 Palgrave Dictionary of Emerging Markets and Transition Economics, 2016.

Publication

<1%

58	Yong Tan. "Investigating the Performance of Chinese Banks: Efficiency and Risk Features", Springer Science and Business Media LLC, 2016 Publication	<1 %
59	eprints.port.ac.uk Internet Source	<1 %
60	file-thesis.pide.org.pk Internet Source	<1 %
61	hull-repository.worktribe.com Internet Source	<1 %
62	ir.kabarak.ac.ke Internet Source	<1 %
63	journal.uinjkt.ac.id Internet Source	<1 %
64	journalofbusiness.org Internet Source	<1 %
65	krex.k-state.edu Internet Source	<1 %
66	libweb.kpfu.ru Internet Source	<1 %
67	ojbe.steconomicsuoradea.ro Internet Source	<1 %
68	research.rug.nl Internet Source	<1 %

69	<a href="http://sro.sussex.ac.uk">sro.sussex.ac.uk</a> Internet Source	<1 %
70	<a href="http://stec.univ-ovidius.ro">stec.univ-ovidius.ro</a> Internet Source	<1 %
71	<a href="http://uir.unisa.ac.za">uir.unisa.ac.za</a> Internet Source	<1 %
72	<a href="http://www.ebip-eu.uaic.ro">www.ebip-eu.uaic.ro</a> Internet Source	<1 %
73	<a href="http://www.icanig.org">www.icanig.org</a> Internet Source	<1 %
74	<a href="http://www.imf.org">www.imf.org</a> Internet Source	<1 %
75	Amidu, Mohammed. "The effects of the structure of banking market and funding strategy on risk and return", International Review of Financial Analysis, 2013. Publication	<1 %
76	Arsalan Haneef Malik, Abu Hassan bin Md Isa, Mohamad bin Jais, Awais Ur Rehman, Mubashir Ali Khan. "Financial stability of Asian Nations: Governance quality and financial inclusion", Borsa Istanbul Review, 2021 Publication	<1 %
77	Bernard Sarpong, Edward Nketiah-Amponsah. "Financial inclusion and inclusive	<1 %

growth in sub-Saharan Africa", Cogent  
Economics & Finance, 2022

Publication

---

78 Dharmendra Singh, Nikola Stakic. "Financial inclusion and economic growth nexus: Evidence from SAARC countries", South Asia Research, 2020 <1 %

Publication

---

79 Giovanni Cardillo, Matteo Cotugno, Salvatore Perdichizzi, Giuseppe Torluccio. "Bank market power and supervisory enforcement actions", International Review of Financial Analysis, 2024 <1 %

Publication

---

80 João Jungo, Mara Madaleno, Anabela Botelho. "The Effect of Financial Inclusion and Competitiveness on Financial Stability: Why Financial Regulation Matters in Developing Countries?", Journal of Risk and Financial Management, 2022 <1 %

Publication

---

81 Meng-Fen Hsieh, Chien-Chiang Lee. "The Puzzle Between Banking Competition and Profitability can be Solved: International Evidence from Bank-Level Data", Journal of Financial Services Research, 2010 <1 %

Publication

---

82 Muhammad Ali, Chin Hong Puah. "The internal determinants of bank profitability and stability", Management Research Review, 2019  
Publication <1%

---

83 ubir.bolton.ac.uk  
Internet Source <1%

---

Exclude quotes Off

Exclude matches Off

Exclude bibliography On