ADDIS ABABA UNIVERSITY

EFFECT OF BANK BRANCH EXPANSION ON KEY FINANCIAL PERFORMANCE INDICATORS: THE CASE OF ZEMEN BANK SHARE COMPANY

A THESIS SUBMITTED TO ADDIS ABABA UNIVERSITY IN PARTIAL FULFILLMENT FOR THE REQUIREMENT FOR MASTERS OF SCIENCE DEGREE IN ACCOUNTING AND FINANCE

BY:

HIWOT SEYOME

ADVISOR:

DEGEFE DURESSA (PHD)

ADDIS ABABA, ETHIOPIA

JUNE, 2025

EFFECT OF BANK BRANCH EXPANSION ON KEY FINANCIAL PERFORMANCE INDICATORS: THE CASE OF ZEMEN BANK SHARE COMPANY

BY: HIWOT SEYOME

ADVISOR: DEGEFE DURESSA (PHD)

A THESIS SUBMITTED TO ADDIS ABABA UNIVERSITY IN PARTIAL FULFILLMENT FOR THE REQUIREMENT FOR MASTERS OF SCIENCE DEGREE IN ACCOUNTING AND FINANCE

ADDIS ABABA, ETHIOPIA

JUNE, 2025

DECLARATION

I, Hiwot Seyome Chmbro, declare that the thesis entitled "***Effect of Bank Branch Expansion on Key Financial Performance Indicators: The case of Zemen Bank Share Company***" is my original work, and submitted in partial fulfillment of the requirements for masters of Science Degree in Accounting and Finance under the supervision of Dr. Degefe Duressa and all sources used have been properly cited and acknowledged.

Declared by:	Confirmed by Advisor
Name: Hiwot Seyome	Name: Dr.Degefe Duressa
Signiture ……	Signiture ……
Date…….	Date……

CERTIFICATION

This is to certify that the work contained in the thesis entitled "***Effect of Bank Branch Expansion on Key Financial Performance Indicators: The case of Zemen Bank Share Company***", submitted by Hiwot Seyome Chmbro for partial fulfillment of the requirements for masters of Science Degree in Accounting and Finance complies with the regulations of the university and fulfills the accepted standards with respect to originality and quality.

Approved by the Board of Examiners:

External Examiner…… Signiture ……. Date ……

Internal Examiner ……. Signiture ……..... Date ……..

Advisor Degefe Duressa (PHD) Signiture ……. Date ……

ABSTRACT

The main objective of this study is to assess how branch expansion affects financial performance of Zemen Bank Share Company. A qualitative approach and an explanatory research methodology were used. While branch numbers were used to evaluate branch expansion, deposit, loan, return on equity, return on asset, and net interest margin were used to evaluate financial performance. The secondary data from 2015 to 2024 were collected from annual reports, internal publications, and other official documents. Stationarity, normality, autocorrelation, and heteroscedasticity tests were conducted, followed by analysis of linear regression to assess the association between the dependent and independent variables. The results indicate that increasing the number of branches effectively drives growth in core banking activities. Additionally, positive associations were found between branch expansions and both NIM and ROA, suggesting that strategically managed growth may enhance profitability. However, a statistically significant negative relationship was identified between branch expansion and ROE, implying potential efficiency or cost related challenges associated with rapid growth. These findings highlight the dual impact of branch expansion while it contributes to financial growth, it may also create pressures on profitability. Therefore, it is recommended that ZB's management and stakeholders continue expanding the branch network with careful strategic planning. Emphasis should be placed on operational efficiency and technology integration to ensure sustainable financial performance. Further research is encouraged to explore the broader implications of branch expansion in the banking sector.

Key Words: Branch Expansion; Financial performance Indicators

ACKNOWLEDGMENTS

Initially, I extend my utmost appreciation to the creator and his blessing virgin St. Mary, for empowering me with resilience, clarity and determination to see this academic pursuit through to completion. I am deeply grateful to my advisor, Dr.Degefe Duressa, for his indispensable mentorship, insightful feedback, and continuous support throughout the entire research process. My heartfelt appreciation goes to my mother, Demekech Debella, whose unwavering love, sacrifices, and encouragement have been the foundation of all my achievements. Finally, I would like to express my science appreciation to my friends and peers for their generous support, which was instrumental in the successful completion of this study.

LIST OF ACRONYMS AND ABBREVIARIONS

ZB	Zemen Bank
ROA	Return on Asset
ROE	Return on Equity
NIM	Net Interest Margin
NBE	National Bank of Ethiopia
BRN	Branch
ATM	Automated Teller Machine

Table of Contents

DECLARATION ii
CERTIFICATION iii
ABSTRACT i
ACKNOWLEDGMENTS ii
LIST OF ACRONYMS AND ABBREVIARIONS iii
CHAPTER ONE 1
INTRODUCTION 1
1.1 Background of the study 1
1.2 Statement of the problem 3
1.3 Research Hypothesis 5
1.4 Objective of the study 5
1.4.1General objective 5
1.4.2 Specific objective 5
1.5 Significance of the Study 6
1.6 Scope and limitation 6
1.6.1 Scope 6
1.6.2 Limitations 6
1.7 Organization of the study 7
CHAPTER TWO 8
RELATED LITRATURE REVIEW 8
2.1 Theoretical Review 8
2.1.1 Branch Banking 9
2.1.2 Bank Branch Expansion 11
2.1.3 Bank Performance 13
2.1.4 Market- Power Hypothesis for bank Performance 15
2.1.5 Measure of Bank Performance 16
2.1.6 Banks key financial performance indicators 17
2.1.5 Bank Branch Expansion and performance 21
2.2 Empirical Review 24
2.3 Conceptual Framework 27
2.4 Historical Background of Zemen Bank S.C 29

CHAPTER THREE 31
RESEARCH METHDOLOGY 31
3.1 Research Design 31
3.2 Source of Data Collection 32
3.3 Target Population 32
3.4 Data Analysis and Presentation 33
CHAPTER FOUR 35
RESULTS AND DISCUSSION 35
4.1 Stationary Test of Variables 36
4.2 Model Summary 37
4.3 Normality Test 37
4.4 Autocorrelation Test 38
4.5 Heteroscedasticity Test 38
4.5 Discussion of Regression Results 39
4.5.1 Branch Expansion and Deposit 39
4.5.2 Branch Expansion and Loan 41
4.5.3 Branch Expansion and ROE 42
4.5.4 Branch Expansion and ROA 43
5.4 Branch Expansion and NIM 45
CHAPTER FIVE 47
CONCLUSIONS AND RECOMMENDATION 47
5.1 Summary and Conclusion 47
5.2 Recommendations 48
References 51
Appendixes 57
Appendix - A 57
Appendix - B 58
Appendix - C 59
Appendix - D 64
Appendix - E 65
Appendix - F 67

LIST OF TABLES

Table 4.1 Unit root test…….36

Table 4.2 Mode Summary…….37

Table 4.3 Regression result of number of branches and deposit……...40

Table 4.4 Regression result of number of branches and loan……41

Table 4.5 Regression result of number of branches and ROE……...42

Table 4.6 Regression result of number of branches and ROA……44

Table 4.7 Regression result of number of branches and NIM……45

LIST OF FIGURES

Figure 2.1 Conceptual framework…….28

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

The financial sector plays a crucial role in the economy, encompassing businesses and institutions that provide financial services to both commercial and retail clients. It includes banks, investment firms, insurance companies, and real estate entities (Will Kenton, 2004). In Ethiopia, the financial sector consists primarily of banks, insurance companies, and microfinance institutions, each contributing significantly to economic development (Yifredew Adamu, 2019).

A bank functions as a financial intermediary that manages funds from depositors with surplus capital and provides loans to borrowers in need of financial resources. This fundamental role enables banks to facilitate investment and economic growth by efficiently allocating financial resources (Albertazzi & Gambacorta, 2010, as cited in Aladwan, 2015). As economic expansion continues, both private and government banks face increasing competition for liquidity, prompting them to enhance their resource mobilization efforts (Albertazzi & Gambacorta, 2010, as cited in Aladwan, 2015).

Banks distinguish themselves from other financial institutions by specializing in deposit and loan services. They act as intermediaries that connect individuals or businesses with capital deficits to those with excess funds, ensuring smooth financial transactions (Hoffmann, 2011). Additionally, banks play a vital role in economic activity by serving as financial facilitators between savers and borrowers (Singh, 2015).

Deposit mobilization is essential in banking, ensuring adequate financial resources for lending and investment, which supports profitability and long-term sustainability (Suresh, 2012).

Continuous deposit collection enables banks to maintain liquidity while expanding credit services, strengthening financial stability (Suresh, 2012).

Branch expansion is a key strategy employed by banks to improve accessibility, service quality, and financial inclusion (Argaw Getie, 2021). By increasing their physical presence, banks can mobilize deposits more effectively, strengthen financial stability, and attract a broader customer base (Argaw Getie, 2021). Furthermore, expanding branch networks allows banks to distribute credit efficiently, supporting consumer financing and small business growth (Hirtle, 2007).

The Ethiopian banking system has primarily operated under a branch banking model, except for Zemen Bank, which initially implemented a unit banking approach (Yabibal Gete, 2022). Established in 2008 with 2,800 shareholders, Zemen Bank differentiated itself by offering premium financial services through a single branch (Betelhem Abayneh, 2024).

To ensure effective deposit mobilization and credit availability, the National Bank of Ethiopia (NBE) mandates commercial banks to expand their branch networks (Mesfin, 2009). In response, Zemen Bank adjusted its strategy and grew to 125 branches as of July 2024, with the majority located in Addis Ababa (Zemen Bank Annual Report, 2024).

Branch expansion supports banks in increasing market share, diversifying assets, and expanding their deposit base, particularly in economies where digital banking adoption remains underdeveloped (Ebisa & Andualem, 2013). Additionally, branch networks enhance profitability, improve cost efficiency, and mitigate financial risks (Harimaya & Kondo, 2012).

Small financial institutions benefit from branch expansion by establishing strong relationships with clients and utilizing soft credit information for better lending decisions (Berger & Black, 2006). Expanding branch networks also improves financial efficiency by reducing non-interest-related costs and loan losses (Chandler, 2002).

Studies indicate that removing branch expansion restrictions enhances banking performance, allowing institutions to optimize operations and allocate resources more effectively (Cebenoyan

& Strahan, 2004). Furthermore, mergers and acquisitions contribute to successful branch expansion, as acquiring banks leverage their brand recognition to improve market share and operational efficiency (Evanoff & Ors, 2008).

Assessing financial performance is essential for understanding a bank's profitability, efficiency, and competitive standing (Muhabie,2015). Stakeholders including creditors, managers, investors, and regulatory agencies rely on financial assessments to make informed decisions regarding banking policies and strategies (Muhabie, 2015). Understanding the factors that influence profitability allows financial institutions to implement measures aimed at improving sector sustainability (Sufian, 2008).

Given the strategic importance of branch expansion, this study examines its effect on key financial performance indicators of Zemen. The findings will provide data driven insights to assist the bank's management and stakeholders in making informed expansion decisions while contributing to the broader financial sector in Ethiopia.

1.2Statement of the problem

The effect of branch expansion on financial performance remains a widely debated topic, with empirical studies presenting conflicting findings. While some research suggests a strong positive correlation between branch expansion and financial growth, others indicate neutral or even negative effects, highlighting the complexity of this relationship.

For instance, Esmael Yaregal (2023) found that an increase in the number of branches at Addis International Bank significantly enhances net profit by raising net interest income and reducing interest expense. Similarly, Onuorah, Oboro, and Okoh (2022) observed a long term relationship between bank total assets, asset development, and deposit base in Nigeria. Their study concluded that bank asset growth positively affects deposit levels, but a larger banking network and higher prime lending rates may negatively impact deposit mobilization over time. They emphasized the importance of carefully managing inflation rates to stabilize deposits and recommended expanding the bank network while strengthening asset growth to sustain Nigeria's financial system.

In Ethiopia, Argaw Getie (2021) highlighted that Dashen Bank's (Bahir Dar) district experienced substantial growth in deposits, loans, and profitability, which was closely linked to branch expansion. Likewise, Kumar, Raman, and Singh (2021) found a significant correlation between Dashen Bank's branch network expansion and deposit growth, reinforcing the view that branch expansion is vital to financial performance.

Analyzing branch expansion from a broader perspective, Tafese & Vankataram (2021) examined its relationship with financial performance, revealing mixed effects. Their findings indicated a weak negative correlation between branch expansion and ROA, ROE, while branch expansion showed a mild positive correlation with Earning per Share. Additionally, an increase in employees alongside branch expansion negatively impacted ROA and ROE, whereas firm size consistently exhibited a significant positive influence on all financial indicators. The study suggests that branch expansion, employee growth, and firm size collectively impact bank performance, though with varying effects across financial metrics.

Conversely, Imbadu & Maniagi (2020) reported that branch expansion significantly improves commercial bank financial performance in Kakamega County, particularly by enhancing client services, transaction volumes, and personalized banking experiences. Similarly, Melis (2018) argued that branch expansion positively influences return on assets (ROA) among Ethiopian banks, further supporting the potential benefits of geographic expansion.

However, some researchers present contrasting views. Adewotan & Oshadar (2016) concluded that branch expansion does not systematically impact financial performance, suggesting that other factors may contribute more significantly to profitability. Sony & Hery (2015) also found no significant relationship between branch expansion and key financial metrics such as ROE, ROA, and NIM, challenging the assumption that physical expansion inherently drives financial success. Additionally, Musyoka (2008) acknowledged the strong positive effect of branch expansion on financial performance, but warned that excessive expansion could lead to operational inefficiencies.

Despite extensive empirical studies, the relationship between branch expansion and financial performance remains unclear. While a majority of studies highlight positive effects, others reveal neutral or negative outcomes, making it difficult to determine whether branch expansion universally enhances bank performance. Given these contradictions, a comprehensive investigation is necessary to assess the true effect of branch expansion on key financial performance indicators, particularly in Zemen Bank Share Company.

1.3 Research Hypothesis

H1: The expansions of branches significantly increase deposit.
H2: The expansions of branches significantly increase loan.
H3: The expansions of branches significantly increase ROE.
H4: The expansions of branches significantly increase ROA.
H5: The expansions of branches significantly increase NIM.

1.4 Objective of the study

1.4.1General objective

This study seeks to assess the impact of bank branch expansion on the key financial performance indicators of Zemen Bank Share Company.

1.4.2 Specific objective

The study has the following specific objectives

1. To analyze the effect of branch expansion on deposit.
2. To analyze the effect of branch expansion on loan.
3. To analyze the effect of branch expansion on ROE.
4. To analyze the effect of branch expansion on ROA.
5. To analyze the effect of branch expansion on NIM.

1.5 Significance of the Study

The spread of the banking sector signifies growth, often driven by branch expansion. In response to NBE regulations, Zemen Bank has demonstrated adaptability by strategically shifting its approach. One key initiative has been a moderate branch expansion strategy aimed at effectively penetrating previously untapped markets (Betelhem Abayneh, 2024). Consequently, this study seeks to provide valuable insight to Zemen Bank as a result of previous studies and current practices related to banks financial performance. Additionally, it may serve as reference for future researchers.

1.6 Scope and limitation

1.6.1 Scope

This study examines the impact of branch expansion on key financial performance indicators of Zemen Bank S.C., focusing on how the growth of the bank's branch network influences factors such as deposits, loans, return on equity (ROE), return on assets (ROA), and net interest margin (NIM). The analysis is limited to Zemen Bank and is based on available financial data and internal reports covering the period under review.

1.6.2 Limitations

The study is limited by its exclusive focus on Zemen Bank, preventing broader comparisons with other banks and restricting the generalizability of findings within the banking sector. Additionally, data collection relied on digital platforms and internal communication systems due to the researcher's full time employment at Zemen Bank, which ensured efficiency but may have constrained access to external financial insights. Furthermore, the study exclusively examines internal branch expansion, without accounting for external factors such as economic conditions, regulatory policies, or market influences that could also impact financial performance

1.7 Organization of the study

This study is organized into five chapters, beginning with an introduction that covers the background of the study, statement of the problem, objectives, research hypothesis, significance, scope, limitations, and organization of the study. The second chapter presents the literature review, discussing relevant theoretical and empirical studies. The third chapter outlines the research methodology, including research design, data collection sources, target population, and data analysis methods. The fourth chapter focuses on results and discussion, interpreting findings related to branch expansion and financial performance indicators. Finally, the fifth chapter provides a summary, conclusion, and recommendations, offering insights based on the study's findings and suggesting future directions for research and practical application.

CHAPTER TWO

RELATED LITRATURE REVIEW

2.1 Theoretical Review

Banks serve as financial intermediaries, facilitating transactions between surplus unit's depositors with excess funds and deficit unit's borrowers seeking capital for investments (Alper & Anbar, 2011). Their performance significantly influences economic growth, as financial development plays a crucial role in shaping broader economic trends (Admasu, 2014).

Historically, commercial banks have played a foundational role in economic systems, primarily functioning as intermediaries (Allens & Elena, 2008). They collect deposits from individuals and businesses, channeling these funds into productive investments that promote economic stability and expansion. This process supports capital formation, enabling businesses to grow and generate employment.

Banks also contribute directly to economic activities by providing funds for infrastructure projects, corporate expansions, and entrepreneurial ventures (Allens & Elena, 2008). By facilitating access to credit, they promote wealth creation and sustainable development. Their influence extends to corporate governance, as they establish long-term relationships with firms through lending activities, direct investments, and proxy voting rights. This involvement helps align financial strategies with broader economic objectives (Allens & Elena, 2008).

To ensure financial stability, banks play a key role in risk management. They mitigate moral hazards and agency problems by enforcing loan covenants, requiring collateral for loans, and mandating transparent financial reporting (Allens & Elena, 2008). Furthermore, financial institutions contribute to diversification, spreading risks across multiple sectors to safeguard economic resilience.

Across all economies, the banking sector is central to financial stability and economic movements (Monnin & Jokipii, 2010). Banks regulate liquidity, credit distribution, and investment activities, shaping macroeconomic policies while maintaining a balance between financial inclusion and profitability. They act as financial brokers, bridging the gap between depositors and borrowers (Albertazzi & Gambacorta, 2010).

The evolution of banking has transformed the sector beyond traditional functions such as deposit collection, withdrawals, and lending (Assefa, 2016). Today's financial institutions influence global trade, digital payments, and market trends, making banking indispensable to everyday life Whether or not an individual has a direct banking relationship, they remain impacted by the financial system through various monetary transactions, credit structures, and economic policies. (https:/www.ciowhitepapersreview.com).

Banks act as the backbone of modern economies, ensuring efficient financial intermediation, corporate governance, risk management, and economic progression. Their influence extends beyond direct financial activities, shaping the way businesses and individuals interact with the broader economic landscape (https:/www.ciowhitepapersreview.com).

2.1.1 Branch Banking

Unit banking refers to an independent financial institution that operates as a single entity, typically serving its local community without affiliated branches or connections to other banks. In contrast, branch banking involves a network of banks connected within a specific region or beyond, where each branch provides standard financial services while being supported and regulated by a larger financial institution (Wikipedia).

Branch banking enables financial institutions to extend their reach by offering deposit and loan services outside their main office. Since the 1980s, branch banking has undergone significant transformations due to increased competition in the financial services market. Innovations such as internet banking have reshaped traditional banking models by reducing reliance on physical branches while maintaining consumer access to financial services (Investopedia).

Meyer, Khalily, & Hushak (1990) argue that branch banking offers several advantages over unit banking. One of the primary benefits is economies of scale, as banks can distribute the cost of developing financial products and services across a larger customer base. Additionally, inter-branch fund transfers improve liquidity management, allowing banks to reallocate surplus funds or borrow from other branches during financial shortages. Geographic diversification through branch expansion also mitigates risks associated with concentrated loan portfolios, ensuring balanced lending practices and minimizing exposure to economic fluctuations.

Serna (2005), as cited in Ferreira, Santos, & Rodriguez (2009), highlights that bank branches serve as critical access points for wealth accumulation and credit services. Despite advancements in digital banking, physical branches remain crucial for financial transactions that require human expertise, such as investment consultations and loan approvals. Spieker (2004), as cited in Nam & Ellinger (2008), suggests that traditional bank branches are highly effective for retail financial service distribution compared to digital alternatives like online banking or call centers. Customers often prefer in person interactions for financial decision making, reinforcing the necessity of branch networks.

Gart (1994) and Hubbard (1994), as cited in Carlson & Mitchener (2005), found that restrictions on branch expansion contribute to increased volatility in banking systems. Their research emphasizes the role of branches in stabilizing financial institutions by reducing localized risks and enhancing financial resilience. Similarly, Islam, Siddiqui, & Islam (2014) argue that geographic expansion improves financial inclusion, allowing banks to serve previously underserved communities while maintaining operational efficiency.

While branch banking continues to evolve alongside digital services, financial institutions adopting a hybrid approach combining physical branch operations with technological advancements can better accommodate diverse customer preferences. This integrated banking model ensures greater accessibility while maintaining personalized financial interactions. Despite the rise of digital transactions, branch banking remains an essential component of financial systems, supporting economic stability and long term financial growth (Investopedia).

2.1.2 Bank Branch Expansion

Kassahun Tafese and Mohan B. (2021) assert that bank branches serve as extensions of the main bank, providing financial services similar to those offered by headquarters while remaining under centralized control. These branches act as primary customer interaction points, facilitating access to essential banking operations such as deposits, credit provision, money transfers, and currency exchange. Their strategic placement enhances accessibility, strengthens customer relationships, and expands banking outreach.

Despite advancements in banking technology, physical branches remain relevant in service delivery. Hirtle (2007) examines the rise of retail financial services, including ATMs, internet banking, and call centers, which have reshaped traditional banking. Although these innovations have improved efficiency, the number of bank branches in the United States has continued to grow since 1990, demonstrating sustained reliance on physical locations.

As digital services gain prominence, banks continue expanding their branch networks. Chakraborty (2013) highlights that branch expansion enhances customer accessibility and allows individuals to avoid ATM fees while benefiting from comprehensive banking services. Customers prioritize branch availability, reinforcing the importance of maintaining physical locations. Hirtle (2007) supports this perspective, emphasizing that despite digital advancements, the presence of branches ensures financial inclusion.

Beyond accessibility, Grzelonska (2005) argues that banks should develop well distributed branch networks to effectively serve clients. Branch locations must be easily accessible not only near residential areas but also close to workplaces, shopping districts, and frequently visited sites to ensure widespread service availability.

Branch expansion directly influences banking demand. Clark and Wang (2017) found that an increase in the number of branches corresponds to higher demand for deposits and loans, reinforcing the relationship between geographic reach and financial activity. Expanding branch networks strengthens credit accessibility and banking liquidity.

Examining long term trends, Kuehn (2014) reports that the number of bank branches in the United States grew from 50,000 to 80,000 between 1990 and 2010 despite increased adoption of internet and mobile banking. This expansion led to mergers and acquisitions, consolidating the industry. Over time, financial institutions declined from approximately 12,000 to 6,500 between 1900 and 2010, with surviving banks operating geographically dispersed branch networks that intensified competition across markets. Hirtle (2007) supports this finding, stating that regulatory and technological changes expected to reduce branch dependence did not hinder the steady increase in full service branch locations in the 1990s.

The widespread presence of banks with extensive branch networks suggests that expansion offers strategic advantages. Kuehn (2014) notes that one key benefit is the ability of branches to attract new clients. Additionally, banks operating expansive branch portfolios can reduce deposit and credit risk by leveraging local market dynamics. Aguirregabiria, Clark, and Wang (2016) support this, noting that geographic expansion promotes operational efficiencies and allows banks to deliver high quality services at competitive prices. Evanoff and Fortier (1986) further reinforce that strategically placed branches enable banks to optimize service delivery and profitability.

Branch expansion also affects financial institutions' credit ratings and overall stability. Goetz et al. (2016) highlight that increasing branch numbers reduces region specific risks and improves managerial efficiency. Expansion strengthens economies of scale, optimizing resource distribution. However, large scale branch expansion may introduce operational challenges. Berger and De Young (2001) note that banks with broad geographic coverage sometimes experience lower valuations due to inefficient management practices, particularly when entering new regional markets. Additionally, managing dispersed branches can lead to agency problems, hindering local business monitoring. Goetz et al. (2016) emphasize that while diversification brings operational advantages, it also presents managerial complexities requiring careful oversight.

In Ethiopia, bank branch expansion is closely linked to economic prosperity and reflects a strong urban bias. Jarso, Rao, and Ravi (2015) conducted a spatial analysis of financial access,

revealing significant disparities in banking outreach across regions. Banking services remain heavily concentrated in Addis Ababa, demonstrating unequal financial accessibility.

The ongoing growth of Ethiopia's banking sector illustrates increasing competition among financial institutions. Despite progress, Ethiopia continues to rank among the least banked countries, even compared to other sub Saharan African nations (Jarso, Rao, and Ravi 2015). Jarso, Rao, and Ravi (2015) argue that while regulatory efforts promote financial inclusion, broader expansion is necessary to reduce banking disparities and enhance national financial integration.

2.1.3 Bank Performance

Financial performance serves as a broad indicator of an institution's overall health, stability, and ability to sustain profitability over time (Kiaritha, 2015). It is a monetary measure that reflects the effectiveness of an organization's policies and operations in generating desirable financial outcomes (Adam, 2014). In the banking industry, financial performance is considered the cornerstone of banking activities, as banks are primarily evaluated based on their ability to generate profits (Ferrouhi, 2018). This profit earning capacity is assessed through key financial metrics such as Return on Assets (ROA), which serves as a practical indicator of banking performance (Ledhem, 2021).

The efficiency and profitability of banking operations are commonly evaluated using indicators such as earnings, managerial effectiveness, and efficiency measurements. Bank performance is a critical factor in determining the likelihood of failures within the banking system and its subsequent impact on financial stability (Levine, 1997). Since the 1980s, the assessment of bank performance has become more structured due to the increasing role of financial institutions in maintaining market equilibrium, facilitating economic transactions, and providing payment mechanisms (Kiaritha, 2015).

Scholars have identified both internal and external determinants of commercial bank performance. While management can control internal factors, external influences remain outside their direct control (Rao, 2012). The operating environment, including market conditions, competition, and economic fluctuations, significantly impacts a bank's profitability. Additionally, banks must possess the ability to withstand economic shocks and contribute to financial system stability, reinforcing their role in national economic expansion (Athanasoglou, Brissimiss, & Delis, 2005).

Among internal factors, operating efficiency plays a crucial role in driving profitability. However, to accurately assess operational efficiency, a deep understanding of the management system is required (Tesfaye, 2014). Governance also significantly influences bank performance, as institutions must adopt integrated risk approaches, ensure knowledgeable board representation, and proactively address financial challenges (European Central Bank, 2010). Nonetheless, managerial quality remains difficult to quantify, as inefficiencies can manifest in various forms, including excessive labor utilization, high physical asset expenditures, and costly deposit interest payments. Institutions with poor management practices may face default risks, particularly when burdened by high debt levels, low liquidity, risky asset portfolios, or declining returns (Wheelock, 1995).

Capital strength is another essential determinant of bank profitability. Effective cost control and improvements in labor productivity contribute to better financial performance, while external factors such as macroeconomic trends also play a pivotal role (Athanasoglou, Brissimiss, & Delis, 2005). Despite the growing complexity of banking institutions, core factors such as profitability, efficiency, risk management, and leverage continue to define their overall performance. Furthermore, industrial concentration influences banks' financial success, impacting their ability to remain competitive (European Central Bank, 2010).

Profitability signifies how efficiently an asset generates income and sustains financial stability (Ajao & Solomon, 2012). It serves as an indicator of management's ability to optimize resources, thereby increasing the institution's value. Shen et al. (2010) describe profitability as a firm's ability to generate earnings through core operational activities.

A bank's profitability reflects its managerial effectiveness, stability within the financial system, and competitive position in the market. Profit generation is primarily driven by interest income from loans and deposits, as well as service related fees. Thus, maintaining profitability is essential for the long term survival and growth of financial institutions (Hubbard, 2002).

According to Koller (2011), profitability serves as a key measure of an institution's capacity to grow and expand its revenue streams. Financially stable banks can withstand economic downturns, thereby reinforcing the resilience of the financial system. Moreover, banking profitability significantly contributes to national economic stability by increasing employment opportunities, investment, savings, and tax revenues. Additionally, higher profits allow banks to distribute more dividends to investors, improving societal living standards and fostering economic prosperity.

Bank performance often differs based on size, market operations, and regulatory environment. In the early 1980s, small banks exhibited higher Return on Assets (ROA) due to lower risk exposure. However, intense competition and evolving economic conditions have since altered this trend. Profitability, as measured by ROA and Return on Equity (ROE), fluctuates over time depending on economic cycles. Smaller banks generally maintain higher Net Interest Margin (NIM) than larger counterparts, indicating cost efficient profit generation. Nevertheless, they face challenges in diversifying their lending portfolios, limiting their ability to manage asset quality risks effectively (UBPR, 2013).

2.1.4 Market- Power Hypothesis for bank Performance

Olweny and Shipho (2011) conducted an extensive evaluation of bank performance, utilizing efficiency structure and market power theories to understand profitability patterns. Their analysis builds on earlier research by Athanasoglou, Brissimiss, & Delis (2005), which explored how external market forces shape financial outcomes. According to market power (MP) theory, banks with a dominant position in the industry and well differentiated financial products can leverage their market share to achieve higher profitability. While increased competition may drive

efficiency, only institutions with significant control over pricing and service offerings can secure monopoly level earnings within the financial sector.

The relative market power (RMP) hypothesis further explains the relationship between financial leverage and profitability, suggesting that banks seeking to maximize earnings should strategically lower their capital ratios. By reducing capital reserves, banks can allocate more resources toward revenue generating activities, such as loan disbursement and investment portfolios, thereby enhancing returns. However, this approach carries inherent risks, as excessive leverage can lead to financial instability during market downturns (Athanasoglou, Brissimiss, & Delis 2005).

Beyond market power perspectives, efficiency structure theory offers another explanation for bank profitability. According to Olweny & Shipho (2011), financial institutions that operate with superior efficiency through cost minimization, optimized resource allocation, and streamlined banking processes achieve a competitive advantage over their rivals. Banks with higher operational efficiency can reduce overhead expenses, improve service delivery, and attract more customers, all of which contribute to stronger financial performance.

Ultimately, these theories reinforce that banking institutions with a well managed cost structure and market position tend to outperform competitors. Mensi & Zouari (2010) emphasize that banks demonstrating superior operational efficiency consistently achieve lower costs and higher profitability, making efficiency a crucial determinant of long-term financial success.

2.1.5 Measure of Bank Performance

2.1.5.1 Economic Value Added and Profit- Based Measures

The Stern and Stewart Company, a U.S. consulting firm, introduced Economic Value Added (EVA) as a financial performance metric aimed at assessing an organization's ability to generate value relative to its goals. In the modern corporate landscape, maximizing shareholder wealth has become the primary objective for profit driven enterprises. While many companies rely on traditional profit metrics such as net earnings and return on investment to evaluate financial

success, these methods typically overlook equity financing costs and focus mainly on debt-related expenses. As a result, a firm may appear profitable under conventional accounting standards without necessarily creating shareholder wealth. Economic Value Added addresses this gap by emphasizing the true economic profit generated beyond investor expectations, offering a more precise measure of financial value creation (ACCA Student, 2015).

Stewart (1982) introduced Economic Value Added as a comprehensive financial performance indicator designed to assess an organization's success in creating economic value. Unlike conventional profitability metrics, Economic Value Added incorporates capital costs, ensuring that financial assessments reflect both operational returns and the cost of capital employed. Economic Value Added forms the foundation of an advanced performance measurement framework, making it directly relevant to long term shareholder value creation. By providing management with key financial insights, Economic Value Added encourages strategic decision-making that prioritizes efficiency, investment optimization, and sustainable profitability. Through this method, organizations can evaluate their financial health more effectively, ensuring that business activities align with shareholder interests and overall value maximization (Stewart, 1982).

2.1.6 Banks key financial performance indicators

Financial performance analysis is an essential approach for evaluating a bank's overall health, stability, and efficiency in the financial sector. This assessment examines key indicators such as profitability, liquidity, solvency, and operational efficiency, which collectively determine a bank's financial strength and long-term viability (Mihiretu et al., 2020).

Mihiretu et al. (2020) explain that profitability is one of the most critical metrics in financial performance analysis. It is typically measured using Return on Assets (ROA), Return on Equity (ROE), and Net Interest Margin (NIM) which indicate how effectively a bank utilizes its assets, equity, and interest generating activities to generate returns. A higher ROA suggests strong asset utilization, while ROE reflects profitability relative to shareholder investments. Meanwhile, NIM evaluates the efficiency of interest income generation compared to interest expenses.

Liquidity analysis focuses on a bank's ability to meet short term obligations and manage cash flows efficiently. This is assessed using financial ratios such as loan-to-deposit ratio, deposit-to-asset ratio, and cash-to-deposit ratio, which provide insight into the institution's capacity to fund lending activities, maintain adequate reserves, and ensure financial stability (Ross, Westerfield, & Jordan, 2020). Banks with higher liquidity levels can better handle economic fluctuations and customer withdrawal demands, making liquidity management a crucial aspect of financial performance analysis (Ross, Westerfield, & Jordan, 2020).

Solvency indicators reveal a bank's capacity to sustain financial obligations and mitigate long-term risks. Two primary solvency ratios include the capital adequacy ratio, which measures a bank's financial strength in covering liabilities, and the non-performing loan (NPL) ratio, which indicates the proportion of loans at risk of default. A lower NPL ratio signals effective risk management, while a strong capital adequacy ratio ensures financial resilience against economic downturns and market instability (Ross, Westerfield, & Jordan, 2020).

Efficiency metrics assess how effectively a bank manages its operational expenses in relation to revenue generation. Key efficiency indicators include cost-to-income ratio, which reflects how much of a bank's income is spent on operational expenses, and asset turnover ratio, which measures the institution's ability to generate income from its total asset base. Another crucial efficiency metric is the loan loss provision-to-loan ratio, which indicates how well the bank prepares for potential credit losses, Tough, Higher efficiency levels enable banks to optimize resources, reduce unnecessary costs, and improve overall financial performance. (Murthy & Sree, 2003).

The primary objective of commercial banks is to achieve strong financial performance, as this drives strategic decision making and operational frameworks. While banks also pursue broader economic and social goals, profitability remains central to sustainability (Alexandru, 2008). Studies indicate that financial institutions rely heavily on ROE, ROA, and NIM as core performance indicators in evaluating their success and guiding future financial strategies (Ezra, 2013).

Academic research has identified various accounting based profitability metrics that help assess bank performance more accurately. One significant determinant of financial success is branch expansion, which influences a bank's profitability, liquidity, solvency, and efficiency. A well-planned branch network enhances customer accessibility, improves deposit mobilization, and strengthens market penetration, all of which contribute to sustained financial growth (Murthy & Sree, 2003). Evaluating the role of branch expansion in financial outcomes is essential for developing effective banking strategies and ensuring long-term operational sustainability (Alexandru, 2008; Ezra, 2013). Therefore; among the key financial performance indicators the following are selected for this research:

2.1.4.1 Deposit

In Ethiopia, banks face intense competition in mobilizing deposits, prompting them to implement various strategies to attract savings (Getie, 2021). Deposit acceptance is a fundamental function of commercial banks, and effective savings mobilization through deposit collection remains a primary focus (Venkatesan, 2012). A well established branch network plays a crucial role in deposit accumulation, as higher deposit levels within branches contribute to increased profitability (Hirtle, 2007).

A key performance indicator (KPI) used to measure financial health is the year-over-year growth of deposits, which reflects customer confidence in the bank (BankMavericks.com, 2025). The deposit base of a bank provides insights into its financial stability, enhances its lending capacity, and reduces reliance on additional working capital (Lean Transition Solutions, 2025).

2.1.4.2 Loan

Lending is a fundamental function of commercial banks, as bank loans represent their largest asset and primary source of revenue. These loans provide essential financial support to individuals, businesses, and governments, enabling them to pursue their economic and investment goals (American Bankers Association, 2014). As a key driver of economic development, bank credit facilitates growth by ensuring access to necessary financial resources.

Adequate financing is crucial for economic expansion, as it allows banks to support various sectors, including agriculture, commerce, and industry. By efficiently allocating loanable funds, banks can generate sustainable income while assisting borrowers in overcoming financial shortages (Islam, Siddiqui & Islam, 2014).

A key performance indicator (KPI) used to assess financial health is the annual growth rate of loans, which serves as a reliable measure of demand for banking services and products (BankMavericks.com, 2025).

2.1.4.3 Return on Equity (ROE)

Return on Equity (ROE) is a key financial metric that evaluates how well stockholders have performed over a given year. It integrates both the income statement and balance sheet, providing a comprehensive measure of profitability. Calculated as net income divided by shareholders' equity, expressed as a percentage, ROE reflects a bank's ability to generate profit efficiently. A higher ROE indicates greater profitability, making it a crucial benchmark for assessing financial success (European Union, 2019).

ROE determines the profitability of a business in relation to the equity invested by shareholders. Investors often look for companies with strong ROE, as those capable of generating internal funds tend to exhibit higher returns. Additionally, ROE assesses how effectively bank management utilizes shareholder capital, with more efficient financial strategies leading to improved profitability (Khrawish, 2011).

2.1.4.4 Return on Asset (ROA)

Return on Assets (ROA) is a key financial metric that evaluates a company's ability to generate profit relative to its total assets. It is commonly used to assess financial performance, comparing efficiency over time or against industry peers (Eyob Yimer, 2023). ROA is calculated by dividing net income by total assets, indicating how effectively a business utilizes its resources to drive profitability. A higher ROA reflects greater efficiency in asset utilization, leading to stronger financial performance.

In banking, ROA measures management's effectiveness in leveraging available resources to maximize earnings (Khrawish, 2011). Institutions with higher ROA demonstrate better operational efficiency, utilizing their assets optimally to generate returns (Wen, 2010).

2.1.4.5 Net Interest Margin (NIM)

Net Interest Margin (NIM) is a key indicator of a bank's profitability, reflecting the difference between the interest earned on loans and the interest paid to depositors and other creditors. It essentially measures the net revenue a bank generates from lending activities, minus the expenses incurred from its liabilities, expressed as a percentage of total assets, A higher NIM signifies greater profitability, as the bank is effectively earning more from its core financial operations. (Corporate Finance Institute, 2022).

Additionally, NIM serves as a measure of a bank's efficiency in managing intermediation costs. It provides insight into how well a bank utilizes its assets while balancing interest payments to lenders. In cases where banks engage in riskier lending practices, higher loan loss provisions may contribute to an elevated NIM, reflecting increased exposure to financial risks (Khrawish, 2011).

2.1.5 Bank Branch Expansion and performance

Boland (2009) argues that many banks maintain large scale branch networks that primarily follow a highly transactional banking model, focusing on maximizing transaction volume rather than fostering customer relationships or operational efficiency. This approach, while widely adopted, results in high operational costs and increased complexity, which often do not translate into proportional financial gains. The substantial expenses associated with maintaining physical branches include staffing costs, infrastructure investments, technology integration, and compliance regulations factors that, if not properly managed, can negatively impact profitability.

A key factor influencing the success of branch expansion is timing. Banks frequently open new branches in response to market demand, yet they often do so without conducting thorough

market research, demographic analysis, or competitive assessments. Without evaluating population density, economic activity, and competitor presence, banks risk establishing branches in locations where financial services are either redundant or inefficiently allocated, leading to low profitability and weak customer engagement.

Another major challenge involves managerial effectiveness. Boland (2009) states that banks frequently appoint inexperienced managers to oversee newly opened branches, assuming that transaction volume alone will drive success. These managers often lack expertise in financial operations, strategic decision making, and customer relationship management, which can result in ineffective service delivery. Poor managerial leadership leads to issues such as misallocation of resources, inefficient loan processing, inadequate customer support, and weak risk management, all of which weaken branch performance and overall banking success.

Beyond managerial inefficiencies, the shift toward online banking has influenced how banks approach expansion. Some institutions prioritize digital banking services over physical branch networks, assuming that online platforms will compensate for branch closures or reductions. However, Boland (2009) cautions that reducing branch presence can negatively impact market perception, as customers often associate physical branches with financial stability and institutional reliability. A well distributed branch network reinforces a bank's credibility, fosters long-term customer trust, and provides opportunities for face-to-face financial consultations, loan applications, and advisory services that digital platforms struggle to replicate (Bradach 2003)

Bradach (2003) highlights that companies operating both franchised and company owned branches experience significant growth, benefiting from broader market penetration and customer accessibility. Similarly, Porter (2008) emphasizes that businesses must first assess their value chain before determining the optimal configuration, management, and coordination of branch networks. Effective managerial decisions regarding expansion enhance operational success, long term profitability, and brand consistency.

Al-Homaidi et al. (2018), Nyatika (2017), and Al-Abedallat (2017) highlight that expanding a bank's geographic presence improves customer accessibility, strengthening loan disbursement

processes and deposit mobilization. Meanwhile, Tuwei (2016) and Aladwan (2015) argue that branch expansion enhances operational efficiency, enabling financial institutions to streamline income generation models and optimize financial service delivery. Furthermore, Athanasoglou & Gioka (2017) suggest that broadening branch networks facilitates greater access to financial products, reinforcing long term institutional sustainability.

Paul (2010) and Philip (2009) found that only a small number of rural banks experienced sustained profitability following branch growth. Their findings suggest that banks should strategically focus on underserved regions rather than expand indiscriminately, ensuring that branch expansion aligns with financial inclusion goals. The Commercial Bank of Nigeria bulletin reports that full service branch numbers have steadily increased since the late 1990s, corresponding with overall growth in banking assets, further suggesting that strategic expansion supports financial sector stability.

Adelowotan & Oshadare (2016) emphasize that expansion requires extensive investments, including property acquisitions, market research, regulatory compliance, staffing, and financial viability assessments. Blond (2009) warns that banks managing large branch networks often struggle with high operational costs, particularly when expansion is poorly timed or lacks a clear profitability strategy. Many banks aiming to keep pace with rapid market growth open branches without adequately evaluating demographic trends, local competitor activity, and branch feasibility, leading to high expenses and potential revenue losses. Additionally, inexperienced managers overseeing new branches may lack the necessary financial expertise to drive customer engagement, further impacting branch performance and reducing overall banking efficiency.

Oster (2002) argues that branch networks help alleviate organizational and economic challenges faced by multi-site nonprofits, enabling greater outreach and service refinement. Bradach (2003) supports this view, noting that maintaining branch locations benefits commercial franchisors, allowing businesses to test new operational models, optimize service delivery strategies, and maintain strong brand alignment.

Dees, Anderson, & Skillern (2004) assert that despite its challenges, branch expansion yields long-term financial benefits that outweigh initial costs. Branch networks provide consistent revenue streams, enabling banks to distribute risks more effectively across multiple locations. Banks with extensive branch networks are more resilient to regional economic fluctuations, ensuring financial sustainability even in unpredictable market conditions(Al-Homaidi et al. 2018).

Nyatika (2017), and Al-Abedallat (2017) recognize branch expansion as a strategic factor in improving profitability, accessibility, and customer engagement. However, poorly planned branch expansion efforts may lead to high operational costs, inefficiencies, and market saturation. While digital banking continues to reshape the financial industry, physical branches remain essential for direct customer interaction, financial accessibility, and long term banking stability.

2.2 Empirical Review

Research on the effects of branch expansion on financial performance has been relatively limited due to the scarcity of branch-level data across various financial institutions. However, several studies have attempted to assess the role of branch network growth in determining profitability, efficiency, and overall financial health.

Esmael Yaregal (2023) examined the relationship between branch expansion and profitability at Addis International Bank, revealing a significant positive effect on net profit. The study suggests that, while the bank currently operates a sufficient number of branches, further expansion could continue increasing profitability until diminishing returns set in. Additionally, branch expansion was found to enhance net profit generated from equity, demonstrating its potential to boost revenue and profitability. The study also highlights the positive impact on Net Interest Margin (NIM), indicating that increased branch presence can improve the bank's ability to optimize interest income over expenses.

Onuorah, Oboro, and Okoh (2022) explored branch expansion within the Nigerian banking sector, reporting that bank total assets and asset development positively influence deposit base

growth. However, the increase in bank network size and prime lending rate had a negative impact on deposits over time. The researchers recommended cautious inflation management to stabilize deposits, alongside sustained efforts to increase branch networks and asset expansion to maintain a strong deposit base.

In Ethiopia, Getie (2021) highlighted that branch expansion contributed to substantial growth in deposits, loans, and profitability at Dashen Bank's Bahir Dar district. Similarly, Kumar, Raman, and Singh (2021) identified a strong correlation between branch network expansion and deposit growth, reinforcing the view that branch expansion plays a vital role in financial performance.

Haileyesus (2016) further investigated determinants of financial performance in Ethiopian commercial banks, concluding that branch expansion positively impacts Net Interest Margin (NIM) and Return on Equity (ROE). However, Melis (2018) found that branch expansion negatively affects ROA, highlighting potential inefficiencies associated with expanding too aggressively.

Tafese & Vankataram (2021) examined branch expansion's broader impact on financial performance of Dashen Bank, identifying varying effects across key metrics. Their study found a weak negative correlation with ROA and ROE, while branch expansion demonstrated a mild positive correlation with Earnings per Share (EPS). Additionally, an increase in employees accompanying branch expansion negatively influenced ROA and ROE, whereas firm size consistently exhibited a positive effect on all financial indicators. The findings suggest that branch expansion, employee growth, and firm size collectively shape bank performance, though their impact varies across different financial metrics.

Meanwhile, Imbadu & Maniagi (2020) examined the expansion of commercial banks in Kakamega County, concluding that a broader branch network significantly boosts financial performance. Increased branch presence was linked to higher transaction volumes, improved customer service, and greater accessibility to banking products.

From a regional banking standpoint, Kazufen (2017) argues that maintaining an extensive branch network may impact cost performance, potentially creating operational inefficiencies. Similarly, Nyatika (2017) assessed the financial effects of branch expansion in Kenyan commercial banks, finding a strong positive correlation with financial performance. However, the study emphasized that operational efficiency, rather than branch size, was key to improving ROA suggesting that bank size, customer base, and capital adequacy do not necessarily determine branch network success.

Looking beyond Africa, Konzo & Kazumine (2011) analyzed the impact of branch expansion in Japanese regional banks, using probabilistic marginal analysis. Their findings revealed that banks with limited branch expansion were more cost effective, whereas those expanding extensively faced efficiency losses. To increase revenue while improving cost efficiency, the study recommended strategies to reduce deposit costs while carefully expanding branch presence.

According to Alper & Anbar (2011), non-interest income and asset size positively influence a bank's profitability, while loan balance size has a negative effect. Non-interest income, such as fees and commissions, provides stability by reducing reliance on interest earnings. Larger asset bases enhance operational efficiency and market influence, supporting consistent revenue generation. However, an excessive loan balance can increase credit risk and administrative costs, potentially weakening profitability.

Sufian (2008) analyzed Philippine banks from 1990 to 2005, finding that bank size, credit exposure, and spending patterns negatively affect profitability, while total capital has a positive impact. His study suggests that excessive expansion, high credit risk, and inefficient cost management reduce earnings, whereas strong capitalization supports financial stability and profitability.

Parricia K. Musyoka (2008) found that branch expansion significantly affects financial performance in Kenyan commercial banks. Her study highlights that increased branch networks

enhance deposit mobilization, loan disbursement, and profitability, while excessive expansion may lead to operational inefficiencies.

Research suggests a systematic correlation between branch network size and profitability. Baverly (2005) proposed that medium sized banks may have a competitive edge when managing branch networks effectively, achieving a balance between branch-based and non-branch-based operations.

Conversely, Hensle (2003) noted that larger European banks were less likely than smaller banks to realize cost savings through branch expansion. Similarly, Seale (2004) reported that commercial banks with well-managed branches benefited from reduced costs, improved profitability, and increased fee income.

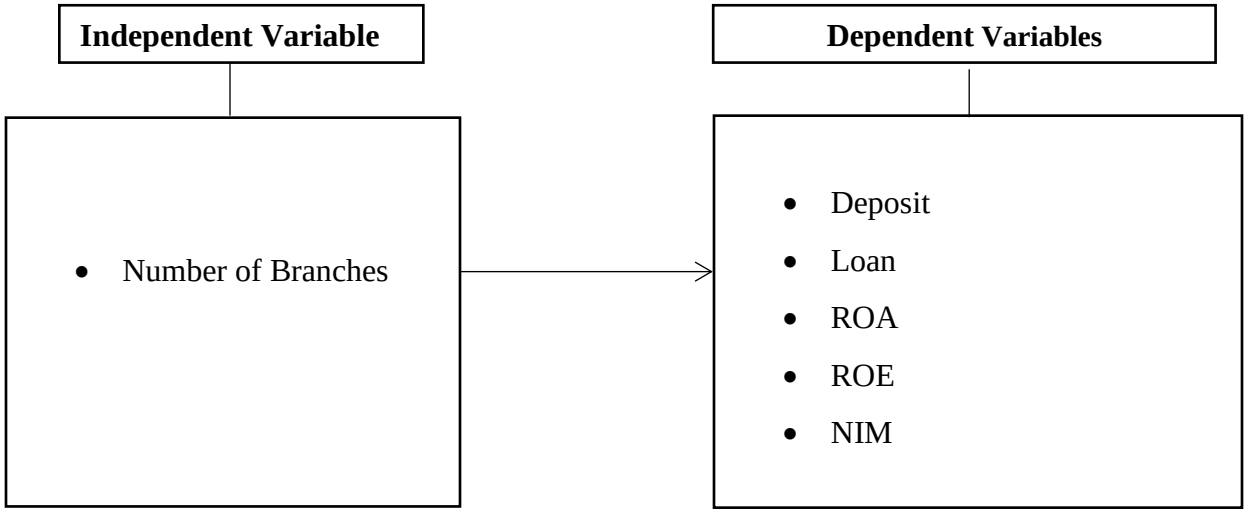
While many studies support the idea that branch expansion improves financial performance, others highlight potential inefficiencies associated with rapid network growth. The debate remains open, with geographic, market, and institutional factors playing a crucial role in shaping financial outcomes. However, Dees, Anderson, and Skillern (2004) argue that, despite its cost challenges, branch expansion offers long-term benefits that often outweigh the risks.

2.3 Conceptual Framework

The expansion of bank branches is a critical factor influencing key financial performance indicators, including deposit mobilization, loan disbursement, return on equity (ROE), return on assets (ROA), and net interest margin (NIM). Studies indicate that branch expansion facilitates broader customer outreach, enabling banks to diversify their loan portfolios and deposit bases across a wider geographic area (Carlson & Mitchener, 2005). Regional banks with extensive branch networks experience increased loan disbursement, with an adequate level of expansion positively impacting both cost and profit efficiencies (Kondo, 2017). Additionally, branch networks enhance risk diversification, minimizing financial exposure to localized market fluctuations (Kuehn, 2014).

Research has demonstrated that a bank's deposits and profitability are closely tied to the number of branches it operates (Aguirregabiria, Clark & Wang, 2016). An increase in the number of branches tends to boost market share and variable profits, whereas heightened competition among banks or excessive branch expansion may lead to diminishing returns. Additionally, the relationship between branch expansion and financial performance is influenced by population growth, with studies highlighting a positive correlation between population size and the number of bank branches (Hannan & Hanweck, 2008). When profit opportunities emerge in a market due to new customer inflows, banks are likely to expand their branch presence to capitalize on growth potential (Clark, Dick, Hirtle, Stiroh & Williams, 2007).

Based on insights from empirical studies (Chironga et al., 2018; Gashayie & Singh, 2016; Monteiro, 2004; Hirtle, 2007; Hailu, 2014), this study develops a conceptual framework to examine the relationship between branch expansion (independent variable) and financial performance indicators (dependent variables), namely deposit mobilization, loan disbursement, ROE, ROA, and NIM. The framework aims to assess how changes in branch networks influence these financial metrics, providing a structured analysis of the financial implications of expansion strategies



Source: Compiled by the researcher

Figure 2.1: Conceptual Framework of the study

2.4 Historical Background of Zemen Bank S.C

Zemen Bank entered Ethiopia's banking industry on October 2, 2008, during a period of economic growth that saw the emergence of multiple financial institutions. The bank was founded by 2,800 shareholders with an initial paid-up capital of 87,237,082 birr, receiving its banking license on June 17, 2008, under National Bank of Ethiopia Registration Number LBB/010/2008.

From its inception, Zemen Bank sought to introduce innovative banking products and services, distinguishing itself from conventional banks that relied on branch-based service models by focusing on customer-centered service, advanced financial products, and technology-driven solutions. Adopting this approach positioned Zemen Bank as a disruptor in Ethiopia's financial sector, demonstrating that banking could evolve beyond traditional methods.

As part of its early strategic vision, Zemen Bank became the first financial institution in Ethiopia to implement a mono-branch banking strategy, a model designed to minimize dependency on physical branches while maximizing alternative banking channels such as ATMs, internet banking, POS terminals, and mobile banking. This approach allowed the bank to reduce operational costs, enhance efficiency, and maintain a strong digital presence without relying on multiple locations.

Initially, Zemen Bank operated from a single centralized branch, offering premium financial services tailored to high-value customers (Betelhem Abayneh, 2024). This strategy set the bank apart from competitors by emphasizing personalized service and exclusive financial solutions.

As Ethiopia's banking sector evolved, the National Bank of Ethiopia (NBE) introduced regulations requiring commercial banks to expand their branch networks to improve deposit mobilization and credit accessibility across different regions (Mesfin, 2009). This regulatory shift, coupled with growing customer demand for broader banking accessibility, prompted Zemen Bank to adapt its strategy, transitioning from a unit banking model to a branch banking approach.

By July 2024, Zemen Bank had expanded significantly, reaching 125 branches nationwide, with a strong concentration in Addis Ababa, while also extending its presence into regional areas (Zemen Bank Annual Report, 2024). This strategic growth aimed to enhance financial inclusion, attract a larger customer base, and improve profitability by increasing deposits, loans, and overall banking services, allowing the bank to comply with regulatory requirements while strengthening its competitive position in the Ethiopian financial market.

CHAPTER THREE

RESEARCH METHDOLOGY

3.1 Research Design

The study aims to assess and elucidate the impact of branch expansion on key financial performance indicators within the banking sector. To achieve this objective, the researcher has adopted an explanatory research design, which is well-suited for investigating causal relationships between variables. This design allows for a structured exploration of how branch expansion influences financial metrics such as deposits, loans, return on assets (ROA), return on equity (ROE), and net interest margin (NIM).

In alignment with the explanatory approach, a qualitative research method has been employed, enabling an in-depth examination of relevant financial and operational aspects. While qualitative methods facilitate a nuanced understanding of underlying mechanisms, the study also integrates a quantitative approach, as described by Creswell (2009). Quantitative research employs structured investigative techniques such as surveys and experiments to gather data through predetermined instruments. These instruments yield numerical data that can be statistically analyzed, thereby enabling researchers to test objective theories and establish empirical relationships between variables.

A core advantage of the quantitative methodology is its ability to validate the reliability and accuracy of measurement tools while maintaining scientific rigor. Furthermore, to empirically determine the relationship between branch expansion and financial performance, the researcher has applied linear regression analysis. This statistical technique examines how the independent variable (branch expansion) affects dependent financial indicators, providing insights into correlation patterns and potential causation.

3.2 Source of Data Collection

For data collection, the study primarily relies on secondary sources, which offer structured and comprehensive insights into the financial impact of branch expansion. These sources provide historical records and financial documentation that support the research.

Key secondary sources include departmental reports, which detail internal banking activities, strategic decisions, and financial trends within Zemen Bank. Additionally, annual reports are utilized as a critical reference, offering systematic financial statements, operational performance summaries, and key metrics like deposits, loans, return on assets (ROA), return on equity (ROE), and net interest margin (NIM) over multiple fiscal years.

Moreover, the study incorporates yearly magazines published by the bank, which highlight industry developments, corporate strategies, and market performance trends. These publications offer valuable context regarding broader banking sector dynamics. Additionally, various academic and professional journals issued by Zemen Bank are examined, providing empirical studies, financial analyses, and theoretical discussions relevant to the study's framework.

By leveraging these well-documented and systematically organized secondary sources, the study ensures accuracy, reliability, and depth in evaluating the financial implications of branch expansion.

3.3 Target Population

To ensure a comprehensive evaluation, the researcher has defined the target population by focusing on financial data spanning a five-year period. The study specifically utilizes Zemen Bank's annual reports from June 2015 to June 2024 as the primary source of financial performance metrics. These reports provide a structured and detailed analysis of key indicators, including deposits, loans, return on assets (ROA), return on equity (ROE), and net interest margin (NIM).

Examining this extended time frame allows the study to identify patterns, trends, and the long-term financial effects of branch expansion. By analyzing a broad dataset over multiple years, the research enhances the validity and reliability of its findings, ensuring that the results reflect sustained structural shifts rather than short-term fluctuations. This approach strengthens the empirical foundation of the study, offering valuable insights into the relationship between branch expansion and financial performance.

3.4 Data Analysis and Presentation

The study follows a structured approach to data analysis, incorporating a combination of statistical techniques to evaluate the quantitative information gathered from secondary sources. To ensure a comprehensive assessment, the data is analyzed using both qualitative and quantitative methods, allowing for a deeper exploration of financial trends, patterns, and interrelationships among key banking metrics.

Since the dataset consists of secondary time series information, the Augmented Dickey-Fuller (ADF) test is applied to determine whether the variables are stationary or exhibit unit roots, which would indicate non-stationarity. Stationarity is crucial in econometric analysis, as it ensures that statistical inferences remain valid over time. If a series is non-stationary, it may produce spurious regression results, leading to unreliable conclusions. In this study, the ADF test confirms whether the time series needs transformation (such as differencing) or is inherently stationary, enabling meaningful regression analysis.

To further validate the reliability of regression estimates, the Breusch-Pagan test is conducted to assess heteroscedasticity—a condition where the variance of the error terms changes across observations. The presence of heteroscedasticity can lead to inefficient and biased parameter estimates, affecting the accuracy of hypothesis testing and the overall robustness of regression models. By detecting heteroscedasticity, corrective measures such as robust standard errors or weighted least squares estimation can be applied to ensure the validity of results.

Additionally, the Jarque-Bera test is implemented to evaluate whether the residuals of the regression model follow a normal distribution. Normality of residuals is essential for maintaining

statistical robustness, particularly in ordinary least squares (OLS) regression. If the residuals deviate significantly from normality, it may indicate model misspecification, omitted variable bias, or non-linearity in the data, necessitating adjustments such as log transformations or non-linear modeling techniques.

Once these preliminary tests confirm that the dataset meets the required assumptions for further econometric analysis, the study proceeds with linear regression modeling, where the dependent financial performance indicators namely deposits, loans, Return on Assets (ROA), Return on Equity (ROE), and Net Interest Margin (NIM) are systematically compared against the independent variable (branch expansion).

CHAPTER FOUR

RESULTS AND DISCUSSION

This chapter presents the findings derived from the analysis of secondary data sourced from Zemen Bank's annual reports. The study follows a structured approach to ensure the validity and reliability of results. To begin, the researcher applies the Augmented Dickey-Fuller (ADF) test to assess the stability of the dataset, verifying its stationarity. This step is essential for ensuring that the time series data used in the study is suitable for further statistical analysis without the risk of spurious relationships.

Once stationarity is confirmed, the study examines five key financial performance metrics of Zemen Bank: deposits, loans, return on equity (ROE), return on assets (ROA), and net interest margin (NIM). To evaluate the relationship between these financial indicators and branch expansion, the researcher employs a comprehensive set of statistical techniques.

The first method used is linear regression analysis, which quantifies the impact of branch expansion on each financial metric, allowing for a clearer understanding of causality and correlation. Additionally, descriptive statistics are applied to summarize the central tendencies, distribution patterns, and variability of the financial data, providing context for how these indicators have evolved over the studied period.

Furthermore, the study incorporates a correlation analysis to assess the strength and direction of relationships between branch expansion and financial performance metrics. This technique helps determine whether an increase in branch presence corresponds positively or negatively with key banking indicators. To ensure statistical robustness, the heteroscedasticity test specifically, the Breusch-Pagan test is conducted to evaluate whether variance in error terms is consistent across observations, ensuring the reliability of regression estimates.

The results and interpretations of these analyses are systematically presented using tables and figures, allowing for a clear visual representation of trends, relationships, and statistical findings. This structured presentation enhances clarity and facilitates a deeper understanding of how branch expansion influences financial performance.

4.1 Stationary Test of Variables

Since the data were time series, the Augmented Dickey-Fuller test method was used to conduct a stationary test of variables to determine whether the data's statistical characteristics changed over time.

The following is the development of the null hypothesis:

H0 = the series is non- stationary and has a unit root

The result is shown as follows in table 4.1

Table 4.1: Unit root test

Variables	ADF	Critical Value	P Value
Branch	-3.706	-3.319	0.0096
Deposit	-3.5772	-3.001	0.0251
Loan	-3.426	-3.063	0.0101
ROA	-3.712	-3.125	0.0076
ROE	-3.568	-3.000	0.00564
NIM	-3.521	-3.321	0.00475

Source: Researcher's Computation on STATA

The Augmented Dickey-Fuller (ADF) test is a statistical method used to determine whether a time series is stationary or contains a unit root, which would indicate non-stationarity. In this case, the test results show that the selected variables have test statistics higher than the critical value at the 5% significance level, meaning they do not exhibit unit roots.

Furthermore, at the 5% significance level, all p-values associated with the variables were less than 0.05, indicating strong statistical evidence against the presence of a unit root. Since the p-values fall below this threshold, the null hypothesis, which states that a unit root exists (i.e., the series is non-stationary), is rejected in favor of the alternative hypothesis—confirming that the variables are stationary.

This outcome suggests that the time series data under examination do not require differencing to achieve stationarity, making them suitable for further econometric analysis, such as regression modeling and forecasting.

4.2 Model Summary

The R-squared statistic measures how well branch expansion explains variations in financial performance indicators. The results show strong correlations for deposits (98%), loans (97%), and ROE (96%), indicating a significant impact. However, ROA (49%) and NIM (44%) exhibit weaker relationships, suggesting other influencing factors. These findings highlight the varying effects of branch expansion on financial metrics, with profitability and asset efficiency showing more moderate associations.

Table 4.2: Model Summary

Dependent Variables	R-squared
Deposit	0.9804
Loan	0.9729
ROE	0.4958
ROA	0.4444
NIM	0.9064

Source: Researcher's Computation on STATA

4.3 Normality Test

A Skewness/Kurtosis test for normality was performed on the residuals of one of the regression models to determine whether they adhere to a normal distribution, which is a fundamental

assumption in linear regression analysis. This test is essential for verifying that the residuals do not exhibit skewed or irregular patterns that could affect the reliability of statistical inference.

The results of the normality test produced a p-value of 0.0562, which surpasses the conventional significance threshold of 0.05. Given that this value exceeds the established cutoff, the study is unable to reject the null hypothesis, meaning that the residuals are considered normally distributed. Maintaining normality in residuals ensures that key assumptions underpinning regression analysis remains intact, allowing for accurate estimations and reliable hypothesis testing.

4.4 Autocorrelation Test

To assess whether autocorrelation is present in the residuals, the study applies the Durbin-Watson (DW) statistic. Autocorrelation refers to a scenario where residuals in a regression model exhibit correlation with previous residuals, a phenomenon particularly relevant in time-series data. Detecting autocorrelation is crucial, as its presence can undermine the reliability of regression estimates.

In this analysis, the computed Durbin-Watson statistic falls below 2.0, indicating the absence of autocorrelation within the residuals. This result confirms that the residuals are independently distributed, ensuring the validity of statistical inferences drawn from the regression model. With no evidence of autocorrelation, the model maintains robustness, allowing for accurate interpretation of financial relationships.

4.5 Heteroscedasticity Test

To evaluate the presence of heteroscedasticity in the regression residuals, the study applied the Breusch-Pagan test. This statistical test is designed to determine whether the variance of residuals remains constant across all observations, which is a fundamental assumption in linear regression analysis.

The test yielded a p-value greater than the conventional 5% significance level, indicating that there is insufficient evidence to reject the null hypothesis of homoscedasticity. This suggests that the residuals exhibit a consistent variance across different levels of the independent variable, which in this case is the number of branches.

Since the assumption of homoscedasticity holds, the residuals do not display any systematic pattern relative to the predictor variable. As a result, the regression model's estimates are expected to be efficient and statistically reliable, ensuring that conclusions drawn from the analysis remain valid and unbiased.

4.5 Discussion of Regression Results

The study presents findings derived from applying linear regression analysis to evaluate the influence of explanatory factors on profitability indicators. This analytical technique is used to quantify the relationship between independent variables and key financial performance metrics, providing a structured assessment of their impact.

By leveraging regression analysis, the study identifies the extent to which explanatory variables affect profitability, helping to clarify trends, patterns, and causal relationships. The results offer valuable insights into how various financial determinants contribute to the bank's overall profitability, ensuring that conclusions are supported by statistically sound evaluations.

4.5.1 Branch Expansion and Deposit

$Dep = \beta 0 + \beta 1\ Bre + \varepsilon$

Where,

Dep = deposit

Bre = number of branches

ε = error term

H1: The expansions of branches significantly increase deposit.

Table 4.3: Regression result for number of branches and deposit

Dependent variable	Independent variables	Coefficient(β)	Std. Err.	t-value	p-value	95% CI	R-Squared
Deposit	Branches	.3483377	.0174277	19.99	0.000	(.3081494 , .388526)	0.9804

Source: Researcher's Computation on STATA

The number of branches and deposit amounts are strongly related, as the preceding table shows. With a branch coefficient of 0.348, an extra branch adds 0.348 units to the total amount of deposit (in billions). With a p-value of 0.00 and t-value of about19.9, this association is statistically significant, indicating that it is very unlikely that the effect is an outcome of chance. There is considerable confidence it this estimate effect, as indicated by 95% confidence interval, which ranges from 0.308 to 0.388. Furthermore, an R-squared of 0.98, which indicates an excellent match, shows that the model explains 98% of the variation in the deposit amounts. This implies that bank branch expansion has a significant impact on the branches deposit. Therefore, Branch expansion has a significant positive impact on Zemen Banks financial success as measured by deposit.

The findings of this study align with Argaw Getie (2021), who identified a positive correlation between branch expansion, deposit mobilization, and loan disbursement. Getie's research highlights that increasing the number of branches enhances customer accessibility, fostering greater trust and engagement with banking services. This expansion plays a crucial role in attracting more deposits, as customers are encouraged to place their savings in financial institutions that offer convenient access and personalized service.

Additionally, branch expansion directly contributes to loan disbursement growth by facilitating closer interactions between banks and their customers. The wider branch network streamlines credit evaluations and loan approvals, making financing more accessible to businesses and individuals. By broadening reach, banks can efficiently meet the financial needs of various sectors, thereby strengthening overall economic activity. These findings reinforce the strategic

importance of branch expansion as a key driver of financial performance, particularly in mobilizing deposits and increasing lending capacity.

4.5.2 Branch Expansion and Loan

$Lo = \beta 0 + \beta 1\ Bre + \varepsilon$

Where,

Lo = loan

Bre = number of branches

ε = error term

H2: The expansions of branches significantly increase loan.

Table 4.4: Regression result for number of branches and loan

Dependent variable	Independent variables	Coefficient(β)	Std. Err.	t-value	p-value	95% CI	R-Squared
Loan	Branches	.309519	.0182766	16.94	0.000	(.2673731, .3516648)	0.9729

Source: Researcher's Computation on STATA

As the above table demonstrates impact of the number of branches on loan amounts reveals a positive and statistically significant relationship. Specifically, the coefficient for branches is 0.309, indicating that for each additional branch opened, the total loans increase by about 0.309 units (in billions).This relationship is highly significant, as shown by the extremely low value 0.00, and a strong t-value of 16.94. The 95% confidence interval ranges from 0.267 to 0.35, suggesting that we can be confident the true effect of branches on loans lies within this range. Additionally, the model fits the data exceptionally well, with an R-squared value of 0.973, meaning that about 97.3% of the variation in loan amounts is explained by the number of branches. This implies that expanding branch networks is strongly associated with increased lending activity, highlighting the importance of branch presence in driving loan growth.

The findings of this study are consistent with Argaw Getie (2021), who established a positive correlation between branch expansion and loan disbursement. Getie's research highlights that as banks extend their branch networks, they improve accessibility to financial services, enabling a greater number of customers to secure loans. The physical expansion of banking facilities facilitates more efficient credit allocation, as proximity to banking services encourages loan applications and approvals.

Furthermore, an increase in branches fosters trust and engagement within local communities, leading to higher loan uptake. The ability to provide personalized financial consultations and streamline loan processing further strengthens this relationship. By expanding branch presence, banks can cater to diverse economic sectors, supporting business development and financial inclusion, thereby reinforcing the role of branch expansion as a catalyst for loan disbursement growth.

4.5.3 Branch Expansion and ROE

$ROE = \beta 0 + \beta 1\ Bre + \varepsilon$

Where,

ROE = return on equity

Bre = number of branches

ε = error term

H3: The expansions of branches significantly increase ROE.

Table 4.5: Regression result for number of branches and ROE

Dependent variable	Independent variables	Coefficient(β)	Std. Err.	t-value	p-value	95% CI	R-Squared
ROE	Branches	-.1550039	.05527	-2.80	0.023	(-.2824567, -.0275511)	0.4958

Source: Researcher's Computation on STATA

As the above table demonstrates the estimated coefficient (β) is -0.1550, indicating that for each additional branch, ROE decreases by 0.155 percentage points. This suggests that branch expansion is associated with a decline in profitability, as measured by ROE. This effect is statistically significant, with a p-value of 0.023, which is less than 0.05. The t-value of -2.80 also supports the significance of this negative relationship. The 95% confidence interval ranges from -0.2825 to -0.0276, which does not include zero, further confirming that the effect is unlikely to be due to random chance. The model explains 49.58% of the variation in ROE, as indicated by an R-squared value of 0.4958. While not an exceptionally high fit, this suggests that nearly half of the variation in ROE across the dataset is explained by the number of branches. This result may indicate that increasing the number of branches leads to higher operational costs or lower efficiency, which in turn reduces overall profitability (ROE). It could reflect diminishing returns from branch expansion, or the need to assess branch performance and cost structures more closely.

The results of this study contradict the findings of Musyoka (2011) and Haileyesus (2016), both of whom identified a significant impact of branch expansion on financial performance. According to Haileyesus (2016), increasing the number of branches leads to a notable rise in return on equity (ROE), suggesting that branch expansion enhances profitability and strengthens shareholder returns. His study emphasizes that a broader banking network improves revenue generation and operational efficiency, ultimately boosting ROE.

Similarly, Musyoka (2011) found that branch expansion plays a crucial role in shaping the financial performance of Kenyan commercial banks. His research highlights that an extensive branch presence fosters business growth by increasing customer outreach, expanding banking services, and improving accessibility. This broader operational footprint positively influences key financial indicators, reinforcing the argument that branch expansion significantly affects overall financial success.

4.5.4 Branch Expansion and ROA

$ROA = \beta 0 + \beta 1\ Bre + \varepsilon$

Where,

ROA = return on asset

Bre = number of branches

ε = error term

H4: The expansions of branches significantly increase ROA.

Table 4.6: Regression result for number of branches and ROA

Dependent variable	Independent variables	Coefficient(β)	Std. Err.	t-value	p-value	95% CI	R-Squared
ROA	Branches	.0001136	.0000977	1.16	0.0279	(.0001118' .0003389)	0.4444

Source: Researcher's Computation on STATA

As the above table demonstrates a positive coefficient (β) of 0.0001136, meaning that for every additional branch, ROA is expected to increase by 0.01136%. Though the effect size is quite small, what's important here is that the relationship is statistically significant. The p-value associated with this coefficient is 0.0279, which is below 0.05. This indicates that the result is statistically significant at the 5% level, and we can be reasonably confident that there is a genuine relationship between the number of branches and ROA. The t-value is 1.16, and the 95% confidence interval, ranging from 0.0001118 to 0.0003389. Despite this narrow margin, the interval still supports a positive and significant effect. The R-squared value is 0.4444, meaning that 44.44% of the variation in ROA is explained by the number of branches. This is a moderately strong result for a single-variable regression, suggesting that the number of branches plays a meaningful role in explaining ROA, though likely in combination with other factors. There is a statistically significant positive relationship between the number of branches and ROA. While the effect size is small, the results indicate that increasing the number of branches could have a positive impact on profitability, at least as measured by ROA.

Esmael Yaregal (2023) branch expansion has an insignificant positive effect on Addis International Bank's financial performance, specifically as measured by return on assets (ROA). According to Konzo and Kazumine (2011), this positive impact suggests that Zemen Bank has

achieved an adequate level of branch expansion, optimizing both cost and profit efficiencies. Their research highlights that moderate branch growth enhances financial performance, but excessive expansion can lead to inefficiencies, negatively affecting profitability. Based on these findings, the study implies that Zemen Bank current branch network is appropriately scaled for operational efficiency.

However, these results contrast with the findings of Melis (2018) and Sufian (2008). Melis (2018) concluded that Ethiopian private banks' excessive branch expansion had a significant and negative effect on ROA, primarily due to heightened operational costs outweighing revenue gains. Similarly, Sufian (2008) found that branch size negatively affects bank profitability, emphasizing that an overly large branch network can lead to financial strain rather than improved performance.

5.4 Branch Expansion and NIM

$NIM = \beta 0 + \beta 1\ Bre + \varepsilon$

Where,

NIM = return on asset

Bre = number of branches

ε = error term

H4: The expansions of branches significantly increase NIM.

Table 4.7: Regression result for number of branches and NIM

Dependent variable	Independent variables	Coefficient(β)	Std. Err.	t-value	p-value	95% CI	R-Squared
NIM	Branches	.0002592	.0000295	8.80	0.001	(.0001913 .0003272)	0.9064

Source: Researcher's Computation on STATA

As the above table demonstrates a positive and statistically significant coefficient (β) of 0.0002592, indicating that for every additional branch, NIM increases by 0.02592%. The result is highly statistically significant, as reflected by a very low p-value of 0.001, well below 0.05. This strong significance is further supported by a high t-value of 8.80, which confirms that the observed relationship is unlikely to be due to random variation. The 95% confidence interval, ranging from 0.0001913 to 0.0003272, does not include zero, reinforcing our confidence in a consistently positive relationship between branch number and NIM. Importantly, the model reports an R-squared value of 0.9064, indicating that 90.64% of the variation in NIM is explained by the number of branches. For this reason the number of branches has a positive, statistically significant, and strong association with Net Interest Margin. The model shows that branch count is a major explanatory factor for variations in NIM.

The findings of this study align with Haileyesus (2016), who demonstrated that branch expansion has a significant positive impact on net interest margin (NIM). His research highlights that increasing the number of branches enhances banking accessibility, allowing financial institutions to attract more deposits and expand lending operations. As banks grow their branch network, they improve customer reach, fostering higher deposit inflows, which in turn increases available funds for loan disbursement.

A broader branch presence also enables banks to optimize their loan portfolios, effectively managing interest rate spread. By leveraging increased customer engagement and deposit mobilization, financial institutions can secure favorable lending conditions, maximizing their interest earnings relative to interest expenses. Haileyesus (2016) argues that this expansion strengthens profitability by improving cost efficiency and facilitating better financial intermediation.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATION

5.1 Summary and Conclusion

In recent years, the National Bank of Ethiopia has implemented regulatory directives mandating commercial banks to expand their branch networks as part of a broader effort to enhance financial inclusion and accessibility across the country. This policy aims to ensure that banking services reach a wider population, particularly in underserved and rural areas.

Given this regulatory framework, the study seeks to examine the impact of branch expansion on key financial performance indicators in Ethiopian banking. To achieve this objective, variables relevant to assessing both branch growth and bank financial performance were carefully selected. The study relies on time series data spanning 2015 to 2024, capturing trends in financial metrics over the years.

To validate the reliability of the dataset, the Augmented Dickey-Fuller (ADF) test was applied to determine whether any of the selected variables exhibited stationarity. Ensuring stationarity is crucial in time series analysis, as non-stationary data can lead to spurious regression results. Once stationarity was confirmed, the study proceeded with linear regression analysis, systematically examining the relationship between branch expansion and financial performance metrics.

The analysis was conducted across a specified observation period, with branch expansion (number of branches) serving as the independent variable. The dependent financial performance indicators analyzed include deposits, loans, return on equity (ROE), return on assets (ROA), and net interest margin (NIM). By applying regression modeling, the study aimed to quantify the extent to which branch expansion influences these financial metrics, determining the correlation between increased branch presences and banking performance.

- The number of branches and deposit amounts are strongly and positively related. The data indicates that branch expansion plays a major role in growth of deposits. This implies that expanding branch is an effective strategy to increase Zemen Bank's financial performance.
- Increasing lending activity is closely associated with branch expansion, indicating the critical role branches play in promoting Zemen Bank's loan growth.
- The analysis reveals that ROE and branch expansion have a statistically significant negative association. This suggests that branch expansion is associated with a decline in profitability. The findings may indicate that increasing the number of branches leads to higher operational costs or reduced efficiency, ultimately affecting overall financial performance. These results highlight the importance of carefully evaluating branch expansion strategies and ensuring operational efficiency in newly established branches.
- According to the analysis, there is statistically significant positive relationship between ROA and branch number. The result indicates that expanding branches may have positive effect on banks profitability as measured by ROA, despite the effect of magnitude being very minor. This demonstrates how branch expansion may be advantageous if properly managed with a large strategic framework.
- The result findings show that the number of branches and NIM has a strong and statistically significant positive connection. This indicates that expanding the branch network is closely associated with improvements in this key profitability metric. The findings suggest that branch expansion plays a major role in enhancing financial performance, emphasizing the importance of strategic branch growth for financial institutions.

5.2 Recommendations

Zemen Bank's financial performance has significantly benefited from branch expansion, leading to notable improvements in key metrics such as deposits, loans, ROE, ROA, and NIM. Based on these findings, the researcher recommends optimizing branch expansion strategies to target high-growth locations, enhancing financial inclusion initiatives to serve remote and underserved areas,

and strengthening operational efficiency through cost management and technology-driven solutions. Additionally, leveraging data analytics for performance monitoring will help refine expansion strategies and maintain profitability, while ensuring regulatory compliance and risk mitigation will support sustainable growth.

- Expanding the branch network has demonstrated a positive effect on key financial performance indicators, including deposits, loans, Return on Assets (ROA), and Net Interest Margin (NIM). This suggests that increasing branch presence remains an effective strategy for strengthening financial performance and expanding market reach. To maximize these benefits, banks should focus on high-growth markets, where deposit mobilization and lending opportunities are abundant. Targeting economically vibrant areas with strong customer demand will enable banks to attract more deposits, increase lending activities, and improve overall profitability.
- However, while branch expansion enhances financial accessibility and revenue growth, it has also been linked to a decline in Return on Equity (ROE)—likely due to increased operational costs associated with maintaining larger branch networks. To mitigate this issue, banks must prioritize efficiency improvements across both newly established and existing branches. Implementing cost control measures and investing in technology-driven solutions will help streamline operations, reduce overhead expenses, and optimize resource utilization. Enhancing automation, digital banking platforms, and operational workflows can significantly improve branch productivity while keeping costs manageable.
- Before opening new branches, banks should conduct thorough feasibility studies to ensure the expansion is aligned with strategic goals and financially viable. A careful assessment of market demand, competitive landscape, infrastructure costs, and revenue projections will help banks make informed decisions about branch locations. Additionally, regular performance monitoring is essential to identify and address inefficiencies early, ensuring that branches operate optimally and contribute positively to overall financial stability.
- While branch expansion fosters deposit and loan growth, banks must balance network expansion with profitability objectives, particularly by improving ROE. One approach is

to enhance branch-level profitability through cross-selling financial products, optimizing loan portfolios, and strengthening customer engagement strategies. By offering a diverse range of services tailored to customer needs, banks can increase revenue streams and enhance long-term financial stability.

- Future research could further explore the underlying factors contributing to the negative correlation between branch expansion and ROE. Investigating operational costs, management practices, and efficiency levels at the branch level would provide deeper insights into the financial implications of expansion. Additionally, broadening the scope of performance metrics beyond deposits, loans, ROA, ROE, and NIM would offer a more comprehensive understanding of the overall impact of branch expansion, potentially incorporating measures such as cost efficiency, customer satisfaction, and financial risk management.

References

ACCA Student accountant Technical Article. (n.d.). *accaglobal. Retrieved September 30, 2015, from accaglobal.com: http://www.accaglobal.com*

Adam, M. H. M. (2014*). Evaluating the financial performance of banks using financial ratios A case study of Erbil Bank for Investment and Finance. European Journal of Accounting Auditing and Finance Research, 2(2),* 156–170. Retrieved from https://eajournals.org/wp-content/uploads/Evaluating-the-Financial-Performance-of Banks-Using-Financial-Ratios-A-Case-Study-of-Erbil-Bank-for-Investment-and-Finance.pdf

Admasu, B. (2014). Banking Sector Reform in Ethiopia. *International Journal of Business and Commerce*, 25-38.

Aladwan, M.S. (2015). The impact of bank size on profitability "An empirical study on listed Jordanian commercial banks" European Scientific Journal, 11(34), 217-236.

Albertazzi, Ugo and Gambacorta, Leonardo, Bank Profitability and Taxation (November 2007). Bank of Italy Temi di Discussione (Working Paper) No. 649.

Alexandru, C. G. (2008). *The Assessment of Banking Performances-Indicators of Performance in Bank Area*. MPRA Paper No. 11600.

Al-Homaidi, E. A., Tabash, M. I., Farhan, N. H., & Almaqtari, F. A. (2018). *Bank-specific and macro-economic determinants of profitability of Indian commercial banks: A panel data approach. Cogent Economics & Finance,* 6(1), 1548072. https://doi.org/10.1080/23322039.2018.154807

Allens, P., Elena, K. (2008). Role of Commercial Banks in an Economy. *Journal of Economics.* Volume 12, 65-98.

Alper, D.Anbar,A, (2011). Bank Specific and Macroeconomic Determinants of Commercial Bank Profitability: *Empirical Evidence from Turkey, Business and Economic Research* Journal Volume 2.Number 2.2011 pp.139-152 ISSN: 1309-2448

Athanasoglou, P. Brissimis, S. and Delis, M.(2008), *bank specific, industry specific and macroeconomic determinants of bank profitability*. 18 (2) pp, 121-136.

Aguirregabiria, V., Clark, R., & Wang, H. (2017). *The geographic flow of bank funding and access to credit: Branch networks and local-market competition* (No. 2110-2018-4538).

BankMavericks.com. (2025).Banking Industry KPIs to Track & Measure (2025), *BankMavericks.com: https://bankmavericks.com/terms/*

Berger (1995), "The Profit-Structure Relationship in Banking-tests of Market Power and Efficient Structure Hypotheses" *Journal of Money, Credit, and Banking*, *Vol*. 27 *No*. 2

Betelhem Abayneh.(2024).Zemen Bank: A Case of Strategic Differentiation in Ethiopia's Banking Sector. *https://www.linkedin.com/*

Boland, V. (2009). *Modern dilemma for world's oldest bank. Milan: Financial Times.*

Bradach, J. L. (2003*). Going to Scale Social Enterprise Series, No.9. Harvard:* Harvard Business School.

Carlson, M. and Mitchener, K. J (2005). Branch Banking, Bank Competition, and Financial Stability.NBER Working paper. Working Paper 11291.http://www.nber.org.

Cebenoyan, A. and Strahan, P. (2004). *Risk management, capital structure and lending at banks. Oslo*: NorthHolland Publishers.

Chakraborty, S. (2013). Bank branch expansion at a decade's high. https://www.business-standard.com.

Chandler, A. D. (2002). Strategy and Structure. Cambridge*: MIT Press.*

Creswell, JW 2009, *"Research Design: quantitative, qualitative and mixed methods approaches,"* 3rd edn, Sage Publications, California.

Dees, J.G., Anderson, B.B., and Wei-Skillern, J. (2004). *Pathways to Social Impact: Strategies for Scaling Out Successful Social Innovations.* Center for the Advancement of Social

Entrepreneurship Working Paper Series No. 3, Fuqua: Duke University

Ebisa Derbie and Andualem Hailu (2013), Expansion vs restriction of bank branches: *AIB Basic Research Journal of Business Management & accounts.*

Esmael Yaregal.(2023).*The Effect of Branch Expansion on Bank Financial Performance in the Case of Addis International Bank S.C.* Msc Thesis, Addis Ababa University. .

European Central Bank. (2010). Beyound ROE-How to Measure Bank Performance. *Frankfurt: European Central Bank,*

Evanoff, D. D. and Ors, E. (2008). The Competitive Dynamics of Geographic Deregulation in Banking: Implications for Productive Efficiency. *Journal of Money, Credit and Banking.*

Evanoff, D. and Fortier, D. (1986). The impact of geographic expansion in banking-some axiom to grind. Federal Reserve Bank of Chicago-Economic perspective, 24-38.

Eyob Yimer(2023), *Factors Affecting Financial Performance of Ethiopian Commercial Banks.* Msc Thesis, Addis Ababa University. .

Ezra, M. (2013). „Determinants of Commercial Bank Profitability in Sub-Saharan Africa". *International Journal of Economics and Finance, Vol.5.*

Ferreira, F.A., Santos, S.P. and Rodriguez, P.M. (2009). Adding value to bank branches" performance evaluation using cognitive maps and MCDA: A case study.Banco de Portugal Working Papers. Unpublished.

Gashayie, A. and Singh, M. (2016). Development of Financial Sector in Ethiopia Journal of Economics and Sustainable Development,7(7), 9-20 Goldthwaite, W. (1995). Evolution of modern banking. Journal of Finance. Volume 5, PP 21-25.

Haileyesus Habteab (2016): *Determinants of F,inancial Performance of Commercial Banks: the Case of Private Commercial Banks in Ethiopia.*

Harimaya, K. a. (no date). *The effects of Branch expansion on Bank Efficiency: Evidence from Japanese Regional Banks. Retrieved December 27, 2015,*

Hery Prasetyo Sony Sunaryo (2015), *the Branch Expansion and the Performance of the Banks: The Case of Indonesia.*

Hirtle,B. (2004).*The Evolution of U.S.Bank Branch Networks:Growth,Consolidation,and Strategy.Federal Reserve Bank of Newyork current issues in Economis and Finance.*

Hirtle, B. (2007). The Impact of Network Size on Bank Branch Performance. Federal Reserve Bank of New York Current Issues in Economics and Finance- staff report. Unpublished.

Hoffmann, P. S. (2011). "Determinants of the Profitability of the US Banking Industry". International Journal of Business and Social Science,2 (22),255-269.

https://corporatefinanceinstitute.com/resources/accounting [assessed on 05 May 2023]

Hannan, Timothy and Hanweck, Gerald A., Recent Trends in the Number and Size of Bank Branches: An Examination of Likely Determinants (January 1, 2008). FEDS Working Paper No. 2008-02, Available at

SSRN: https://ssrn.com/abstract=1327057 or http://dx.doi.org/10.2139/ssrn.1327057.

Hubbard, R.G., (2002). Money, the Finanial System, and the Economy. *Pearson Education Inc, 4th ed. USA.*

Imbadu, P. M., & Maniagi, M (2020), *Influence of Bank Branches Spread on Financial Performance of Commercial Banks in Kakamega County.*

Islam, Siddiqui M.H. and Islam R. (2014). Growth of private commercial banks in Bangladesh. International Journal of Economics, Finance and Management Sciences, 2(1),53-67.

Jarso, H., Rao, D.P. and Ravi, J. (2015). Financial Outreach and Use in Ethiopia. Journal of Economics and Sustainable Development,6(9), 9-17.

Khrawish, H. A. (2011*). Determinants of Commercial Banks Performance: Evidence from Jordan.International Research . Zarqa University,. Journal of Finance and Economics, Vol. 5(5), pp. 19-45.*

Kondo, Kazumine, 2018. "Does branch network size influence positively the management performance of Japanese regional banks?" Applied Economics, Vol. 50(56), pp. 6061-6072

Kuehn, J. (2014). Spillovers from Entry: The Impact of Bank Branch Network Expansion, Department of Economics, UCLA. https://sites.google.com/site/josephstevenkuehn.

Ledhem, M. A. (2021). *Data mining techniques for predicting the financial performance of Islamic banking in*

Indonesia. Journal of Modelling in Management. https://doi.org/10.1108/JM2-10-2020-0286

Levine, R. (1997). Financial Development and Economic Growth: Views and Agenda. *Journal of Economic Literature, 688-726.*

Melis Zeber (2018): *Determinants of Commercial Banks' Performance: An Empirical Study on Ethiopian Private Commercial Banks.*

Mensi S. and Zouari A. 2010*, Efficient Structure versus Market Power: Theories and Empirical*

Evidence, High School of Business of Tunis (ESCT), Manouba University Higher Business Studies Institute (IHEC), University of The 7th November at Carthage.

Meyer, R.L., Khalily, B. and Hushak, L.J. (1990). Bank branches and rural deposits: evidence from Bangladesh. Economics and Sociology Occasional Paper No. 1763.Paper presented at the Workshop on Rural Finance in Developing Countries June 12 - 15, 1988 Columbus, Ohio.

Mihiretu, N., Ayalew, A., and Tsegaye, A. (2020). Liquidity risk and financial performance of Ethiopian commercial banks: evidence from camel model. Journal of Finance, Accounting and Management, 11(2), 25-38

Monteiro, M (2004). Bank-Branch Location and Sizing under Economies of Scale - master thesis - Universidade do Porto, Portugal.

Muhabie, M. (2015). *Evaluation of the Financial Performance of Banking Sectors in Ethiopia: The Case of Zemen Bank. Global Journal of Management and Business Research.*

Murthy, Y., & Sree, R. O. (2003). *A Study on Financial Ratios of major Commercial Banks. Research Studies, College of Banking & Financial Studies, Sultanate of Oman.*

Musyoka, P.K. (2011). *The Relationship between branch network spread and financial Performance of commercial banks in Kenya, Unpublished MBA Project*, University of Nairobi.

Nyatika, S.(2017). *Spread in branch network and financial performance of commercial banks in Kenya. Unpublished MBA Project, University of Nairobi.*

Olweny, T. & Shipho, T. M. (2011). *Effects of Banking Sectoral Factors on the Profitability of Commercial Banks in Kenya, Economics and Finance Review, 1(5), 01-30.*

Oster, S. M. (2002). *Nonprofit organizations as franchise operations. Princeton, Nonprofit Management and Leadership journal*

Paul, K. (2010). Rural Banking Challenges. *Journal of Finance, Volume 22, 96-99.*

Porter, M. E. (2008). On Competition. *Boston: Harvard Business School Press*

Seale, Gary. 2004. "Branching Continues to Thrive as the U.S. Banking System Consolidates." *Federal Deposit Insurance Corporation FYI. October 20, 2004.*

Siddiqui, M. A., & Shoaib, A. (2011). *Measuring performance through capital structure: Evidence from banking sector of Pakistan. African Journal of Business Management, Vol.*

5(5), pp 1871-1879.

Rao,K.a. (2012). *Determinants of Profitability of Commercial banks in a Developing Country: Evidence from Ethiopia. International Journal of Accounting and Financial management Research, 1-20.*

Sufian, F. C. (2008). Determinants of Bank Profitablity in a Developing Economy*:Emperical Evidence from the Phillipines. Asian Acadamy of Managment Journal of Accounting and Finance, 91-112.*

Strata Decision.com.(2005).*Ten Key Financial Metrics & KPIs for Banks & Credit Unions. Strata Decision Technology*: https://www.stratadecision.com/blog/

Tesfaye B. L. (2014). The Determinants of Ethiopian Commercial Banks Performance. *European Journal of Business and Management. 6(14), 52-62*

Tuwei, H.C. (2016). Effect of branch network on financial performance in private colleges in Kenya.*International Journal of Economics, Commerce and Management, 4(10), 48-86.*

Venkatesan, S. (2012). An Empirical Approach to Deposit Mobilization of Commercial Banks in Tamilnadu. IOSR Journal of Business and Management,4(2), 41-45.

Wen, W. (2010). Ownership Structure and Banking Performance: *New Evidence in China. UniversitatAutònoma de Barcelona Departament D"economia de L"empresa, 2010.*

Wheelock, D. C. (1995). Why Do Banks Disappear: The Determinants of U.S. Bank Failures and Acqustions. *St Louis: Review of Economics and Statistics.*

Yabibal Gete.(2022).), Branch Banking Expansion: Opportunities and Challenges :The Case of Dashen Bank s.c

Yifredew Adamu. (2019). *Financial Sector in Ethiopia*. https://www.linkedin.com/pulse/

Appendixes

Appendix - A

Financial performance data of ZB

Year	Deposit	Loan	Number of Branch	ROA	ROE	NIM
2015	3,819,454,452	2,156,690,020	13	0.031445	13.47951	0.0171622
2016	5,486,917,395	3,253,942,050	16	0.027497	17.19953	0.0154557
2017	7,323,281,328	3,970,610,184	21	0.027363	22.44254	0.0126708
2018	10,217,516,000	4,995,010,000	24	0.021788	21.81958	0.0153497
2019	11,625,170,000	7,609,538,000	43	0.032934	22.38329	0.0215588
2020	14,417,335,000	9,747,395,000	52	0.039962	23.37003	0.032221
2021	18,994,108,000	14,027,442,000	63	0.003788	1.550512	0.029133
2022	26,872,333,000	21,121,625,000	80	0.042035	11.30507	0.0296366
2023	36,873,291,000	31,393,240,000	102	0.037944	5.993032	0.0367531
2024	43,094,736,000	35,630,149,000	125	0.040412	3.051923	0.0437655

Appendix - B

Tests for Normality

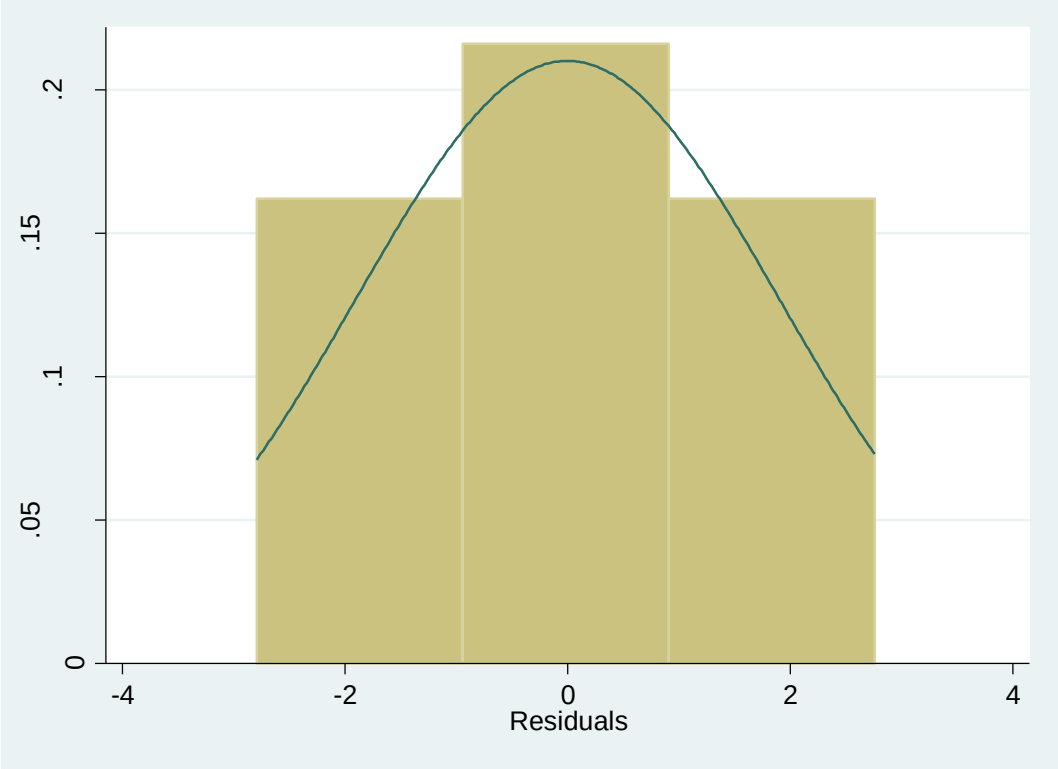
Skewness/Kurtosis tests for Normality

				------ joint ------	
Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	adj chi2(2)	Prob>chi2
resid	10	0.0588	0.0989	5.76	0.056

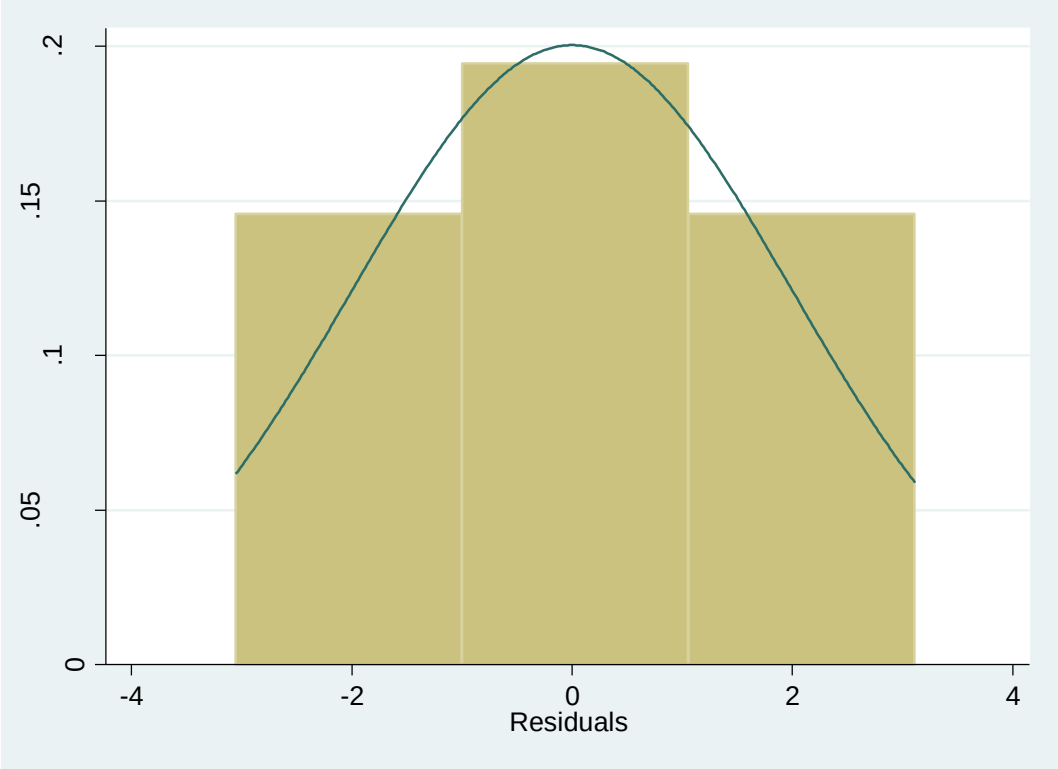
Appendix - C

Normality Test using Histogram

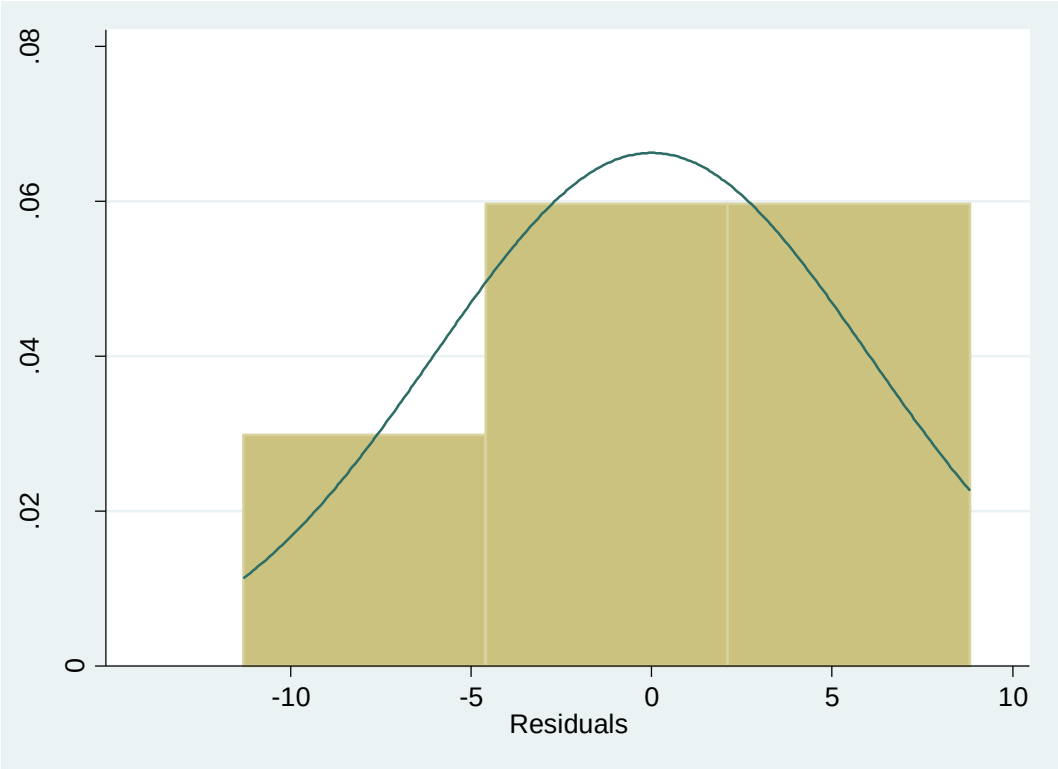
Deposit

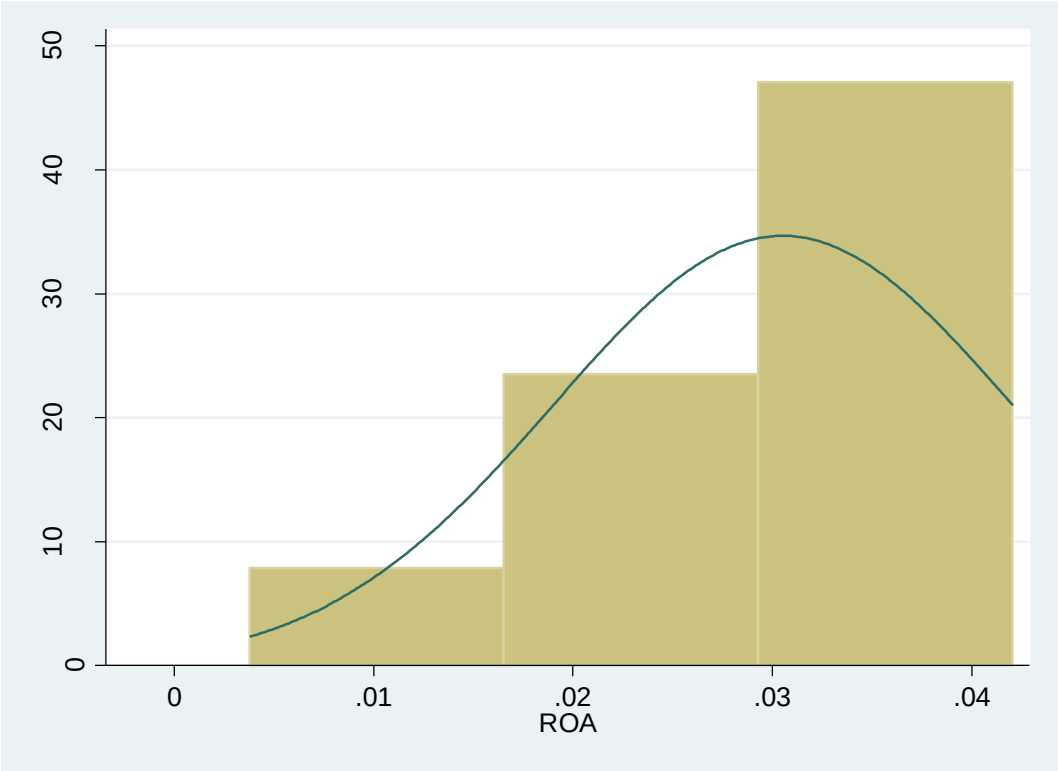


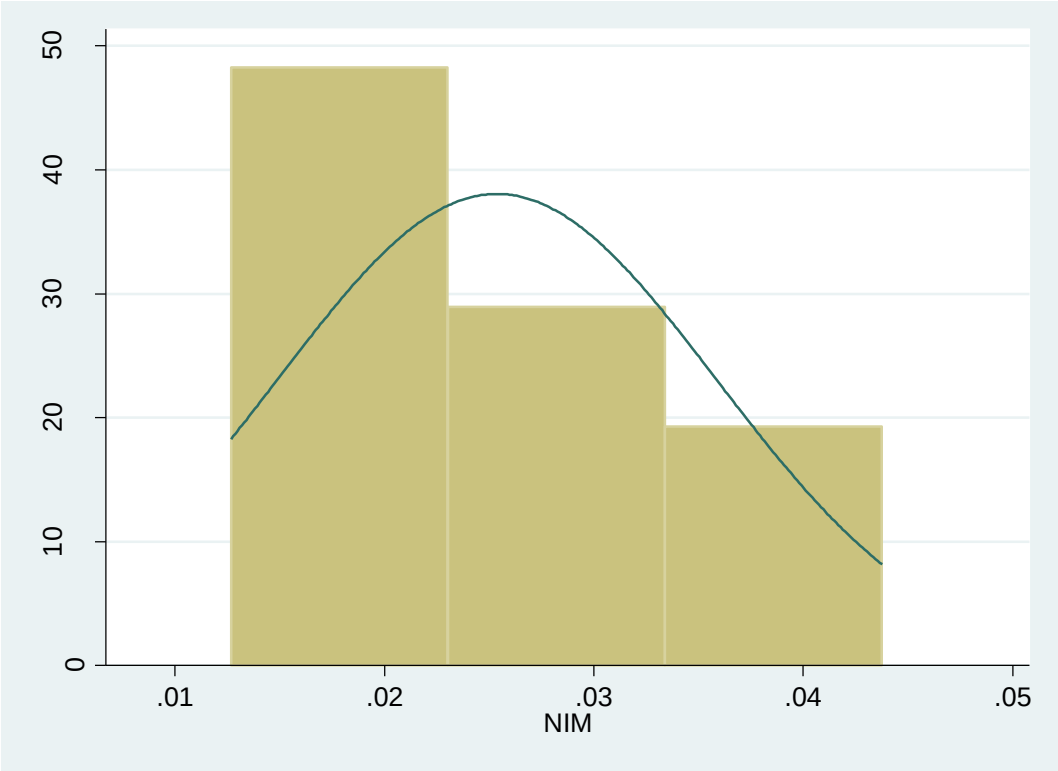
Loan



ROE




0
10
20
30
40
50
0
.01
.02
.03
.04
ROA


0
10
20
30
40
50
.01
.02
.03
.04
.05
NIM

Appendix - D

Durbin-Waston autocorrelation results

Deposit	Durbin-Watson d-statistic(2, 10) = 1.361627
Loan	Durbin-Watson d-statistic(2, 10) = 1.016351
ROE	Durbin-Watson d-statistic(2, 10) = 1.944141
ROA	Durbin-Watson d-statistic(2, 10) = 1.878097
NIM	Durbin-Watsond-statistic (2, 10)= 1.63180

Appendix - E

Breusch Pagan for heteroskedasticity

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance

Variables: fitted values of deposit_billion

chi2(1) = 0.02

Prob > chi2 = 0.9001

.

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance

Variables: fitted values of loan_billion

chi2(1) = 0.14

Prob > chi2 = 0.7115

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance

Variables: fitted values of ROE

chi2(1) = 0.19

Prob > chi2 = 0.6603

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance

Variables: fitted values of ROA

chi2(1) = 0.17

Prob > chi2 = 0.6818

Appendix - F

Results of Regression Estimations

Source	SS	df	MS		Number of obs	=	10
					F(1, 8)	=	399.51
Model	1618.77347	1	1618.77347		Prob > F	=	0.0000
Residual	32.4155409	8	4.05194261		R-squared	=	0.9804
					Adj R-squared	=	0.9779
Total	1651.18901	9	183.465445		Root MSE	=	2.0129

deposit_bil~n	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
NumberofBra~h	.3483377	.0174277	19.99	0.000	.3081494	.388526
_cons	-.9029877	1.134713	-0.80	0.449	-3.519641	1.713666

```
    Source |       SS           df       MS                    Number of obs   =    10
--
-------------------------------------------------------------   F(1, 8)         =   286.80
     Model |   1278.08488     1   1278.08488                    Prob > F        =  0.0000
   Residual |   35.6504067     8   4.45630084                    R-squared       =  0.9729
-------------------------------------------------------------   Adj R-squared   =  0.9695
     Total |   1313.73528     9   145.970587                    Root MSE        =  2.111

------------------------------------------------------------------------------------------------------
Loan                |      Coef.     Std. Err.      t      P>|t|      [95% Conf. Interval]
------------------------------------------------------------------------------------------------------
NumberofBra~h |   .309519    .0182766    16.94    0.000      .2673731   .3516648
      _cons      |  -3.292509   1.189986   -2.77    0.024     -6.036621   -.5483966
```

Source	SS	df	MS	Number of obs	=	10
				F(1, 8)	=	7.78
Model	320.531249	1	320.531249	Prob > F	=	0.0230
Residual	326.026894	8	40.7533617	R-squared	=	0.4958
				Adj R-squared	=	0.4327
Total	646.558143	9	71.8397937	Root MSE	=	6.3838

ROE	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
NumberofBra~h	-.1550039	.05527	-2.80	0.023	-.2824567	-.0275511
_cons	22.61421	3.598622	6.28	0.000	14.31577	30.91265

Source	SS	df	MS	Number of obs	=	10
				F(1, 8)	=	1.35
Model	.000172068	1	.000172068	Prob > F	=	0.02787
Residual	.001019287	8	.000127411	R-squared	=	0.4444
				Adj R-squared	=	0.0375
Total	.001191355	9	.000132373	Root MSE	=	0.01129

ROA	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
NumberofBra~h	.0001136	.0000977	1.16	0.0279	-.0001118	.0003389
_cons	.0243955	.0063629	3.38	0.005	.0097225	.0390685

Source	SS	df	MS	Number of obs	=	10
				F(1, 8)	=	77.47
Model	.000896549	1	.000896549	Prob > F	=	0.000
Residual	.000092583	8	.000011573	R-squared	=	0.9064
				Adj R-squared	=	0.8947
Total	.000989132	9	.000109904	Root MSE	=	.0034

NIM	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
NumberofBra~h	.0002592	.0000295	8 .80	0.001	-.0001118	.0003389
_cons	.0113978	.0019177	5.94	0.000	.0097225	.0390685