

Impact of Financial Inclusion on Economic Growth in East Africa and South Asia: A Regional Comparative Study.

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A thesis submitted to the BRAC Business School in partial fulfillment of
the requirements for the degree of
Bachelor of Business Administration

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Declaration

It is hereby declared that

1. The thesis report submitted is my own original work while completing my degree at Brac University.
2. The report does not contain material previously published or written by a third party, except where this is appropriately cited through full and accurate referencing.
3. The report does not contain material which has been accepted, or submitted, for any other degree or diploma at a university or other institution.
4. I have acknowledged all main sources of help.

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Letter of Transmittal

Abu Saad Md. Masnun Al Mahi, PhD,
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Subject: Thesis Report Submission

Dear Sir,

It is with great pleasure that I submit my thesis report titled “Impact of Financial Inclusion on Economic Growth in East Africa and South Asia: A Regional Comparative Study” as a requirement for the partial completion of my degree at BRAC University.

Throughout this research, I have ensured a proper arrangement of the ideas following the topic, data analysis interpretation following the academic setting.

I am grateful for all the support received from the academic staff who have guided me throughout this journey. And I hope that this report meets all your expectations and contributes meaningfully to the existing knowledge about the subject of the study. Thank you once again.

Sincerely yours,

Mwebaza Sylvia Samalie

Student ID

BRAC Business School

BRAC University

Date: May 16, 2025

Acknowledgement

My friend once told me,

“If you give up now, they will keep walking over you, and others who are like you.”

This statement has been echoing in my ears since then. Reminding me that staying steadfast is not just for me alone, but also for everyone who is always made to feel small.

I give all my praise to Allah. He knew me before anything existed on this earth, mapped my journey and guided me through even when the path seemed unclear.

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Abstract

This study explores the effect of financial inclusion on economic growth between East Africa and South Asia. The two regions are of similar development ambitions, but have differences regarding financial infrastructure and institutional maturity. Financial access and use in the sense of financial inclusion is becoming a more influential aspect of empowering people financially, encouraging entrepreneurship, and developing full economic participation. Even though it is increasingly acquiring a lot of significance, its impact is not the same in different contexts. A regional comparative analysis of this study reveals that economic growth has been maintained through an increase in financial access in both regions. Findings are particularly crucial as they demonstrate that South Asia has a powerful, long-term financial inclusion effect. This difference has deeper structural roots such as policy design, digital readiness, and institutional stability. The generalized approach is not recommended for this case. There is a need for financial inclusion policies tailored to the local realities in order to provide meaningful results. The research contributes to the broader development debates by pointing out that inclusive financial systems do not only promote economic performance but also equity and resilience. It suggests that policy makers, development practitioners and financial institutions can use financial inclusion as a tool for sustainable and inclusive economic growth.

Key Words: Financial Inclusion; Economic Growth; East Africa; South Asia; Regional Comparative Analysis.

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Chapter 1

1.0 Introduction

1.1 Background of the Study

Most people in developing African and Asian countries do not benefit from the products and services given by financial institutions. Some even have no bank accounts. Low income, financial ignorance, poor documentation, remote financial institutions, and sophisticated financial products and services are among the factors that contribute to financial exclusion (Ain, et al, 2020). Financial inclusion, also referred to as inclusive finance, hopes to guarantee that financial products and services are within reach and economically viable for people and companies of all sizes, regardless of their personal wealth or corporate position. It attempts to eliminate obstacles that prevent people from participating in the financial industry and using these services to boost their standards of living (Singh, 2024). An inclusive financial system is key to the sustainable development and growth of any country. All segments of the society have timely access to financial services at an affordable cost. Among other things, it makes people's lives more convenient and relaxed. It enables safekeeping of money, availability of loans for many uses, risk diversification and risk coverage. This is through investment in several channels and insurance policies (Dhaiya and Kumar, 2024).

Recent findings have shown that one of the most efficient ways of offering financial services is through financial inclusion. Particularly to low and middle-income families. Those who lack access to financial services due to many reasons. Such as, low level of income, and inability to provide collateral to secure loans. The financial institutions lack provision of financial services that satisfy the needs of the poor. The availability and usage of informal sources of funds convenient to the poor contribute to the demand and supply-side inability of their access to financial services (Tweneboah and Nsiah, 2024).

Banking services, debit and credit card use, bank borrowing, and savings deposits all have great activity in South Asia. Although mobile banking is growing, the adoption of e-banking is also quite modest. Most countries show a strong gender bias since they have more male users than female users. Although there is much still to achieve, efforts are being made to encourage financial inclusion and the outcomes also are better (Mani, 2016). Financial service access has greatly improved in East Africa over the last two years. Particularly in terms of credit access. More financial services are now being provided to businesses and consumers. Financial services access has been expanded by technology-based solutions. Mobile money payments and saving products are the most widely used services (Ndungu, 2023).

Mobile money services in East Africa have greatly improved financial availability and inclusion. For example, M-Pesa in Kenya and MTN mobile money in Uganda. By service providers including new customers which were previously left off of the financial substructure, mobile transactions bridge the financial infrastructural divide. This improves access to credit and deposit services and helps the distribution of financial credit. Therefore, increasing financial inclusion. Companies using mobile payments cut transaction costs, reduce cash management challenges, hence improving customer service and bottom line (Osabutey and Jackson, 2024). Mostly, the minimum balance criteria and normal account fees for an average bank account shake off the poor. Consumers themselves buy a mobile phone handset. So mobile phone technology has the edge in terms of secure network channels that already have the scalable infrastructure for the broad dispersion of airtime (Aron, 2018).

In India, the commitment to promoting financial inclusion is evidenced by initiatives like the Pradhan Mantri Jan Dhan Yojana (PMJDY) by the government in 2014. This is one of the most extensive financial inclusion efforts ever embarked on. PMJDY's mission is to provide people who are usually cut off from the mainstream financial market access to financial services. These include basic savings accounts, credit, remittances, insurance, and retirement

goods. The initiative, for instance, made up more than a third of all registered mobile cash accounts in 2015. The annual registered accounts growth exceeded the annual growth in over the counter (OTC) mobile cash usage (West, et al, 2016).

1.2 Research Problem

Many people understand financial inclusion as a catalyst for economic growth, as it promotes investment, reduces poverty, and raises financial stability. Financial inclusion, however, differs significantly by region in terms of its support for economic development. South Asia has depended more on official banking and governmental financial inclusion initiatives. While East Africa has seen financial inclusion grow mostly via mobile money services. Regardless of the progress, many people in both regions are still financially excluded, which is restricting their engagement in economic activities.

Current studies of financial inclusion and economic development have mostly dealt with East Africa or South Asia individually. Little attention has been paid to comparative studies, it is unclear whether financial inclusion affects economic growth similarly in both regions or whether structural and policy variations have different impacts. This has led to the creation of a one-size-fits-all approaches which have turned out to be ineffective. Furthermore, questions have been raised about the capacity of mobile money to foster long-term economic growth in contrast to the more formal banking-driven financial inclusion in South Asia, although it has hastened financial inclusion in East Africa.

Although both East Africa and South Asia have shown increasing financial inclusion trends, their approaches vary significantly. Mobile-based financial systems are dominating in East Africa, whereas formal banking institutions are taking the lead in South Asia. Comparing the two shows how different financial inclusion pathways can be used to attain economic growth. This study fills a gap in the literature by conducting a cross-regional analysis. It also offers insights tailored to policy interventions that suit the unique socioeconomic context of each region.

1.3 Research Objectives

To evaluate how financial inclusion influences East Africa's and South Asia's economic development. By using the financial inclusion proxies, such as the number of bank branches, internet usage for both access and usage is accompanied by other control variables and their correlation with GDP per capita

To find out whether the impact of financial inclusion on economic growth is different between the two regions. This entails analyzing the impact of financial inclusion indicators on GDP per capita in East Africa and South Asia respectively.

1.4 Contributions of the Study

This research offers an explanation of the ways that financial inclusion drives economic growth in two regions that have different financial systems. This study will help policymakers and financial institutions to establish effective financial frameworks that support economic development. By providing a comparative analysis the study will also add more knowledge to scholarly debates on financial inclusion and economic development.

Theoretically, the study will contribute to the existing literature by looking at financial inclusion in terms of Financial Development Theory and Endogenous Growth Theory and the

Digital Finance theory. Theories suggest that financial inclusion promotes economic growth by helping investments, raising productivity, and enabling capital accumulation. The study will provide empirical and analytical support views on these theories.

From a practical point of view, this research will show the difference in financial inclusion approaches used in both regions. This will include the government banking projects in South Asia and private mobile banking in East Africa work. Furthermore, feasible solutions for promoting financial exclusion will also be provided.

Institutions like banks, microfinance, and mobile money operators can use this study to develop financial products that directly solve the needs of their niches. In East Africa, financial service providers may focus on improving interoperability between mobile wallets and traditional banking systems. This is because it is where mobile money is dominant. In South Asia, banks and fintech companies may use the study recommendations to expand digital banking services in rural areas to work alongside their established financial infrastructure.

This study also aims to offer recommendations to NGOs that are working on promoting financial inclusion and economic empowerment. This is done through identifying the challenges and opportunities in financial access. The study seeks to help organizations design better interventions that support underserved populations. Financial inclusion is great at implementing the SDGs, especially in terms of reducing poverty and promoting economic equality. This explains the importance of understanding the impact of financial access to economic growth in East Africa and South Asia. Hence contributing to global efforts to build more inclusive economies.

Chapter 2

2.0 Literature Review

2.1 Theoretical Framework

Different theories have been invented to explain the impact of financial inclusion on economic growth. These majorly focus on financial inclusion impact on investment and productivity and which brings macroeconomic development. Amongst these theories is the financial development theory, endogenous growth theory and the digital finance theory.

The financial development theory to begin with, suggests that the expansion of credit access leads to economic growth through ensuring efficient communication and cutting transaction costs (Levine, 1999). This encourages savings, investment, technological advancement and later promotes economic growth (Azmeah ,2025). Given the existence of financial intermediaries, there is a reduced gap between borrowers and lenders, which reduces costs incurred in the form of time and increases the net-worth of borrowers. This also enables more people to get access to financial services and in turn boost economic growth. In this regard, financial access goes down to even smaller firms which are mostly affected by the limited access to credit services (Beck et al, 2004). This impact on small firms further supports macroeconomic development and the growth of patterns amongst different sectors. Briefly, the financial development theory supports the notion that financial inclusion has a positive impact on economic growth.

The endogenous growth theory which has also been proven mostly in developing countries. This theory suggests that financial inclusion has a positive impact on productivity and innovation. According to Noor et al (2020), financial inclusion helps firms to grow their

sales during normal times in both East Africa and South Asia. This clarifies that a more stable financial system leads to higher and steady economic growth through the use of methods that incorporate horizontal innovation. Through the use of loans, financial inclusion has driven agricultural total factor productivity. This leads to transformation in production based on specialization and cooperation. However, some studies still find a negative relationship between entrepreneurship and economic growth and financial inclusion. Firms that engage in financial inclusion initiatives find their sales negatively affected (Lee et al, 2020).

The digital finance theory explains how technology advancement in financial services bridges financial gaps amongst people. Since the early 2000s, the theory supports that technology extends financial services to the disadvantaged people especially in rural areas referred to as digital financial inclusion (DFI) (Miah, 2023). This leads to more people being included hence technology positively supporting financial inclusion. Fintech facilitates conditions that drive intentions behind the use of money. In East Africa, fintech reduces the gender gap because all genders have access to technology which promotes access to financial services (Yeyouomo & Asongu, 2023). Given its modern way of shaping the financial landscape, fintech offers a great opportunity to promote economic empowerment hence promoting economic growth (Miah, 2023).

2.2 Empirical Review of Financial Inclusion and Economic Growth

2.2.1 Financial Inclusion in East Africa

Mobile money services have had a huge contribution in transforming financial inclusion in East Africa. This is seen in countries such as Kenya, Uganda, Somalia among others. The introduction of M-Pesa in Kenya in 2007 marked the beginning of this revolution (Nidugondi & Bhargava, 2019). These services have facilitated domestic and international remittances, especially in rural areas. They have also expanded to have micro-loans, savings, and insurance products. The impact has been clear, with financial inclusion rates increasing dramatically. For example, in Kenya, EcoCash helped in raising financial inclusion from 32% to over 90% (Nidugondi & Bhargava, 2019). Social networks are strengthening the relationship between the use of mobile money and financial inclusion (Bongomin et al., 2018). In Somalia and Kenya, mobile money has effectively improved financial exclusion. This has made mobile money activities a powerful tool for creating a regular source of income and for reducing economic inequalities.

Mobile money services have transformed the social and economic lives of people, especially in rural areas. This does not remove the fact that they face several limitations. There is still a lack of uniformity between mobile money networks. This poses the need for regulators in the East African Community (EAC) to redo interconnection and policy harmonization across different legal and regulatory systems. Additionally, the convergence of telecommunications and financial sectors brings complexities in regulations.

In East Africa, financial inclusion has shown a positive impact on economic growth over the years. For instance, the number of people owning financial accounts has increased to 0.025% which shows an improvement in inclusive growth (Ndungu, 2023). This does not however change the fact that their relationship between financial inclusion and economic

growth is not always positive. Some countries like Tanzania have a higher GP compared to others in the region but still financial inclusion is low. This could be associated with its weak financial system or inappropriate policies. It can also be due to poor financial instruments that limit the growth of financial systems within the country (Lotto, 2022).

Financial inclusion in East Africa generally faces barriers which cannot be left behind. Such as the high rural population density, lower levels of income, high illiteracy rates, gender and age differences. Unlike the urban people, rural dwellers have a negative correlation with FI. Higher income levels have a positive impact on FI, especially when it is evenly distributed. This is because it ensures easy access to financial services to all people (Wokabi & Fatoki, 2019). When it comes to gender differences, it's more evident in the number of women owning formal savings accounts and mobile money accounts, which is relatively low compared to that of men. Other barriers to financial inclusion are unemployment, lack of documentation for example national identity cards and mistrust, insufficient funds among others (Bekele, 2023). With all these barriers, financial literacy proves to be the best solution especially in rural areas. In Ethiopia specifically, people are more inclined to the use of traditional informal means of saving money than the use of formal banking services and institutions. This also makes financial inclusion efforts also most impossible and challenging in the country (Lakew & Azadi, 2020).

2.2.2 Financial Inclusion in South Asia

Financial services is one of the issues that South Asian Governments have focused on greatly in order to improve financial access. When it comes to India's PMJDY initiative, it has expanded banking services to people who initially were not having bank accounts especially in rural areas (Kurussiveetil and Karuppanagounder, 2024). Through the PMJDY, there is a

greater possibility for people to own financial transaction accounts, especially the women and the poor. Throughout South Asia, gender, age, wealth and education are the main socio-economic factors that determine the future of FI. Sri Lanka leverages these factors and it is currently leading the rest in the region when it comes to financial inclusivity. Pakistan and Afghanistan are lagging behind (Kumar and Pradhan, 2024).

Although the PMJDY initiative has made great improvements in as far as financial inclusion is concerned, its full completion is still unattained. For example, a fraction of accounts that are being created are dormant or have zero balance, especially those owned by the marginalized people (Bijoy, 2018). Challenges that have led to this are, the poor connectivity of the telecommunication lines, poor infrastructure and the duplication of such accounts. However, compared to those accounts that are non-PMJDY with the same age, transaction rates by the PMJDY accounts increase at a faster rate.

The microfinance institutions also promote financial inclusion in South Asia and cannot be left out. They provide credit to the poor people who have no access to commercial banks. These have played a big role in reducing poverty and supporting the income generating small businesses owned by the underprivileged individuals (Babu and Thangavel, 2023). Though, questions still remain of whether such services are able to ensure sustainable efficiency. Hence focus is shifting toward financial sustainability and ensuring that microfinance institutions are performing efficiently. Digital banking is also being considered in combination with microfinance to further improve financial inclusion (Dutta, 2022). Moving toward a cashless economy in South Asia has proven to be a great incentive to microfinance institutions to develop and maintain networks throughout the economy.

Rural banking in South Asia is facing difficulties, most notably, in solving gender discrimination. Financial inclusion in the region is still low and lags behind the rest of the world. The usage of banking services, e-banking, and credit cards is still at a relatively low level. In such a transition, gender bias is inevitable. There are more men than women using the banking system, credit cards, among others. Women have legislated gender roles in society and are, therefore, restricted to perform various activities. The fourth industrial revolution and the increased use of technology are contributing to the widening gender gap (Umesh, 2021).

The digital divide is also a significant factor that has increased the gender gap in financial inclusion, especially in the developing countries. Development in the region is ongoing, and priority is given to bridging the urban-rural digital divide (Umesh, 2021). Women in South Asia have a limited right to become financially independent. This is because of the cultural norms and social institutions, which limit their chances to participate. Practically, women perform economic activities using micro bank accounts which offer slightly better rates. These also engage in the use of mobile technologies although on a small scale. All would be well but the gender differences make the equation complicated (Joko, 2024). The available solution to most of these challenges is through financial literacy. This can easily provide access to a wide range of formal financial services and institutions, accompanied with policies from the responsible parties that empower women entrepreneurship (Ncube, 2023).

2.3 Comparative Analysis of Financial Inclusion East Africa and South Asia.

Both East Africa and South Asia have similarities in their trends of reducing poverty and promoting inclusive growth. For instance, they both have a larger proportion of their populations with no use of banking services. Evidence from both regions suggests that there is an increase in financial and digital inclusion which is positively impacting financial resilience and poverty reduction (Lyons et al, 2020). The use of digital technology, especially mobile banking is one of the key drivers of financial inclusion in both regions (Dhungana, 2022). Digital and financial literacy are great factors in building inclusivity and heterogeneity, especially among the poor, rural and female households (Lyons et al, 2020).

The use of mobile banking, although with different strategies, is one of the major financial inclusion forces in both East Africa and South Asia. For instance, M-Pesa by Safaricom has revolutionized mobile payments in Kenya since 2007. It had greatly expanded to rural and economically disadvantaged people through giving them easy access to banking services. They use phones as their banking tools for financial transactions, both the working class and rural people. They also reduce the costs of transaction and the processing time which is involved in the banking ques. This further makes the whole process seamless for both the providers and the users (Arthi and Shanmugam, 2020). Regardless of the existence of regulatory obstacles in some markets, the success of mobile banking services has widely promoted entrepreneurship and innovation. This applies to both East Africa and South Asia.

Mobile payments and bank payments have shown a promising growth in India since 2014. This is linked to the utilization of the available service providers for example Paytm and Airtel (Arthi and Shanmugam, 2020). Initially, rural areas in India depended on postal services for banking transactions until the early 20th century. However, the country is currently moving

to the digital era with the use of mobile enabled bank payments as a solution. There are also consistent financial innovations taking place through the use of technology which is helping to close the financial inclusion gap not only in India but South Asia as a whole. Apparently, mobile ecosystems are playing a big role in ensuring that banking services are reaching the initially unbanked people (Kabir, 2021).

Several studies have come up to explain the link between financial inclusion and economic growth in SAARC countries and they have all proven positive (Singh and Stakic 2020). This is the same case with East Africa too. Due to the heterogeneity and different demographic groups that exist in both regions, financial and digital literacy are more than necessary to promote inclusivity and financial resilience (Spivak, 2024). Financial inclusion has a short-term impact on economic growth in South Asia and an impact on human capital development too in the long run (Thathsarani et al, 2021). The existing government actions toward making financial services available to everyone also enables the accomplishment of the United Nations sustainable development goals.

2.4 Policy and Regulatory Frameworks

Central banks are playing a big role in addressing the challenges that hinder financial inclusion through both banking and non-banking financial institutions. They ensure that the “Know Your Customer” guidelines are being followed and also encourage creativity in the creation of financial products and financial technology (Morgan, 2022). CB’s help in enforcing regulatory policies and mobile banking services, this can be evidenced by M-PESA Kenya which has been successful over the years. Such services have also grown rapidly in South Asia in countries like Bangladesh and Pakistan leading others in mobile financial services provision.

When it comes to the reserved banks, it is one of the strong forces that push financial inclusion in India at relatively lower costs focusing on closing the financial access gaps (Chakravarty, 2023). A great example of this is the PMJDY, which is an innovative financial inclusion program among the women and the underprivileged groups of people led by the governments. It has led to an increase in financial accounts ownership in the region and also promoted the use of traditional fintech services (Hadar and Manos, 2021).

However, just like any other initiative, financial inclusion also faces challenges. These include fraud, cybersecurity threats and challenges in ensuring customers' protection. These and many others create the need for strong security measures and regulatory compliance. The financial sector, unlike other sectors, is more vulnerable to cyberattacks due to the fact that it is associated with dealing with money (Priyadarshani and Rengarajan, 2024). The difficulties in establishing authority and identifying offenders are one of the factors that make cyberspace more exposed to financial fraud. When it comes to policy making, systematic risk management, cross border financial supervision and the division of practical supervision make consumer protection almost impossible. Technology also moves at a faster rate, almost new inventions come up every day. This makes it hard to maintain security using the old systems due to the existence of the new more efficient ones (Priyadarshani and Rengarajan, 2024).

2.5 Key Challenges in Financial Inclusion

For both regions, there are still challenges that are preventing full attainment of financial inclusion. Less than 27% of adults in developing Asia have formal bank accounts. For East Africa, this number is less than a quarter of the total population (Giron, et al, 2022). The biggest challenges include low-income levels, low literacy rates and the accessibility of some areas geographically. There is also a lack of legal documents for example national

identity cards and unemployment. These go down to the small and medium enterprise too in East Africa, which are further accompanied by the limited access to formal financing services.

Unlike men, women in both regions face more severe challenges in accessing financial services. This is more associated with digital illiteracy, the cultural norms and traditions, the regulatory barriers and also limited financial infrastructure (Mpofu, 2023). In Pakistan specifically, not more than 13% of women have accounts for financial transactions. However, 34% of the male population have them active. For digital finance, education, income and unemployment the two genders have similarities. Although, the impact of these is still weaker on the side of women (Razzaq et al, 2024). Apparently, it is through digital financial literacy that the country is seeing hope for building financial resilience without leaving behind the traditional financial systems. Hence for a region that is aiming at achieving the SDGs in line with gender equality and economic empowerment, addressing gender disparities is a prerequisite.

2.6 Gap in the Literature

There are many studies that cover the relationship between financial inclusion and economic growth. However, they still remain region or country specific. Most of them cover South Asia or East Africa solely without comparing the two. This leaves a gap of how financial inclusion strategies can affect economic growth in different regions. Because each region has its own financial structures, policies and economic environments. The lack of a focus on a comparative view leaves a gap in the literature by assuming that the impact of financial inclusion is uniform which is not true. It does not put into account the results driven by the differences in the quality of institutions, financial technologies and financial policies.

Therefore, this study fills this gap by conducting a regional comparative study of the impact of financial inclusion on economic growth in East Africa and South Asia. It relies on panel data from 17 countries, 8 from South Asia and 9 from East Africa. It utilizes a regional dummy variable to test for differences in the impact statistically using data from 2004-2023 (20 years). The results go beyond measuring the impact of financial inclusion on economic growth to measuring how this impact varies across regions.

This study uses regional dummy variables to check whether the impact differs by region. This is unlike the previous studies which treated financial inclusion as if it has a uniform impact. This methodology allows the analysis to directly compare different financial systems with different structures. Results show that financial inclusion contributes much to economic growth in South Asia than in East Africa. This could not be visible when analyzing a single region. The invisible differences are the quality of institutions, methods of delivery and governance structures which influence the return on financial inclusion. This study fills the gap in the current literature and stresses the benefits of directing financial inclusion strategies to each region's local context.

This is important because both regions pursue different financial Inclusion strategies. The one in East Africa is led by the private sector mostly for example M-Pesa in Kenya. The one in South Asia is led by formal banking initiatives, like PMJDY in India. If these models are not compared, it puts policy makers at risk using financial inclusion strategies that do not match local capacities. Therefore, this implies that the region's context matters. Policies regarding financial inclusion have to be tailored rather than a one-size-fits-all approach.

The study quantifies these regional differences using regression models and tests for robustness statistically. The study discussion adds new empirical evidence to the academic debate too. It also provides recommendations to guide comparative policy development. This

has been absent in the existing literature. Results directly challenge the assumption that financial inclusion impacts all regions in the same way.

2.7 Research Hypotheses

Following the theoretical findings and empirical review, the study proposes the following hypotheses.

H1: Financial inclusion has a positive impact on economic growth in both East Africa and South Asia.

This hypothesis is on grounds with the financial development theory by Levine (1997) and also supported by the findings by (Azmeah, 2025). These demonstrate that the rise in financial services access encourages savings, investment and productivity. He also outlines evidence from emerging economies which explains that financial inclusion has a positive contribution to economic growth.

H2: The impact of financial inclusion on economic growth differs significantly between East Africa and South Asia.

This is derived from studies that compare the effectiveness of financial inclusion in different countries and regions depending on differences in factors such as institutional frameworks, technological advancement and financial literacy (Spivak, 2024). These differences in structures such as mobile money led inclusion in East Africa and the formal banking system in South Asia explain the variations in impact.

Chapter 3

3.0 Methodology

The study quantitatively examines and validates the impact of financial inclusion on economic growth as a regional comparative study in South Asia and East Africa. The study used a Pooled OLS Model using panel data analysis. The panel contains data from 10 variables over the period of 20 years (2004-2023). The list of variables is given in Table 1.

The study relies on secondary data obtained from World Development Indicators, a World Bank database. The countries in this study include Afghanistan, Bangladesh, Bhutan, India, Nepal, Pakistan, Maldives and Sri Lanka. In addition, the study includes Burundi, Kenya, Rwanda, South Sudan, Uganda, Malawi, Mozambique, Tanzania and Ethiopia. These countries are from both South Asia and East Africa as listed in Table 2.

3.1 Model Setting

The study uses GDP per capita as the dependent variable to represent economic growth (David, and Grobler, 2020). It also employs two dimensions of financial inclusion that is access and usage. The independent variables are the number of bank branches as a proxy for physical availability of formal financial services and their outreach, Individuals using the internet for robustness, as a proxy for the degree at which people can access and use digital financial services.

Variable type	Variable	Description	Source
Dependent Variable	GDPPC	GDP per capita (constant 2015 US\$)	WDI

Independent Variable	BRCH	Commercial bank branches (per 100,000 adults).	WDI
	ITNET	Individuals using the internet (% of population).	
Control Variables	GCF	Gross capital formation (% of GDP).	WDI
	INF	Inflation, consumer prices (annual %).	
	TRD	Trade (% of GDP).	
	PPN	Population growth (annual %).	
	TEL	Fixed telephone subscriptions (per 100 people).	
	POLV	Political stability and absence of violence /terrorism: Number of sources.	
	REGQ	Regulatory quality: Number of sources.	

Table 1: Descriptions of variables and data sources: GDP-Gross Domestic Product, US\$-United States Dollar.

Model 1: Baseline Model (using BRCH)

$$GDPPC_{it} = \beta_0 + \beta_1 BRCH_{it} + \beta_2 GCF_{it} + \beta_3 INF_{it} + \beta_4 TRD_{it} + \beta_5 PPN_{it} + \beta_6 TEL_{it} + \beta_7 POLV_{it} + \beta_8 REGQ_{it} + \varepsilon_{it}$$

Model 2: Robustness check Model (using ITNET)

$$GDPPC_{it} = \beta_0 + \beta_1 ITNET_{it} + \beta_2 GCF_{it} + \beta_3 INF_{it} + \beta_4 TRD_{it} + \beta_5 PPN_{it} + \beta_6 TEL_{it} + \beta_7 POLV_{it} + \beta_8 REGQ_{it} + \varepsilon_{it}$$

Model 3: Comparative analysis model with regional dummy

$$\text{GDPPC}_{it} = \beta_0 + \beta_1 \text{BRCH}_{it} + \beta_2 \text{GCF}_{it} + \beta_3 \text{INF}_{it} + \beta_4 \text{TRD}_{it} + \beta_5 \text{PPN}_{it} + \beta_6 \text{TEL}_{it} + \beta_7 \text{POLV}_{it} + \beta_8 \text{REGQ}_{it} + \beta_9 \text{Dummy}_i + \epsilon_{it}$$

The dummy variable stands for Binary variables (1 for South Asia and 0 for East Africa) and ϵ_{it} stands for standard errors. The variables are explained in Table 1.

South Asia	East Africa
Afghanistan	Burundi
Bangladesh	Kenya
Bhutan	Mozambique
India	Tanzania
Nepal	South Sudan
Pakistan	Rwanda
Maldives	Ethiopia
Sri Lanka	Uganda
	Malawi

Table 2: List of countries used in the study and their respective regions.

Chapter 4

4.0 Data Analysis and Findings

4.1 Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
GDPPC	324	1658.893	2185.633	253.531	11485.555
BRCH	312	6.85	5.478	.367	23.057
ITNET	311	14.958	18.215	.106	88.4
GCF	273	28.036	12.571	0	69.449
INF	327	11.061	24.779	-6.811	380
TRD	266	53.12	28.486	20.585	165.979
PPN	333	2.143	1.194	-5.416	5.414
TEL	321	2.094	3.34	0	17.2
POLV	333	-.92	.971	-2.81	1.284
REGQ	333	-.67	.44	-2.117	.517

Table 3: Summary of descriptive statistics used in the study.

These descriptive statistics are providing insights into both the distribution and central tendencies of all the variables used in the study analysis. The mean and standard deviation for most of the variables show variations across countries over time. For instance, GDP per capita is showing a high standard deviation of 2185.63, which indicates the differences in the levels of income.

The min and max values highlight the extreme outliers for each variable. For example, the maximum inflation rate of 380% indicates that there is economic instability in at least one country-year observation. Zero values for variables such as Gross capital formation may be reflecting either stagnation of the economy or missing data.

For variables like Commercial bank branches and Individuals using the internet usage, these have wide ranges and high standard deviations. This indicates that there are differences in access to financial and digital infrastructure across the study sample. Governance indicators,

that is Regulatory quality and absence of political instability, violence and terrorism show low and negative average. This indicates that there is weak institutional quality within both regions in the sample (South Asia and East Africa).

The minimum and maximum values are used to determine the range of the dataset by showing the smallest and largest values. In combination with standard deviation show the dispersion of the data from the mean given the presence of the outliers.

4.2 Correlation Analysis

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) GDPPC	1.000									
(2) BRCH	0.553 (0.000)	1.000								
(3) ITNET	0.658 (0.000)	0.684 (0.000)	1.000							
(4) GCF	0.297 (0.000)	0.525 (0.000)	0.355 (0.000)	1.000						
(5) INF	-0.193 (0.001)	-0.137 (0.016)	-0.107 (0.063)	-0.278 (0.000)	1.000					
(6) TRD	0.628 (0.000)	0.258 (0.000)	0.426 (0.000)	0.504 (0.000)	-0.117 (0.058)	1.000				
(7) PPN	-0.092 (0.098)	-0.509 (0.000)	-0.238 (0.000)	-0.298 (0.000)	-0.318 (0.000)	0.041 (0.507)	1.000			
(8) TEL	0.555 (0.000)	0.628 (0.000)	0.261 (0.000)	0.271 (0.000)	-0.068 (0.231)	0.184 (0.003)	-0.341 (0.000)	1.000		
(9) POLV	0.401 (0.000)	0.387 (0.000)	0.425 (0.000)	0.644 (0.000)	-0.197 (0.000)	0.537 (0.000)	-0.040 (0.462)	0.209 (0.000)	1.000	
(10) REGQ	0.293 (0.000)	0.309 (0.000)	0.193 (0.001)	0.161 (0.008)	-0.317 (0.000)	0.023 (0.708)	-0.037 (0.498)	0.348 (0.000)	0.521 (0.000)	1.000

Table 4: Pairwise correlations of the study variables.

The correlation coefficients range from -1 to 1. The correlation matrix above is showing that the dependent variable GDP per capita has a strong positive and statistically significant relationship with the key study financial inclusion indicators, that is commercial bank branches (per 100000 adults) $r = 0.553$. The ITNET $r = 0.658$, TRD, $r = 0.628$ and TEL, $r = 0.555$. These results indicate that there is a direct and complementary impact that financial inclusion has in driving economic growth.

On the other hand, GDP per capita is conversely correlating with INF, whereby $r = -0.193$. This means that the rise in inflation rate affects the prices stability and economic output. Amongst the control variables, GCF, PPN and the governance measures such as POLV and REGQ also have significant associations with GDP per capita.

Overall, the correlation matrix shows that the variables used in the study are meaningfully associated with each other and also the dependent variable. Hence, justifying their presence in the regression analysis models used in the study.

4.3 Main Regression Model

	(1) w GDPPC (1)
w_BRCH	184.611*** (22.804)
w_GCF	-66.875*** (9.526)
w_INF	-35.466** (10.839)
w TRD	42.890*** (3.460)
w PPN	248.693* (97.389)
w_TEL	123.786*** (34.304)
w_POLV	133.215 (125.573)
w_REGQ	101.258 (245.267)
_cons	-422.665 (479.276)
N	243
Standard errors in parentheses	
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$	

Table 5: Impact of Financial Inclusion on Economic Growth. ***Indicates the significance at 1%, **Indicates the significance at 5%.

The main regression model investigates the relationship between financial inclusion and economic growth using the Pooled OLS. Results show that BRCH has a positive and statistically significant impact on GDP per capita. Other variables like GFC, INF, TRD, PPN and TEL are also statistically significant with mixed signs. Variables which indicate

governance, that is POLV and REGQ are not statistically significant. The model uses a total of 243 observations. Standard errors are also shown in parentheses. The constant term is showing -422.665, which is negative and statistically significant.

The positive and statistically significant impact of BRCH on GDP per capita indicates that financial inclusion has a positive impact on economic growth. This is because BRCH is used in the study as the main independent variable. That is, a one unit increase in the number of commercial branches per 100,000 adults leads to an increase in GDP per capita of 184.611 units ($p < 0.001$). This confirms the hypothesis that suggests that financial inclusion positively impacts economic growth.

The Gross capital formation (GCF) shows a negative coefficient of -66.875 which is also statistically significant at $p < 0.001$. This means that there are inefficiencies in capital investment or constraints in structures owned by countries in the study. This indicates that not all investment in these countries translates into effective economic growth.

Inflation (INF) variable in the study also shows a negative and statistically significant impact on GDP per capita shown by a coefficient of -35.466 and p value at $p < 0.01$. This theoretically implies that the high rate of inflation undermines the purchasing power of individuals due to high prices of goods and services hence leading to economic instability.

Trade (TRD) in the table is showing a positive and statistically significant impact on GDP per capita. That is 42.890 and the p value of $p < 0.001$. This implies that openness to trade positively drives the economic growth of the counties in the study.

Population growth (PPN) also shows a positive but moderately significant impact on GDP with a coefficient of 248.693 and p value of $p < 0.05$. This means that as population

increases, labor force also increases which contributes positively to economic expansion. However, this effect varies depending on the context.

The Fixed telephone subscription (TEL) has a positive and highly significant relationship with GDP per capita. That is a coefficient of 123.786 and p value of $p < 0.001$. This suggests that infrastructure in the form of even traditional communication still supports economic activity and growth among the selected countries.

On the other hand, the variables that are in line with governance, that is Political stability and the absence of violence/terrorism as well as Regulatory quality are not showing the conventional levels of statistical significance. They have coefficients of 133.215 and 101.258 respectively. This indicates that their direct impact on GDP per capita (economic growth) is limited.

These results from the main regression model clearly confirm the relationship between financial inclusion and economic growth. Specifically, with the number of commercial bank branches per 100,000 adults (BRCH) and GDP per capita. This is in support of the financial development theory too. As it emphasizes that the easier financial institutions are reachable by people, the more the resources will be allocated efficiently. This is because it reduces financial transaction costs and encourages savings and investment. With the statistical significance, it is a confirmation that BRCH supports this assumption. It highlights that physical access to banks and other financial institutions promotes financial inclusion in both regions, East Africa and South Asia. These results support the prior studies by Beck et al. (2004) and Azmeh (2025). They also found that the expansion of financial infrastructure leads to more people benefiting from financial services hence leading to macroeconomic growth.

Additionally, the control variables, GCF and INF give mixed signs which also have to be considered. These confirm that financial inclusion cannot independently guarantee economic growth. It has to be accompanied by a stable macroeconomic environment. The negative coefficient of gross capital formation indicates inefficiencies in investment practices. It shows that either investments are not directed to the initially intended projects, or they are mostly long-term and results cannot be measured in a short period of time. It This clearly suggests that financial access only is not enough, but rather, it should move hand in hand with efficient utilization. The governance variables, such as political climate and regulatory quality show less significance. This means that the weakness of institutions is most likely to dilute the intended outcomes of financial inclusion. This is more prevalent in the East African Region. Therefore, investments in institutions have to be complemented in order to optimize returns resources invested in financial access.

4.4 Robustness Check Model

	(1) GDPPC Winsorized
	(1)
w_ITNET	61.592*** (3.499)
w_GCF	-36.812*** (6.659)
w_INF	-29.373*** (8.550)
w_TRD	31.587*** (2.563)
w_PPN	235.480*** (63.873)
w_TEL	287.128*** (25.429)
w_POLV	-180.621 (93.102)
w_REGQ	-213.055 (178.617)
cons	-1049.328** (329.014)
<i>N</i>	243
Standard errors in parentheses	
* p<0.05, ** p<0.01, *** p<0.001	

Table 6: Robustness test with ITNET results.

Table 6 shows the robustness check of Individuals using the internet as another proxy for financial inclusion in the position of Commercial bank branches (BRCH). The dependent variable is still GDP per capita (GDPPC). The study still uses the pooled OLS with 243 observations.

According to the results, ITNET shows a positive and statistically significant impact on GDP per capita. This means that an increase in internet usage has a positive association with GDP per capita. Other variables, that is GCF, INF, TRD, PPN and TEL are also statistically significant with the signs as expected. The governance indicators, that is POL and GQ and the constant term are also statistically significant.

This test confirms the impact of financial inclusion on economic growth using an alternative measure, for this case, ITNET. The positive and also highly significant results of 61.592 and the p value of $p < 0.001$ indicate that the higher the level of internet usage, the higher the level of economic growth. This is most especially significant when internet penetration moves in hand with digital financial services within the countries in the study.

GCF and INF are showing a negatively significant effect. This means that inefficiencies in investment and the constant rise in prices of goods and services are hindering economic growth in East Africa and South Asia.

TRD, PPN and TEL are showing a positive significance and are positively coefficient with GDP per capita. This is a reaffirmation that trade openness, population growth and telecom infrastructure are playing a positive role in economic development of both the regions.

The fact that the coefficients of POLV and REGQ are statistically significant. This implies that the influence from the government through these indicators has a short term and limited impact on economic performance within East Africa and South Asia.

This model replaces the number of bank branches (BRCH) with the percentage of individuals using the internet (ITNET). Hence, a positive relationship confirms the results provided by the main regression. This makes the digital finance theory true (Miah, 2023), which insists that as people use digital financial technology, they become more financially

inclusive, especially those in underserved areas. This means that the internet does not only provide people with access to money, but also creates means by which money can be used. These include mobile banking, e-wallets and micro-lending platforms. Such initiatives have been transformed especially in East Africa where there is limited access to physical banking structures.

Based on studies by Lyons et al. (2020) and Kabir (2021), digital financial inclusion is a great driver for economic empowerment and poverty reduction. ITNET confirms this with its strong statistical significance. The government indicators however show a stronger significance with this model compared to the main regression. This indicates that digital financial systems are possibly much more sensitive to the quality of institutions, data protection guidelines and trust by consumers. Hence both regulatory framework and technological advancement are required to ensure that financial inclusion contributes to economic growth. This is especially for both regions to cover up the digital institutional loopholes.

4.5 Regional Comparative Dummy Model

	(1) GDPPC, Winsorized fraction .01
BRCH, Winsorized fraction .01	108.564*** (28.410)
GCF, Winsorized fraction .01	-72.473*** (9.293)
INF, Winsorized fraction .01	-24.448** (10.785)
TRD, Winsorized fraction .01	40.855*** (3.375)
PPN, Winsorized fraction .01	450.941*** (105.466)
TEL, Winsorized fraction .01	104.116*** (33.449)
POLV, Winsorized fraction .01	401.723*** (136.823)
REGQ, Winsorized fraction .01	326.703 (242.744)
dummy	1368.520*** (323.024)
Constant	-383.583 (462.900)
Observations	243
Standard errors in parentheses	
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$	

Table 7: Regional Comparative results using Dummy Variable Approach.

This model uses the dummy variable to put into consideration the differences between South Asia and East Africa. For south Asia, the dummy variable is 1 and for East Africa, the dummy variable is 0. This dummy variable is used by the regression model to estimate not only the impact of financial inclusion on economic growth in East Africa and South Asia but also to capture whether the location of the region also contributes to its economic outcomes

independently. Here, financial inclusion is proxied by the commercial bank branches per 100,000 adults.

For this case, the coefficient of the dummy variable is positive and statistically significant. This means that GDP per capita is significantly higher in South Asia than in East Africa keeping other factors constant.

The positive and statistically significant coefficient of the dummy variable, that is 1368.52 is at a p value of $p < 0.01$, means that GDP per capita is significantly higher in South Asia than in East Africa keeping other factors equal. This means that South Asian countries have a GDP per capita that is higher than that of East African countries at an average of \$1368.52. This implies that there is a regional gap in economic performance between South Asia and East Africa. This difference in the impact of financial inclusion on economic growth between East Africa and South Asia can be attached to the following reasons;

South Asia has well developed expensive and extensive financial infrastructure most of which is empowered by the governments. For example, the Pradhan Mantri Jan Yojana initiative by the government of India (Hadar and Manos, 2021). However, for East Africa, financial inclusion progress is mainly driven by the private sector. These include mobile money companies like M-Pesa in Kenya, MTN in Uganda among others (Arthi and Shanmugam, 2020). These have ensured that financial services benefit all individuals but they still lack the use of formal systems in credit analysis and innovations of financial products.

Secondly, the two regions differ in macroeconomic activities. For instance, economies in South Asia are focused on industrialization and diversification of sources of income for its people, particularly for countries like Bangladesh, Bhutan and Maldives (Lian, et al, 2021). This makes the region more productive and offers a favorable environment for investment. On the other hand, East African countries rely on agriculture and informal sectors whereby

informal employment accounts for 80-90%. This makes financial inclusion hard to attain (Masabo, 2019).

Other positive and significant influences of this result are population growth, regulatory quality and political stability. This confirms the study literature and the hypothesis that the impact of financial inclusion on economic growth differs significantly between both regions, East Africa and South Asia.

Generally, this comparative analysis provides concrete evidence that the impact of financial inclusion on economic growth is different between East Africa and South Asia. South Asia has higher economic growth returns from financial inclusion than East Africa. Financial Institutions in these regions are mature and most financial inclusion initiatives are led by the governments, for example the PMJDY in India. This has brought in millions of Indians into the formal banking system. Spivak (2024) and Ha and Nguyen (2023) studies support these results. They explain that the effectiveness of financial inclusion on economic growth is determined by policies and institutional frameworks.

The results also clearly show that the two regions have differences in financial inclusion strategies. South Asia uses a formal bank led model, while East Africa follows a private mobile money owned model. Given that the study uses BRCH as the main independent variable, the analysis confirms this too. Even though mobile money in East Africa has provided more people with financial access, it is still informal and less diversified. This explains why it has a weak economic impact. These results show that the financial inclusion approaches matter in determining its overall impact on economic growth.

Chapter 5

5.0 Implications

5.1 Practical Contributions

The study findings show that financial inclusion has a positive impact on economic growth when measured using the number of bank branches and digital financial tools. However, in South Asia, financial inclusion has a larger impact on GDP per capita than in East Africa. In South Asia, government led innovation is more dominant whereas in East Africa, the private sector leads the agenda through mobile money. This implies that this effect is not uniform among different regions. This calls for policy interventions that are specific to each region rather than having a blanket of financial inclusion strategies.

In South Asia, financial inclusion is driven mostly by mechanisms that are applied in formal institutions such as PMJDY in India (Kumar and Pradhan, 2024). These have included millions of people within the banking system. These programs are well structured and led by the government which ensures that financial services are both accessible and stable. Therefore, governments in South Asia now should resort to ensuring that those accounts are active, the owners can easily access credit and also diversify the services being provided. This will ensure that the financial inclusion services and programs are not just about ownership but also effective use.

For East Africa, a bottom-up technology-driven model is exemplified. This is through mobile money services like M-Pesa MTN MoMo and others which are revolutionizing the access to financial services (Arthi and Shanmugam, 2020). However, most of these services are not following the formal banking system which limits the multiplier effects on GDP per capita. Hence, governments should now focus on ensuring that mobile money financial systems follow

a formal line, improve the link between mobile money platforms and banks and also make the regulations feasible in order to strengthen the economic impact of these services.

There is a strong significance of internet usage and telecommunication infrastructure that is presented by the study findings. This implies that digital infrastructure and connectivity are very important for financially inclusive systems (Mehta, 2024). In both regions therefore, the public-private partnerships should focus on ensuring access to broadband and mobile money networks coverage most especially in underserved areas. Additionally, financial literacy programs should be put in place to ensure both access and usage of these services. This should be done especially for such groups of people that face cultural and technological barriers like women and the poor.

Based on the findings, gross capital formation shows a negative impact on GDP per capita. This implies that for financial inclusion to take place, it has to be followed by efficient capital allocation methods. For instance, the access to credit should be directed toward only productive investments.

Inflation also shows a negative correlation with GDP per capita. This means that macroeconomic stability is important in accounting for the real value of assets, long-term savings and financial planning. Therefore, both regions should ensure that financial inclusion strategies move in line with investment and macroeconomic policies in order to maximize their impact.

The findings also stress the role of financial inclusion in achieving SDGs. Mostly SDG1, SDG 5 and SDG 8, which are no poverty, gender equality and decent work and economic growth. This means that financial inclusion can promote equality as far as development is concerned. This is through helping people to manage risk, investment in financial education and providing

access to capital (Gigauri, 2022). Tailoring the implementation of these SDGs to local contexts would help in avoiding one-size-fits-all development repercussions.

5.2 Theoretical contributions

The findings are in support of the financial development theory (Levine, 1997). This stands that financial systems clear the way for economic growth by reducing transaction costs. This is through promoting efficiency in capital allocation and encouraging savings. The strong and statistically significant coefficient of the number of bank branches explains the importance of physical financial structures in promoting economic growth. This is in line with the study conducted by Azmeh (2025). He emphasizes that deeper financial systems influence higher productivity and economic growth mostly in developing economies.

Findings also extend the digital financial theory as explained by Miah (2023). Financial inclusion proxied by internet usage supports the theory that internal factors and human capital drive economic growth. With this, findings suggest that digital finance strengthens the internal channels and tools for investment, entrepreneurship and education. This is more visible with mobile banking in East Africa where innovation in financial services make-up for the weaker formal banking systems.

The study adds more concrete to the digital financial theory by looking into the means through which technology is modifying the financial ecosystems. The study confirms findings by Corxson, et al (2023) that the use of digital platforms minimizes the costs incurred in delivery. It also expands the service reach geographically and eases real-time decision making. However, the study also reveals that integrating the digital inclusion systems into broader financial systems and institutional regulations is crucial. This can reduce insufficiency in the services and to maximize economic returns.

The study adds the methodological accuracy by including the regional dummy variable to the financial inclusion literature for comparative purposes. This makes the empirical claims made by the former researchers like Ha and Nguyen (2023) valid. These two highlight that the efficiency of financial inclusion is more influenced by the strength of institutions, quality of governance and market maturity. The stronger coefficient for South Asia supports the notion that financial inclusion should be accompanied by strong governance in order to reach its maximum potential.

Political stability and regulatory quality have varying effects. This emphasizes the importance of financial institutions in shaping the relationship between finance and economic growth. Whereas these two are not always statistically significant, they support the position of institutional economics like Hult (2018). He stressed the importance of rules, trust and enforcement mechanisms for development. Financial environments experience diminishing returns in the presence of instability and weak regulations.

Chapter 6

6.0 Conclusion

6.1 Summary of the Key Findings

The major purpose of this study is to examine the impact of financial inclusion on economic growth in East Africa and South Asia as a regional comparative study through literature review and quantitative analysis. For quantitative analysis, the study uses commercial bank branches per 100,000 adults (BRCH) and the Individuals using the internet (% of the population) (ITNET) as proxies for FI. Through panel data analysis using the Pooled OLS regression model, the study draws insights from 17 countries from both regions between 2004-2023. The study also employs a dummy interaction model for comparative purposes between both regions.

Empirical findings from the study show that financial inclusion has a statistically significant and positive impact on GDP per capita in East Africa and South Asia. Results show that an increase in the number of commercial bank branches has a higher correlation with higher income levels. Also, the increase in the number of Individuals using the internet, as a test for robustness confirms that these results are reliable. This is because it also has a higher correlation with high income levels when used instead of commercial bank branches. Both indicators are interpreted by the study as access to financial services.

Including the dummy variable in the study reveals that there is a regional difference in the impact of financial inclusion on economic growth. It shows that while East Africa and South Asia economies positively benefit from increased access to financial services, the financial system in South Asia and its financial infrastructure are more effective in transforming financial inclusion into economic growth.

Generally, these results in combination with control variables support the notion that financial inclusion has a positive significance to economic growth. This echoes that the access and usage of financial services not only supports social equity but it is also a means through which economies progress. Regional differences further call for policy formulations that are tailored specifically to each region.

6.2 Recommendations

Based on the findings, the study recommends the following actions that should be taken to improve the impact of financial inclusion in promoting economic growth.

Expand physical banking infrastructure in East Africa. The results observe that East Africa has a relatively lower GDP per capita. Therefore, the region should increase the number and efficiency of commercial bank branches specifically in the rural areas. The governments and financial regulatory authorities should provide incentives for expanding these branches through subsidies, tax relief or even public partnerships.

Make the best use of digital financial services especially mobile banking. Internet usage has shown a positive and significant impact in boosting GDP per capita. Policies should therefore support investments in digital infrastructure, unlimited access to the internet and programs that target digital literacy. These fintech innovations can easily bridge the gaps in financial services more quickly compared to traditional banks.

Improve the quality and governance of financial institutions. The POLV and REGQ variables in the study results highlight a limited impact of governance in FI. This calls for improvements in the governance roles as far as financial inclusion is concerned. Improved

transparency in regulatory environments and the stability of institutions promote the expansion of financial services and their optimum utilization by the public.

Develop financial inclusion strategies that are specific to each region. South Asia shows better outcomes compared to East Africa. Given these results, the East African region should conduct policy assessments in comparison with other regions. This can help the region to adopt the best practices. For instance, the Grameen (Bengali: “Rural”) model in Bangladesh.

6.3 Limitations of the Study

Despite the insights that are provided by this study, it still falls subject to the limitations.

To begin with, the study relies on the use of Pooled OLS panel regression. This model assumes that there is homogeneity across countries and time. It ignores the fact that each country has its unique characteristics or time effects. Although the study employs the winsorization technique to remove the outliers, the model could still omit the generalizability of the findings.

Missing data also limited the uniformity of the observations in the sample used by the study. It reduced the size of the study sample which may have affected the robustness in the results obtained.

Therefore, future studies should focus on the use of more advanced econometric data analysis techniques, measure results at country level and also use higher frequency data like monthly, weekly or daily if available to reflect the day-to-day changes in the variables.

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Appendix A.

Glossary of Key Terms and Abbreviations Used in the Study

- Winsorization (fraction 0.01) A statistical technique to limit extreme values by capping them at the 1st and 99th percentiles.
- Dummy Variable: A binary variable used to distinguish between South Asia (1) and East Africa (0).
- Pooled OLS Regression A statistical method that combines cross-sectional and time-series data, assuming constant effects across units and time.
- Robustness Check A method used to verify the reliability of regression results by using alternative indicators or model specifications.