Determinants of Financial Inclusion in Sub-Saharan Africa (SSA) Countries from 1999 to 2024

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Article

Determinants of Financial Inclusion in Sub-Saharan Africa (SSA) Countries from 1999 to 2024

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Abstract: Globally, financial inclusion is regarded as being crucial for balancing an economy's financial system. However, despite the significance of financial inclusion, it still needs to be clarified to what extent it is practiced in forty-five Sub Saharan Africa (SSA) from 1999 to 2024. The rationale of the study empirically investigated the determinants of financial inclusion in forty-five Sub Saharan Africa (SSA) from 1999 to 2024 in which cover three distinct periods but examined as a whole from 1999 to 2019 which is the pre-COVID, 2020–2022 is the COVID period, and the post-COVID period from 2023 onward for easy policy formulation for SSA countries. The study was anchored on main three research objectives, firstly to examined the factors influencing financial inclusion in Sub-Saharan Africa (SSA) in these three distinct periods; secondly, discussed the roles of digital financial services usage in enhancing financial inclusion in SSA countries before, during and after the pandemic and lastly, present the policy implications of the result of these factors in enhancing financial inclusion in the post-COVID era in SSA. The study used Panel Least Squares (PLS) technique in the data analysis. The result revealed that economic growth (GRO), islamic banking (ISMAIC), money supply (MSS), internet users (USERS), credit availability (CREDIT) positively and Significantly enhance financial inclusion with a coefficient 0.001298, 4.926809, 1.08E-06, 0.459388, 0.657431 with a significant p-values of 0.0008, 0.0023, 0.0000,0.0000, 0.000 respectively. On the flip side, internet servers (SERVER) has a negative with significant coefficient value of 4.63E-06 with a p-value of 0.000. Though, inflation (INFLATION) and interest rate (INTEREST) have a negative coefficient values of -0.02853 and -0.08317 but has insignificant p-value impact of 0.2841 and 0.2501 respectively. The result indicates that many of the variables have a significant impact on financial inclusion. This is shown from the probabilities of the t statistics of each of the independent variables in the estimated model, which are significant at 5% level. The policy implications of these result include the following: firstly, SSA governments should promote economic growth through investment in productive sectors, infrastructure development, and job creation programs to indirectly improve financial inclusion. Secondly, SSA countries policymakers should maintain price stability through sound monetary and fiscal policies to ensure inflation does not hinder access to financial services. Thirdly, SSA countries governments and central banks should promote lower interest rates and enhance credit accessibility, especially for marginalized groups, through subsidized loans and targeted credit schemes. Fourthly, policymakers should support the expansion of islamic finance by improving regulatory frameworks and increasing awareness about Sharia-compliant financial products.

Keywords: determinants of financial inclusion; and sub-saharan africa countries (SSA)

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Introduction

According to the World Bank (2014), financial inclusion refers to the percentage of people and businesses utilizing financial services. The International Monetary Fund (IMF) defines it as the most vulnerable groups utilizing and accessing financial services at a reasonable cost (Sahay et al., 2015). Financial inclusion is when everyone has access to fundamental financial services(Gallego-Losada, Montero-Navarro, García-Abajo, & Gallego-Losada, 2023). Creating an inclusive financial system offers two complementary contributions (Cecchetti & Schoenholtz, 2020). First, people unable to participate in the market may be linked to economic growth via financial inclusion. Second, as the economy expands, more individuals enter the labour force and the banking sector (Schuetz & Venkatesh, 2020). According to Kim, Yu, and Hassan (2018), inclusive financial advancements may reduce poverty by supporting economic development that increases people's access to opportunities for saving and entrepreneurship, reduce their sensitivity to risk, and raise their quality of life. New bank types have evolved to expand access to financial services, including micro banks, mobile money services, and payment banks catering to those without bank accounts(Banna, Hassan, & Rashid, 2021). New nonbank financial technology companies competing for a larger portion of the banking value chain are now a part of financial inclusion (Maina, Kiai, & Kyalo, 2020).

The rationale of the study empirically investigated the determinants of financial inclusion in SSA countries in three distinct periods as a whole starting from 1999–2019 as the pre-COVID, 2020–2022 the COVID period, and the post-COVID period which starts from 2023 onward. The crux of this study was anchored on main three research objectives of the study: firstly, examined the factors influencing financial inclusion in Sub-Saharan Africa (SSA) in three distinct periods; secondly, to analyse the role of digital financial services in enhancing financial inclusion in SSA countries after the pandemic and lastly, to assess the socio-economic and institutional determinants of financial inclusion in the post-COVID era in SSA. Therefore, to answer these three objectives the following three research questions was employed: firstly, what are the socio-economic and institutional factors influencing financial inclusion in SSA countries in three distinct periods? Secondly, what role do digital financial services play in improving financial inclusion in the post-pandemic period? and lastly, what are the policy implication aftermath of the result factors determining financial inclusion in SSA countries after COVID-19? The rest of the paper is organized as follows: the next section presents a review of relevant literature on the financial inclusion in Sub-Saharan Africa (SSA). Subsequent sections discuss the empirical methods and findings of the study. The final section conclusion, summarizes the major contribution to literature and policy implication relevance of the study.

Literature Review on Determinants of Financial Inclusion in Sub-Saharan Africa

This section presents relevant related to determinants of financial inclusion in SSA countries.

Chummun and Ojah (2016) investigated the connection between financial inclusion and total savings in emerging nations. They develop the hypothesis that financial inclusion programs are probably more effective in nations with more saving propensities (larger savings pools) than in those with smaller savings pools after reviewing the evidence. They maintained that families and SMEs can access this pool to more fully engage in welfare improvement and incremental output since greater aggregate savings allow for the build-up of loanable money. Similar to this, nations with high total savings and a sizable pool of loanable funds ought to encourage greater household financial inclusion. This will, in turn, facilitate access to high-quality healthcare, education, and a generally higher standard of living, mostly through consumption smoothing. Finally, we point to possible ways of mobilizing the savings needed to enable effective financial inclusion.

Chummun and Bisschoff (2013) used a theoretical model to evaluate the performance of the microinsurance (MI) sector in South Africa in order to study its commercial success. This model pinpoints important elements that impact company success along with the metrics that go along with them. To improve the model, any erroneous criteria and unreliable components were eliminated using reliability analysis and empirical validation. The main instrument for assessing MI business success was the validated model combined with a structured questionnaire. A 5-point Likert scale

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was used to score the factor-based measurement criteria and demographic information in the questionnaire. With all mean values below 60%, the data from 261 respondents—who were selected at random from a sample of 400 insurance agents—showed that none of the contributing criteria indicated overall satisfaction with company performance.

The study concludes that the MI industry's business success remains inadequate. Notably, pricing—an essential component of the marketing mix—was identified as a major challenge, suggesting that achieving success in this market requires well-designed marketing and business strategies. The findings highlight the need for managerial intervention across all influencing factors.

In an emerging economy like Zimbabwe, Thulani, Chitakunye, and Chummun (2014) looked at how mobile money usage has expedited financial inclusion in rural communities and how it is a proxy for other factors that determine financial inclusion. Using a concurrent dominant status design and a mixed methods approach, the study used both quantitative and qualitative methods simultaneously, with the quantitative approach holding a dominant position. A straightforward random sample procedure was used to choose the Midlands Province, where the study was conducted. The research population consisted of 262 493 homes from eight districts in the province, and a pilot sample size of 37 households was selected. The study employed a survey approach to gather data, with focus groups and a questionnaire serving as the primary tools. It was discovered that the unbanked rural population uses mobile money extensively, particularly for sending and receiving remittances. However, mobile money's loan and savings features weren't very well-liked. Users continued to use their conventional borrowing and saving strategies. The consequence is that in order to convince this particular market to switch from old methods to safe and secure means of preserving their meagre income, service providers need step up their awareness campaigns. Furthermore, their loan eligibility will be based on how they save.

Ajide (2017) conducted a study examining the factors influencing financial inclusion, with a specific focus on institutional factors across eighteen (18) sub-Saharan African (SSA) countries. The research employed a dynamic system of Generalized Method of Moments (SYS-GMM) to analyse the dataset. The findings consistently emphasized the importance of institutions, along with other control variables like GDP per capita, inflation, bank concentration, and z-score, as crucial drivers of financial inclusion. Additionally, the study emphasized the significance of utilizing dimension-specific indicators of governance, alongside a composite governance index, instead of relying solely on the latter for guiding policy decisions, as they produce different policy implications.

Chikalipah (2017) investigated the determinants of financial inclusion in Sub-Saharan Africa (SSA) using World Bank country-level data from twenty SSA countries for the year 2014. The empirical results indicated that illiteracy significantly hinders financial inclusion in SSA. The insights from this research offer valuable insights for governmental agencies and international development organizations, aiding in the enhancement and acceleration of financial inclusion strategies among SSA countries.

Sanderson, Mutandwa, & Le Roux (2018) evaluated the factors influencing financial inclusion in Zimbabwe. The study identified age, education, financial literacy, income, and internet connectivity as positively associated with financial inclusion. However, the research found that the documentation required for opening bank accounts and the distance to the nearest access point had a negative effect on financial inclusion.

Asuming, Osei-Agyei, & Mohammed (2019) conducted a comparative analysis of financial inclusion in 31 Sub-Saharan African countries using data from the global Findex database. The study observed a notable increase in the overall level of financial inclusion between 2011 and 2014, albeit with variations in both the level and pace of improvement among the countries. Individual-level factors such as age, education, gender, and wealth, as well as macroeconomic indicators like GDP growth rate and the presence of financial institutions, along with Business Freedom, were identified as significant predictors of financial inclusion. The findings suggest that financial inclusion policies should target specific demographics such as women and young people.

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Mhlanga & Denhere (2020) examined the factors influencing financial inclusion in Southern Africa, with a particular focus on South Africa. Financial inclusion has gained global attention due to the challenges posed by financial exclusion in tackling socio-economic issues such as poverty. Utilizing a logit model, the study identifies key drivers of financial inclusion, including age, education level, income (proxied by total salary), race, gender, and marital status. Among these factors, gender is the only variable found to have a negative impact, while all other significant variables positively influence financial inclusion. To address these disparities, African governments should promote financial products and services tailored to women, Black Africans, Coloureds, and young people. Enhancing financial access for these groups can contribute significantly to reducing poverty, inequality, and unemployment in the region.

Rashdan & Eissa (2020) investigated the factors influencing financial inclusion in Egypt, using the World Bank's Global Findex 2017 database and logistic regression analysis. The findings show that gender does not have a significant impact on the level of financial inclusion in Egypt. However, wealthier, more educated, and older individuals are more likely to be included in the financial system. The study also identifies the primary barrier to financial inclusion as a lack of money, which prevents individuals from opening formal accounts, savings accounts, or credit accounts. The paper suggests that through targeted policy measures, a progressive approach to improving financial literacy and awareness is essential for financial inclusion to contribute positively to economic growth in Egypt.

Oumarou & Celestin (2021) examined the factors influencing financial inclusion in West African Economic and Monetary Union (WAEMU) countries and proposes a method for measuring financial inclusion within the region. The study used panel regression analysis indicates that real GDP, mobile phone penetration, and literacy rates positively contribute to financial inclusion. In contrast, a larger rural population and interbank credit are negatively correlated with financial inclusion levels. Additionally, agricultural financing through bank-issued credit to the government appears to enhance financial inclusion. The study also highlights the beneficial impact of rural-focused literacy programs on improving financial inclusion.

Using a panel of 46 countries for the years 2004–2018, Sarpong & Nketiah-Amponsah (2022) investigated the quantitative link between financial inclusion and inclusive development in sub-Saharan Africa. The data indicates that, in comparison to financial service availability and knowledge, the use of financial services, among other factors, has a measurable and noticeable effect on inclusive growth. Sub-Saharan Africa's inclusive growth is improved by 0.03 units for every unit increase in the use of financial goods and services. The study adds to the body of knowledge by using the Arellano–Bover/Blundell–Bond system Generalized Method of Moment estimator to estimate the distinct quantitative effects of three kinds of financial inclusion indicators on inclusive growth. Policymakers must create inclusive, sustainable, and creative financial institutions that can fairly distribute the advantages of growth, according to the research. Better access to corporate and retail loans, mortgages, overdrafts, credit cards, letters of credit, and user-friendly financial technology, together with reasonable lending rates and transaction fees, can help achieve this.

Bashiru, Bunyaminu, Yakubu, & Al-Faryan (2023)employed a dynamic panel analysis, this study investigates the factors influencing financial inclusion in Sub-Saharan Africa (SSA) from 2000 to 2017. Their findings indicated that financial globalization and literacy rates significantly enhance financial inclusion. Conversely, rural population growth has a strong negative effect. Additionally, while bank profitability, bank stability, and economic growth exhibit a negative relationship with financial inclusion, their impact is statistically insignificant. The study highlights the policy significance of financial globalization, suggesting that integrating local financial systems with global financial markets can play a crucial role in advancing financial inclusion across SSA.

Bekele, (2023a) provided a comparative analysis of the factors influencing financial inclusion in Kenya and Ethiopia at both macro and micro levels. Using a generalized linear model, it examines the determinants and obstacles to financial inclusion based on data from the 2017 Global Findex Database, while a descriptive analysis highlights macro-level differences. The findings revealed that

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Kenya has a higher level of financial inclusion than Ethiopia. Key macro-level factors contributing to this disparity include differences in financial liberalization policies, gross domestic product, rural population share, and the expansion of mobile money services. At the micro level, variations in literacy rates and payment methods, such as government transfers, help explain the differences between the two countries. Additionally, factors such as gender, age, employment status, and mobile phone ownership positively impact financial inclusion. However, significant barriers include lack of documentation, low levels of trust, and financial constraints.

Nsiah & Tweneboah (2023) examined the determinants of financial inclusion in Africa by considering demand, supply, and infrastructure-related factors. Using Generalized Method of Moments (GMM) and Ordinary Least Squares (OLS) estimation techniques, the analysis is based on panel data covering the period from 2004 to 2020. The data, sourced from the World Development Indicators compiled by the World Bank, includes 20 purposively selected countries based on data availability. The findings indicate that gross national income (GNI) per capita, domestic credit to the private sector, and institutional quality significantly influence financial inclusion in Africa. Additionally, GNI per capita, money supply, and institutional quality contribute to reducing barriers to financial inclusion across the continent. Unlike previous studies that focused solely on either demand or supply factors, this research integrates demand, supply, and infrastructure-related determinants within a single model, providing a more comprehensive perspective. Given these insights, policymakers and development partners in the selected countries should implement strategies to enhance financial inclusion by strengthening institutions and adopting targeted measures to eliminate barriers to financial access (Chummun & Bisschoff, 2013).

Bekele (2023) conducted a comparative analysis of the determinants of financial inclusion in Kenya and Ethiopia at both macro and micro levels. The study employed a generalized linear model to examine the factors influencing and hindering financial inclusion, drawing on data from the 2017 Global Findex Database. Additionally, a descriptive analysis was utilized to explore macro-level disparities. Kenya exhibited a higher level of financial inclusion compared to Ethiopia. Various macro-level differences, including variations in financial liberalization policies, GDP, the proportion of rural population, and the expansion of mobile money services, contributed to this discrepancy. At the micro level, disparities in literacy rates and payment receipt methods such as government transfers elucidated some of the distinctions between the two countries. Furthermore, gender, age, employment status, and mobile phone ownership demonstrated significant and positive associations with financial inclusion. However, challenges such as lack of documentation, trust issues, and financial constraints posed notable barriers to financial inclusion in both contexts.

Eshun & Kočenda (2025) using a dynamic panel data approach, investigated the determinants of financial inclusion in sub-Saharan Africa (SSA) while using Organization for Economic Cooperation and Development (OECD) countries as a comparative benchmark. Utilized the system generalized method of moments estimator, our study examines 31 SSA and 38 OECD nations from 2000 to 2021. They finding indicated that factors such as literacy rate, trade openness, political stability, banking efficiency, income levels, and remittances play significant roles, though their effects vary across regions. Additionally, we demonstrate that different aspects of the financial system—access, usage, and quality—are influenced by distinct factors to varying degrees. We also consider the impact of major global events during this period, including the global financial crisis and the COVID-19 pandemic. Our study underscores the need for well-structured literacy policies and a more efficient financial system to enhance financial inclusion. We advocate for the strengthening of institutional frameworks to support trade openness through improved regulatory policies.

Methodology

The model to determine the drivers of financial inclusion in 45 SSA countries was anchored on (Evans, 2016) model which is as follows

$$FINC_{i,t} = \tau_0 + \tau_1(GDPC_{i,t}) + \tau_2(M_2GDP_{i,t}) + \tau_3(CREDIT_{i,t}) + \tau_4(INTEREST_{i,t}) + \tau_5 INFL + \tau_6 LITER + \tau_7 USERS + \tau_8 SERVERS + \tau_9 POPULATION + \tau_{10} ISLAMIC + \epsilon_{i,t} \quad (1)$$

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Where FINC is financial inclusion (number of depositors with commercial banks per 1,000 adults); GDPC is GDP per capita; M2GDP is money supply (% of GDP) and CREDIT is the credit to the private sector (% of GDP). INFLATION is headline inflation, USERS is the number of internet users, SERVER is secure internet servers,. INTEREST is the deposit interest rate. ISLAMIC is dummy variable which takes 1 if the country has Islamic banking presence and activity, and 0 otherwise. εare the residuals. The subscript iis the i-th country and the subscript t the t-th year.

Table 1. Apriori expectation.

S/N	Variable	Expected Sign
1	GDP per capita	+
2	M2GDP is money supply (% of GDP)	+
3	CREDIT is the credit to the private sector (% of GDP).	+/-
4	INFLATION is headline inflation	+/-
5	USERS is the number of internet users	+/-
6	SERVER is secure internet servers	+/-
7	LITERACY is adult literacy rate	+/-
8	Islamic banking presence	+/-

Source: Created by authors.

Results

To estimate the determinants of financial inclusion in SSA, the study begins with the descriptive analysis. Results of the descriptive statistics are reported in Table 2. The summary of statistics is important to explore the time-series distribution of the data collected on each of the variables. The table indicates that all variables used as endogenous variable for financial inclusion are positive. This reveals that on the average all the endogenous variables are positive. For instance, the mean distribution of the financial inclusion in SSA countries. This is a pointer to the fact that SSA countries financial inclusion as a result of these variables.

Table 2. Summary of Descriptive statistics for the determinants of financial inclusion in Sub-Sahara Africa from 1999 to 2024.

	FIIM	GRO	INFL	INT	ISIC	MSS	SERVER	USERS	CRED
Mean	21.40	1941.3	11.7584	7.2809	1	11212	31531	11.183	18.688
Median	11.72	959.70	6.24870	6.7381	1	26877	701638.8	4.65	15.035
Max	133.8	19482	557.201	61.882	1	2.04	5105718	81.593	70.381

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Minimum	0.001	-17.00	-16.8597	-81.132	1	0	0.68503	0	0.0015
Std. Dev.	24.41	2802.5	36.0521	13.166	0	25203	6892717	15.070	14.927
Obs.	598	598	598	598	598	598	598	598	598

Source: Created by authors.

Results in Table 3 show that headline inflation, and interest rate have a negative relationship with financial inclusion. Other variables such as economic growth, money supply (% of GDP), secure internet servers, number of internet users and credit to private sector (% of GDP) have a positive relationship with financial inclusion. This positive relationship between financial inclusion and other independent variables indicate that a rise in any of the aforementioned variables will increase financial inclusion while a rise in headline inflation and internet rate will retard financial inclusion While positive relationship exist between financial inclusion and GDP per capita, money supply (%of GDP), secure internet servers, number of internet users and credit to private sector (% of GDP), the degree of association show that all independent variables can be included in the model without the fear of multicollinearity.

Table 3. Correlation Matrix for determinant of financial inclusion in SSA countries from 1999 to 2024.

	FII	**GRO**	**INFL**	**INT**	**ISIC**	**MSS**	**SERVER**	**USERS**	**CRE**
FIIM	1								
GRO	0.464	1							
INFL	-0.080	-0.055	1						
INT	-0.057	-0.079	-0.539	1					
ISMAIC	0	0	0	0	1				
MSS	0.030	0.103	-0.023	-0.015	0	1			
SERVER	0.039	0.128	-0.030	-0.023	0	0.989	1		
USERS	0.445	0.622	-0.017	-0.087	0	0.380	0.410	1	
CRE	0.491	0.462	-0.154	-0.029	0	0.216	0.270	0.443	1

Source: Created by authors.

Various studies such as (Anifowose, Adeleke, & Mukorera, 2019) among others have advised researchers to always use more than one method of panel unit root test in order to be sure of the order of integration of the variables to be included in a particular model. The reason behind this might not be unconnected to the fact that a non-stationary variable constitutes an outlier among other variable and the inclusion can significantly influence the outcome of the empirical analysis. For this study

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both the IPS, LLC and ADF methods of Panel unit root tests are adopted for consistency's sake. Their results are presented in Table 4.

Table 4. Panel unit root tests for Determinant for SSA countries financial inclusion from 1999 to 2024.

	Levin et al. (2002)				**Im et al. (2003)**			
	Level		First Diff		Level		First Diff	
Variables	**Stat.**	**P-val**	**Stat.**	**P-val**	**Stat.**	**P-val.**	**Stat**	**P-val**
FII	-1.20247	0.1146	-10.3185	0.0000	-1.10034	0.1356	-10.4873	0.0000
GRO	-1.02950	0.1516	-15.9196	0.0000	0.17815	0.5707	13.4058	0.0000
INFL	-1.20438	0.1143	-16.0053	0.0000	0.11704	0.5466	-13.6685	0.0000
INT	-1.39839	0.0810	-12.0931	0.0000	-1.67129	0.0473	-13.3773	0.0000
ISMAIC	13.3771	1.0000	-1.57036	0.582	9.31774	1.0000	-3.81231	0.0001
MSS	-2.67451	0.0037	-	-	-3.33891	0.0004	-	-
SERVER	-1.876221	0.0303	-	-	-2.2048	0.0137	-	-
USERS	0.24073	0.5951	-12.9703	0.0000	0.15184	0.5603	-9.17874	0.0000
CRE	-6.6041	0.0000	-	-	-5.80599	0.0000	-	-

Source: Author's computation.

It is evident from Table 4 that all the variables are either stationary at levels or after the first difference. The implication of this is that they are suitable for all the analysis adopted in the study. The methods of panel unit root test give the same levels of integration for each variable. This speaks volume of the consistency level of the panel unit root results. Furthermore, the results indicate that GDP per capita, headline inflation that are stationary at levels,

Pool Regression Analysis for the Determinant of Financial Inclusion SSA Countries

The essence of pool regression analysis is to verify if there will be need to use panel data analysis for the estimation of the equation or not. Panel data application might not be necessary if there is no problem of cross-sectional dependence. In other words, if the estimated pool regression model does not have a specific effect, then pool regression will suffice for the analysis but if otherwise then, panel data analysis is more suitable to be used for the estimation. One of the sort comings of the pool regression is the problems of heterogeneity, which is not present in the panel data.

The result in Table 5 revealed that economic growth (GRO), islamic banking (ISMAIC), money supply (MSS), internet users (USERS), credit availability (CREDIT) positively enhance financial inclusion with a positive coefficient 0.001298, 4.926809, 1.08E-06, 0.459388, 0.657431 with a significant p-values of 0.0008, 0.0023, 0.0000,0.0000, 0.000 respectively. On the flip side, internet servers (SERVER) has a negative with significant coefficient value of 4.63E-06 with a p-value of 0.000. Though, inflation (INFLATION) and interest rate (INTEREST) have a negative coefficient values of -0.02853 and -0.08317 but has insignificant p-value impact of 0.2841 and 0.2501 respectively. It is an

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indication that many of the variables have a significant impact on financial inclusion. This is shown from the probabilities of the t statistics of each of the independent variables in the estimated model, which are significant at 5% level. Adoption of the Gross Domestic Product per capita, presence of Islamic financing, Money supply (% of GDP), number of internet users, and credit to private sector (% of GDP) have showed significant impact on SSA countries financial inclusion. The result is in line with the findings of Bashiru, Shani, et al. (2023).

Table 5. Pool regression results for Determinant for SSA countries financial inclusion from 1999 to 2024.

Dependent Variable: AFII				
Method: Panel Least Squares				
Sample (adjusted): 1999 2024				
Periods included: 24				
Cross-sections included: 34				
Total panel (unbalanced) observations: 598				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
GRO	0.001298	0.000384	3.383239	0.0008
INFLATION	-0.02853	0.026604	-1.072215	0.2841
INTEREST	-0.08317	0.072245	-1.151253	0.2501
ISMAIC	4.926809	1.611131	3.057981	0.0023
MSS	1.08E-06	2.30E-07	4.679163	0.0000
SERVER	-4.63E-06	8.59E-07	-5.391912	0.000
USERS	0.459388	0.07508	6.118623	0.0000
CREDIT	0.657431	0.066294	9.916842	0.000
Root MSE	19.18573	R-squared		1436
Mean dependent var	21.40235	Adjusted R-squared		0.374097
S.D. dependent var	24.41458	S.E. of regression	19.31536	
Akaike info criterion	8.772966	Sum squared resid	220119.1	
Schwarz criterion	8.831743	Log likelihood	-2615.12	

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Hannan-Quinn criter.	8.795851	Durbin-Watson stat	0.123501

Source: Created by authors.

Conclusion and Policy Implications

The findings on the determinants of financial inclusion in Sub-Saharan Africa the finding show that economic growth (GRO), islamic banking (ISMAIC), money supply (MSS), internet users (USERS), credit availability (CREDIT) positively enhance financial inclusion with a significant positive coefficient 0.001298 with a p-value of 0.0008, 4.926809 with a p- value of 0.0023, 1.08E-06 with a p- value of 0.0000, 0.459388 with a p- value of 0.0000, 0.657431 with p-value of 0.000 respectively. On the flip side, internet servers (SERVER) has a negative with significant coefficient value of 4.63E-06 with a p-value of 0.000. Though, inflation (INFLATION) and interest rate (INTEREST) have a negative coefficient values of -0.02853 and -0.08317 but has insignificant p-value impact of 0.2841 and 0.2501 respectively. The policy implications of these result include the following: first, SSA governments should promote economic growth through investment in productive sectors, infrastructure development, and job creation programs to indirectly improve financial inclusion.

Secondly, SSA countries policymakers should maintain price stability through sound monetary and fiscal policies to ensure inflation does not hinder access to financial services. Thirdly, SSA countries governments and central banks should promote lower interest rates and enhance credit accessibility, especially for marginalized groups, through subsidized loans and targeted credit schemes. Fourthly, policymakers should support the expansion of Islamic finance by improving regulatory frameworks and increasing awareness about Sharia-compliant financial products.

In addition, SSA countries monetary policies should aim to expand the money supply, particularly through financial sector deepening, digital banking, and mobile money penetration as well as investments in digital infrastructure must be complemented by financial literacy programs and affordable internet access to ensure the population benefits from online banking and financial services. Policymakers should promote internet penetration by lowering data costs, expanding broadband coverage, and incentivizing fintech innovations that leverage internet access for financial services. Governments should enhance credit availability by supporting microfinance institutions, small business loans, and mobile banking credit facilities.

Inconclusion, the overall policy recommendations for SSA countries include but not limited to promoting digital financial services through internet expansion and mobile banking adoption. Strengthening financial sector regulations to encourage both conventional and Islamic finance models to enhance financial literacy programs to ensure people can effectively use financial services and lastly, stabilize macroeconomic factors like inflation and interest rates to create a conducive environment for financial inclusion.

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