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FINANCIAL INCLUSION AS A CATALYST FOR ECONOMIC RESILIENCE: INSIGHTS FROM AFRICA

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Abstract:

This study examines the contribution of financial inclusion to the strengthen of economic resilience. Through an empirical approach based on macroeconomic data for 12 African countries from 2004 to 2022, it assesses the impact of various financial inclusion indicators on a composite economic resilience index.

The findings demonstrate a significant positive impact of deposit accounts with commercial banks and financial access (via outstanding deposits and loans) on economies' ability to withstand shocks and recover. However, the number of commercial bank agencies occasionally has ambiguous effects, indicating that physical access alone may not guarantee effective financial inclusion.

Therefore, the study suggests promoting high-quality financial inclusion based on active use, institutional trust, and regulation. It also advocates for incorporating financial inclusion into national resilience strategies as part of an equitable and sustainable development logic.

This study aims to fill the gap in empirical research on the relationship between financial inclusion and economic resilience, focusing on the channel via which financial inclusion strengthens the economic resilience of African nations. It provides a thorough analysis of the relationship using robust economic tools, highlighting the need for further research on the effects of financial inclusion on territorial resilience.

Keywords: Financial inclusion, Economic resilience, Regional development, Economic growth, Africa.

Introduction

The financial system has always played a fundamental and important role in the economy through a number of functions such fund transfers, risk management, payment mechanism disposal, etc.

Over the past few decades, the structure of the financial system has undergone progressive changes as a result of numerous financial reforms, ensuring the transition to a financial market economy. Furthermore, the modern financial system's success can be attributed to financial sector reforms such market-based procedures, competition promotion, and deregulation.

The objective of these reforms was to further introduce a more stable and effective system that would serve as the foundation for capital mobilization and stabilization, which might boost economic growth and lower poverty (Johnston & Sundararajan, 1999).

An efficient and stable financial system is thought to be crucial for promoting economic growth. When financial markets operate efficiently, businesses can more easily access the capital they need to invest, grow, and create jobs. Long-term economic growth and wealth creation will benefit from this.

While the financial system facilitates capital flows, risk management, and economic transactions, financial development aims to improve the system's functionality and accessibility, thereby promoting economic growth, innovation, and financial inclusion.

Nowadays, one of the most significant indicators developed and disseminated by international authorities to reflect the degree of financial development is financial inclusion. In fact, Guérineau and Jacolin (2014) define financial inclusion as improved access to and more extensive use of financial services. It is acknowledged as a key force behind economic development and encourages the use of financial services by all individuals and businesses.

The goal of financial inclusion is to attract the "unbanked" population to the formal financial system. Sarma (2008) emphasizes the need of a collection of tools that guarantee all members of an economy can access, use, and obtain financial services at reasonable prices.

Financial inclusion is essential in communities that are vulnerable or developing because it makes credit more accessible, lessens social exclusion, and enables local businesses to invest and grow. Access to financial services also enables individuals and businesses to more effectively confront economic, climatic, or health challenges, hence enhancing territorial resilience.

The economic resilience is the ability of an economy to absorb, withstand, and recover swiftly from economic crises, whether internal or external, while maintaining or enhancing its long-term growth potential is referred to as economic resilience. Therefore, increasing financial inclusion may be a crucial step in bolstering this resilience by facilitating the mobilization of local resources and promoting the economy's recovery following a crisis.

However, there is still a lack of empirical research on the connections between financial inclusion and economic resilience. The role of financial inclusion in economic development and poverty reduction is extensively explored in the previous literature, but few studies have specifically examined its effects on territorial resilience. Additionally, prior studies mainly focused on low-income households or low-income households' financial inclusion, while, there aren't many studies on business financial inclusion and how it contributes to local economic resilience. This study fills up these gaps by providing a thorough analysis of the relationship between financial inclusion and economic resilience using robust economic tools.

This study aims to address the following questions : Does financial inclusion help to increase the economic resilience of African nations in time of crises ? If yes, what are the specific mechanisms via which it operates and how does this impact vary depending on economies and their socioeconomic characteristics ?

The main goal of this study is to assess how financial inclusion affects African countries' ability to deal with economic crises and quickly recover from them.

The specific goals are to : examine how financial inclusion increases Africa's economic resilience as measured by the economic resilience index ; determine the ways in which financial inclusion improves economic resilience. These metrics include the rate of banking (number of adults with a deposit account from a commercial bank for 1000 adults), the density of financial service points (number of banking agencies for 100,000 adults), and access to financing (number of deposits from commercial banks (percentage of GDP) and number of loans from commercial banks (percentage of GDP), and making suggestions to improve the economic resilience of African nations.

Literature review

A complex concept, territorial resilience refers to a territory's ability to withstand, adapt, and reorganize in the face of economic, social, environmental, or technological disruptions while simultaneously enhancing its overall well-being. Numerous international organizations,

researchers, and institutions are interested in this idea in the context of issues related to risk management, climate change, and sustainable development.

The Organization for Cooperation and Economic Development (OECD, 2016) defines territorial resilience as a region's ability to resist economic, environmental, or social shocks while maintaining its current level of well-being. This includes adaption mechanisms that help one better prepare for and recover from crises. The United Nations Programme for the Development of Nations (UNDP, 2014), as part of its adaptation programs to climate change, gives priority to territorial resilience. It highlights how crucial it is to involve local communities in decision-making and resource management in order to increase this resilience.

Within the framework of its territorial strategy and cohesion policies, the European Union (EU, 2020) has developed strategies to support the resilience of territories to natural disasters and economic crises. Thus, resilience is incorporated into its structural funds with the goal of strengthening the most vulnerable regions' capacities.

Many studies have looked at the elements that affect territorial resilience in general and economic resilience in particular, with a particular emphasis on the importance of a developed and inclusive banking sector in boosting economic resilience in many countries and regions.

In his works on political and economic geography, David Harvey (2005) addresses the spatial dynamics of capitalism and regional inequality. The author proposes that both local factors that impact a territory's capacity to bounce back from crises and international economic pressures have a major impact on territorial resilience. Moreover, one of the foremost authorities on risk and urban resilience is Mark (2012). The author looks at territorial resilience from the standpoint of how communities and local institutions react to environmental crises, especially when it comes to coastal towns that are at risk from climate change. A theoretical framework for understanding the resilience of ecological systems that is regionally adaptive has been established (Carpenter et al., 2001). Their research emphasizes the complex interrelationships between environmental, social, and economic factors that are essential to a region's resilience. Furthermore, by highlighting the role of local institutions and infrastructures, Davoudi et al. (2012) have expanded the research of territorial resilience. She is in favor of a "multiscalaire" strategy that views resilience as a local attribute that is also impacted by global and national factors.

However, the importance of an effective financial system for a healthy economy has long been highlighted by financial theory. According to Levine (1997), a well-designed

financial system promotes innovation, improves resource allocation, and reduces information costs—all of which help create a more resilient economy. The impact of an advanced and inclusive financial sector on economic resilience has been the subject of numerous scholarly and institutional investigations (Hu and Tsai, 2025). The manner in which that financial inclusion promotes macroeconomic stability, growth, reducing poverty, and shock resilience are clarified by these studies. Countries with strong and varied financial systems are better able to withstand economic shocks, according to empirical studies. Raddatz (2006) demonstrated, for example, that nations with advanced financial systems have less severe recessions due to external shocks. Furthermore, it has been shown by Beck et al. (2006) that the availability of finance after a disaster (such drought or flooding) helps firms and households recover faster.

Financial inclusion has been a crucial element of economic resilience in more recent times. Among other things, it makes it possible for marginalized communities to build wealth, deal with financial challenges, and make profitable investments.

Financial systems have fared better during crises (such the 2008 financial crisis and the Covid-19 pandemic) when they combine effective regulation, technology innovation, and inclusion. Sahay et al. (2015), for example, show in an international monetary fund (IMF) study how an equilibrium financial system (banks, markets, and microfinance organizations) improves nations' capacity to bounce back from a crisis.

According to Demirgüç-Kunt and Klapper (2013), bank accounts lessen the vulnerability of low-income households. In line with a more recent study conducted by Mushtaq & Bruneau (2019), financial inclusion stabilizes consumption, lowering the vulnerability of developing nations to economic shocks. Therefore, in 52 developing countries, Omar & Inaba (2020) found a favorable correlation between financial development and a decrease in economic volatility. Similarly, Naceur et al. (2023) shown that financial resilience is strongly influenced by the stability of financial institutions and the effectiveness of banking supervision. Cai et al. (2025) demonstrate that digital financial inclusion offsets the adverse effects of population aging and enhances economic resilience by fostering inclusive growth, innovation, and adaptive financial systems. These studies provide strong empirical evidence on the critical role that financial inclusion plays in promoting economic resilience and global growth, and they highlight the significance of tailoring financial inclusion policies to the unique circumstances of each nation in order to maximize their effectiveness.

Methodology

The study uses an empirical approach. Using quantitative data on financial inclusion indicators and economic resilience index, the analysis aims to establish a cause-and-effect relationship between financial inclusion indicators and African economies' resilience through economic analysis.

By minimizing the sum of the squares residuals and taking into account the weights assigned to each observation, the method known as Robust Weighted Least Squares (RWLS) has been used to estimate the parameters of the regression model (Huber & Ronchetti, 1981). Our dataset included extreme values that could disproportionately influence OLS estimates.

RWLS employs robust weighting functions, such as Huber and Ronchetti (1981), to reduce the impact of outliers, leading to more reliable coefficient estimates

The model is written in the following format :

$$ERI_{it} = \alpha_0 + \alpha_1 BR_{it} + \alpha_2 DFS_{it} + \alpha_3 ACF1_{it} + \alpha_4 ACF2_{it} + \alpha_5 HDI_{it} + \alpha_6 TO_{it} + \varepsilon_{it}$$

The endogenous variable :

ERI_{it} : Economic resilience index for the country i at the time t . This composite index, which is calculated using the methodology introduced by Briguglio et al. (2006), assesses an economy's ability to withstand and recover from shocks. It is intended to give a comprehensive assessment of a nation's economic resilience by taking into consideration a number of important factors, including macroeconomic management, institutional governance, market flexibility, and economic diversification. The following indicators have been used in this article to understand these dimensions : the inflation rate, political stability, the unemployment rate, and the contribution of key sectors to the raw value added (agriculture, industry, services).

The main exogenous variables :

BR_{it} : the banking rate (the number of adults with a deposit account from a commercial bank per 1000 adults) for the country i at the time t .

DFS_{it} : the density of financial service points (number of banking agencies per 100,000 adults) for the country i at the time t .

$ACF1_{it}$: Access to financing (Outstanding loans from commercial banks as a % of GDP) for the country i at the time t .

$ACF2_{it}$: Access to financing (Outstanding deposits with commercial banks as a % of GDP) for the country i at the time t .

Control variables :

HDI_{it} : Human development index for the country i at the time t .

TO_{it} : Trade openness for the country i at the time t .

The exogenous variable coefficients are denoted by the coefficients $\alpha_1, \dots, \alpha_6$, ε_{it} denotes the term of error, and α_0 is a constant that captures the effects unique to a country. This research makes use of panel data from a diverse group of 12 African countries¹. The temporal dimension of this study, which is supported by the data availability, extends from 2004 to 2022. The data are provided by the World Bank indicators.

Results and discussion

To deal with assumption violations, we employed a robust regression method. The following results, which highlight the relationship between financial inclusion and economic resilience based on the findings from these analyses.

The table 1 provides the descriptive analysis of all the variables used for this study shows significant differences in terms of distribution, dispersion, and central trend. For ERI, the standard deviation is 0.28, reflecting a little differences in termes of economic resilience between countries, and the null values of skewness and kurtosis indicate that the distribution is perfectly symmetrical around the mean. Furthermore, a certain homogeneity in terms of dispersion is revealed by the descriptive statistics of the seven variables that were analyzed, as evidenced by the relatively close standar deviation. This similarity shows that the variables fluctuate about their respective averages in comparable amplitudes. Additionally, the variables' skewness and kurtosis coefficients are relatively close to one another, suggesting a rather coherent distribution structure within the studied panel.

Nevertheless, the results of the Jarque-Bera normality test show that all variables do not follow a normal distribution. This is supported by test values that show asymmetrical distributions or thick or aplatical queues. Except for the density of financial service points (number of banking agencies per 100,000 adults) (DFS) and outstanding deposits with commercial banks (% of GDP) (ACF2) which translate into a symmetric and mesokurtic distribution, adhering to the normality hypothesis (probability is greater than 0.05). These findings encourage the use of robust estimations that are resistant to deviations from normality or from the prior transformation of some variables and encourage caution when choosing economic methods. These observations highlight the heterogeneity of their

¹ Algeria ; Gambia ; Ghana ; Guinea ; Madagascar ; Mauritius ; Morocco ; Namibia ; Rwanda ; South Africa ; Uganda ; Zimbabwe.

distributions while expressing the complexity of the phenomena under study as well as some structural coherence among the variables.

Table 1. Descriptive Statistics

	ERI	BR	DFS	ACF1	ACF2	HDI	TO
Mean	0.60	2.55	0.74	1.29	1.47	0.58	1.80
Maximum	2.23	3.37	1.40	2.13	2.28	0.82	2.10
Minimum	-0.26	0.88	-0.39	-0.10	0.60	0.34	1.49
Std. Dev.	0.28	0.54	0.38	0.44	0.34	0.11	0.14
Skewness	0.00	0.00	0.08	0.00	0.04	0.06	0.71
Kurtosis	0.00	0.33	0.13	0.65	0.79	0.00	0.01
Jarque-Bera	52.54***	15.33***	5.32	7.70**	4.37	25.18***	7.40**
Probability	0.00	0.00	0.06	0.02	0.11	0.00	0.02

Note: *** and ** indicate a significant level at 1% and 5%, respectively.

Source : Authors

In accordance with economic literature (Wooldridge, 2010 ; Gujarati & Porter, 2009), the endogenous variable has been converted to a logarithm in order to correct for its asymmetries, stabilize its variance, and make it easier to interpret the coefficients in relative terms.

The table 2 shows the results of this study on the link between financial inclusion indicators and economic resilience index.

Table 2 : The impact of financial inclusion indicators on economic resilience index

LERI	Coefficient	Std.err.	t	P. value
BR	0.37	0.07	5.13	0.00
DFS	-0.34	0.09	-3.61	0.00
ACF1	0.25	0.08	3.20	0.00
ACF2	0.26	0.10	-2.60	0.01
HDI	-0.96	0.29	-3.35	0.00
TO	0.59	0.13	4.49	0.00
Cons	-0.52	0.23	-2.23	0.02

Source : Authors

The empirical findings support the presence of a positive and significant relationship between the deposit accounts with commercial banks and the degree of economic resilience as measured by a composite index. This result is consistent with research by Sahay et al. (2015), which shows that countries with high number of deposit accounts with commercial banks have been better able to withstand the effects of the 2008 global financial crisis, in part because of improved credit circulation and the ability to take targeted refinance actions. Furthermore, Mushtaq and Bruneau (2019) have demonstrated that increasing the rate of bancarization can strengthen macroeconomic stability by lowering investment and consumption volatility, which adds to the economy's greater resilience to external shocks. These results can be explained in a number of ways : banking makes it easier to mobilize the emergency response, enhances credit availability, supports consumption during emergencies, and enables better public assistance delivery, including during pandemics like Covid-19. But, it is important to remember that the impact of the number of deposit accounts with commercial also depends on the caliber of financial intermediation and institutional framework, as a purely formal and infrequently used banking system may have a limited impact. Moreover, by making it easier for excluded groups to access formal financial services, financial innovation-including the digitization of banking services and the rise of mobile finance-is a key factor in the expansion of financial inclusion in Africa (Rachida El yamani, 2023).

Contrary to theoretical expectations, the results show that the density of financial service points (measured by the number of agencies per 100,000 residents) may have a negative impact on economic resilience. This finding supports several recent studies, such as that of Demirgüç-Kunt and Klapper (2022), which emphasize that merely increasing the number of physical points of access does not ensure the effective use of financial services or their efficacy in times of crisis. As a result, a high density of agencies may indicate a banking development strategy driven more by commercial considerations than by a true financial inclusion logic in a number of contexts, such as low-income or highly informalized nations. Furthermore, according to Naceur et al. (2023), an overly concentrated financial infrastructure in urban areas at the expense of rural areas may exacerbate geographical disparities in access to financial services, hence lowering the economy's ability to deal with shocks on a global scale. Moreover, a high density of service points without corresponding improvements in the quality of the offer (adjusted credit, lower fees, and inclusive products) may increase intermediary costs and create structural rigidities, limiting the financial system's responsiveness during stressful times.

Consequently, our findings imply that the density of service sites, if not accompanied by a targeted financial inclusion and digitalization strategy, may contribute to fragility rather than resilience.

Regarding financing access, the results show that access to financial services has a significant positive impact on economic resilience, as measured by the outstanding deposits and loans received from commercial banks (represented as a percentage of the GDP). This finding is consistent with a growing body of literature that emphasizes the crucial role that the financial system plays in achieving economic goals. In fact, the opening of deposits reflects the ability of households and businesses to safely expand, which creates a liquid reserve that may be mobilized during times of crisis. Conversely, a higher loan volume indicates active financial mediation, enabling economic actors to access the funding resources they need to continue or expand their operations under pressure. In 2000, Beck et al. demonstrated that deeper banking systems support more consistent and sustainable growth. More recently, Sahay et al. (2015) have highlighted that higher bank credit levels are linked to a greater capacity to absorb shocks, in part because of better avenues for investment and consumption. It is especially noticeable in countries where commercial banks play a major role in funding the economy without strong consumer markets.

In addition, Mehrotra and Yetman (2015) point out that effective financial intermediation makes it possible to lower incomes, enhance risk management, and fortify macroeconomic stability. As a result, the indicators we used in our analysis—bank deposits and credits expressed as a percentage of GDP—appear to be key indicators of resilience since they reflect both the confidence of economic actors in the banking system and its ability to stimulate the real economy. These findings call for further strengthening of the financial system and institutional trust in order to increase the stabilizing effect of the banking sector in vulnerable economies.

Regarding the control variables, while the HDI does reflect advancements in income, education, and health, its improvement does not always imply increased economic resilience. Several African nations may achieve human development advancements without undergoing a structural economic shift, making them vulnerable to outside pressures (De la Escosura, 2013).

However, the trade opening rate has a positive effect on economic resilience. The opening of international trade may encourage the diversification of income sources, enhance access to strategic goods, and fortify adjustment capabilities in the event of internal crises.

Due to dynamic export markets or necessary imports, some African countries are better equipped to withstand economic crises as a result of their partial but significant integration into global trade. Briguglio et al. (2014) point out that open economies, despite maybe being more vulnerable to external shocks, frequently create more effective adjustment and adaptation policies, strengthening their resilience in the process.

Conclusion and recommendations

The empirical analysis carried out in this study makes clear how crucial financial inclusion is in enhancing economic resilience in a variety of ways. The findings show that the number of deposit accounts with commercial banks, the outstanding deposits and loans from commercial banks (% of GDP) have a positive and significant impact on economies' ability to absorb shocks and recover quickly. These findings support the role of the financial system as a macroeconomic stabilization mechanism, including through encouraging investment, facilitating credit access, and supporting productive investment. Nevertheless, the study also shows that some forms of financial system expansion, such as an excessive number of service points or access without effective use, may have unclear or even counterproductive effects if they are not supported by appropriate regulation and quality policies. Therefore, simply increasing financial infrastructure does not by itself guarantee an increase in economic resilience.

These findings support an integrated approach to financial inclusion that combines increased access, improved effective use, financial education, and strengthening institutional frameworks (Didenko et al., 2021).

Such conditions will be required in order for financial inclusion to fully contribute to the development of more resilient, adaptable, and equitable economic systems.

Based on the findings of this study, a number of recommendations can be made to the attention of political decision-makers, financial regulatory bodies, and banking and development actors:

Strengthening the quality of access to financial services.

Multiplying service locations is not enough; it is crucial to make sure that the services offered are affordable, accessible, tailored to the needs of the local population (rural and urban), and supported by technological tools (Du, Y., et al. (2023)). The growth of digital finance (fintechs, mobile banking) may also act as a catalyst, especially for those groups excluded from the traditional banking system.

Supporting a safe and inclusive financial intermediary : The authorities must promote domestic employment and better direct credit toward productive industries, such as SME, agriculture, and employment-generating activities. A rigorous implementation of lending practices is required to prevent default and ensure that credit effectively promotes economic resilience.

Enhancing Citizens' Financial Education : People who have a better understanding of financial products and services are better able to make informed decisions, manage risks more effectively, and invest responsibly. To maximize the positive effects of inclusion, targeted financial education programs are essential, particularly for women, youth, and rural areas.

Encouraging the development of financial infrastructure: It is necessary to plan the densification of agencies and automated teller machine based on actual needs and territorial balances. It is possible to implement incentives to encourage the opening of service points in underserved areas, but only if performance and effect criteria are well-defined.

Strengthening the regulatory framework and oversight of the financial sector: A robust and transparent banking system is necessary for effective and resilient financial inclusion. In addition to limiting systemic risks and overseeing financial innovations, regulators must work to advance transparency, consumer protection, and operational security.

Including financial inclusion in national resilience strategies: Like infrastructure, social protection, or education, financial inclusion should be seen as a cross-cutting component of public policies promoting economic resilience. This calls for cross-cutting coordination between the ministries, central banks, development actors, and territorial communities.

The paper has various limitations in spite of its contributions. First, the analysis is restricted to African countries' available macroeconomic and financial inclusion data, which might not fully capture informal financial activities. Secondly, the research employs panel econometric methods, which, although reliable, might not completely take into consideration all institutional and structural variations among nations.

Third, the focus is on short- to medium-term effects, limiting the understanding of long-term dynamics between financial inclusion and economic resilience.

Future research could address these limitations by incorporating micro-level data (households or firms) to capture informal and digital financial activities more precisely. Comparative studies across regions or incorporating additional moderating factors such as governance quality, technological adoption, or climate-related risks could also provide deeper insights.

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