



Financial System Stability as a Determinant of Agripreneurship in the Central African Economic and Monetary Community Sub-Region

Moses Nubong Njimukala^{1*}, Mom Aloysius Njong¹, & Egwu Mary Juliet Bime²

¹Department of Economics, Faculty of Economics and Management Science, The University of Bamenda, Cameroon

²Department of Agribusiness Technology, College of Technology, The University of Bamenda, Cameroon

*Corresponding Author: njimunkalamoses@gmail.com

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Research Article

Abstract

Purpose: This study examines financial system stability as a determinant of agripreneurship in the Central African Economic and Monetary Community (CEMAC) sub-region, comprising Cameroon, the Central African Republic, Chad, the Republic of Congo, Equatorial Guinea, and Gabon.

Method: The study adopts an ex post facto, correlational design using secondary panel data from the six member states and estimates a Panel Autoregressive Distributed Lag model, applying both the Mean Group and Pooled Mean Group estimators, with fixed- and random-effects models serving as robustness checks. The Hausman specification test favored the Mean Group estimator over the Pooled Mean Group, confirming significant heterogeneity in long-run relationships across the member states.

Results: Findings reveal that financial stability exerts a negative and statistically significant effect on agripreneurship in the short run, while its long-run effect is positive but statistically insignificant at the regional level, leading the study to conclude that financial stability alone does not significantly drive agripreneurship in CEMAC over the long term. Regulatory quality shows a positive and significant short-run effect, underscoring the importance of governance and institutional strength, while country-level estimates indicate that Cameroon is the only member state in which financial stability exerts a positive and significant long-run effect on agripreneurship.

Implications: The study recommends that financial stability reforms be paired with targeted agricultural financing schemes, financial inclusion incentives, stronger regulatory enforcement, and investment specifically targeted to agricultural value chains rather than general capital growth.

Originality: This study makes several original contributions to the literature on financial systems and agripreneurship within the Central African Economic and Monetary Community (CEMAC). First, unlike previous studies that have largely focused on the direct relationship between finance and agricultural performance in individual countries, this research investigates financial system stability as a determinant of agripreneurship across the entire CEMAC sub-region, thereby providing a regional perspective that captures cross-country heterogeneity among Cameroon, the Central African Republic, Chad, the Republic of Congo, Equatorial Guinea, and Gabon.

Keywords: Financial System Stability, Agripreneurship, Panel Autoregressive Distributed Lag model, CEMAC Sub-Region

1. Introduction

The stability of a financial system is widely regarded as a fundamental prerequisite for sustainable economic development because it facilitates the efficient mobilization of savings, allocation of credit, management of risks, and smooth functioning of payment systems. A financially stable system is one in which financial institutions, markets, and infrastructure remain resilient to shocks while continuing to provide essential financial services to households and businesses (International Monetary Fund [IMF], 2023). Financial stability is particularly important in developing economies, where access to finance remains a major constraint on productive investment and entrepreneurial activity. In economies heavily dependent on agriculture, the ability of financial institutions to provide stable, affordable credit can significantly influence agricultural productivity, rural incomes, and enterprise development (World Bank, 2023). Consequently, the stability of the financial system is increasingly seen as a key driver of economic diversification and private-sector development.

Agripreneurship, the application of entrepreneurial principles to agricultural production, processing, marketing, and value addition, has emerged as an important strategy for transforming agriculture from a subsistence activity into a commercially viable, innovative sector. Agripreneurship is widely recognized as a mechanism for creating employment opportunities, promoting food security, reducing rural poverty, and stimulating economic growth across Africa (FAO, 2019). The Food and Agriculture Organization emphasizes that agripreneurship offers significant opportunities for youth employment and income generation, particularly in Sub-Saharan Africa, where agriculture remains one of the largest employers of labor. Furthermore, agripreneurial activities facilitate farmers' integration into value chains, enhance market access, and promote technological adoption within agricultural systems.

Within the Central African Economic and Monetary Community (CEMAC), agripreneurship has gained increasing policy attention as governments seek to diversify their economies away from excessive dependence on petroleum and mineral exports. Despite possessing substantial agricultural resources, many CEMAC countries remain heavily reliant on extractive industries for export earnings and government revenues. This dependence has exposed the region to recurring commodity price shocks and economic instability, thereby highlighting the need for economic diversification through sectors such as agriculture and agribusiness. Regional institutions, including the Bank of Central African States (BEAC), have consistently advocated economic reforms to strengthen productive sectors and promote sustainable growth through private-sector development and agricultural modernization.

However, the development of agripreneurship within the CEMAC sub-region continues to face significant financial constraints. Financial sectors across member states remain relatively shallow, characterized by limited financial inclusion, low levels of domestic private-sector credit, and inadequate access to agricultural finance. Many agricultural entrepreneurs face difficulties obtaining formal credit due to high collateral requirements, short repayment periods, information asymmetries, and the perceived risks of agricultural lending. Consequently, a substantial proportion of agricultural producers continue to depend on informal financing mechanisms, such as rotating savings and credit associations, family networks, and community-based financial associations. These financing constraints reduce the capacity of agripreneurs to invest in productivity-enhancing technologies, expand operations, and participate effectively in agricultural value chains (World Bank, 2023).

The relationship between financial stability and agripreneurship is theoretically expected to be positive. Stable financial systems improve investor confidence, enhance credit availability, reduce borrowing costs, and encourage long-term investment decisions. In contrast, financial instability may lead to tighter lending conditions, increased credit rationing, and reduced access to finance for entrepreneurial ventures, particularly in sectors perceived as risky, such as agriculture. Nevertheless, the extent to which financial stability translates into agripreneurial development remains uncertain, especially in developing regions, where structural constraints may weaken the transmission mechanism between financial-sector performance and productive-sector outcomes.

The CEMAC sub-region is particularly well-suited for examining this relationship. The six member states, Cameroon, the Central African Republic, Chad, the Republic of Congo, Equatorial Guinea, and Gabon, share a common currency and a unified monetary policy framework administered by BEAC, as well as a common banking supervisory authority under the Central African Banking Commission (COBAC). Despite these common monetary and regulatory arrangements, significant differences exist across member states in terms of economic structure, institutional quality, agricultural potential, and financial sector development. This combination of monetary integration and economic heterogeneity creates a unique environment for investigating whether financial stability exerts a uniform influence on agripreneurship across countries or varies according to national conditions.

Despite sustained policy efforts to promote agricultural transformation and economic diversification, agripreneurship in the CEMAC sub-region remains underdeveloped relative to the region's agricultural potential. Financial systems continue to face challenges stemming from limited credit penetration, high levels of financial exclusion, and vulnerability to macroeconomic shocks. Moreover, evidence regarding the role of financial stability in promoting agripreneurship remains fragmented and inconclusive within the regional context. While financial stability is generally assumed to facilitate entrepreneurial development, it is not yet empirically clear whether improvements in financial stability significantly enhance agripreneurship across CEMAC countries, nor whether the effects are consistent across countries with differing economic structures and institutional capacities.

Against this background, the present study investigates the effect of financial system stability on agripreneurship in the CEMAC sub-region. By employing panel data techniques that distinguish between short- and long-run relationships while accounting for cross-country heterogeneity, the study seeks to provide empirical evidence to inform financial sector policies and agricultural development strategies aimed at fostering agripreneurship and economic diversification within the region.

2. Literature Review

2.1 Theoretical Considerations

2.1.1 Institutional Theory (North, 1990)

Institutional Theory, as articulated by North (1990), asserts that institutions, defined as the formal rules, informal norms, and enforcement mechanisms that structure human interaction, are the fundamental determinants of economic performance. North argues that institutions reduce uncertainty in human exchange by providing a stable framework for economic activity. This theory distinguishes between formal institutions (constitutions, laws, property rights, and regulatory systems) and informal institutions (social norms, cultural values, and codes of conduct). Economic development, according to North, is largely shaped by the quality of institutions, as they determine the incentives faced by individuals and organizations. Good institutions encourage productive economic activities such as investment, innovation, and entrepreneurship, while poor institutions foster rent-seeking, corruption, and resource misallocation. In this framework, the banking sector and broader financial system are seen not merely as economic actors, but as entities whose performance depends heavily on the institutional environment. In agripreneurship, effective institutions such as secure land tenure systems, enforceable contracts, and accessible financial laws are critical for enabling entrepreneurs to invest confidently in long-term agricultural ventures.

Institutional Theory operates on several key assumptions that frame its interpretation of economic performance. First, it assumes that human interaction is inherently constrained by limited information and bounded rationality, making institutional rules essential for guiding economic decisions (North, 1990). Second, the theory assumes that transaction costs arising from the need to negotiate, enforce, and monitor agreements are ever-present and that institutions exist primarily to reduce them. Third, it presumes that institutions evolve over time, often shaped by historical legacies, cultural values, and political power

structures, meaning that institutional change is typically path-dependent rather than instantaneous. Fourth, the theory assumes that the effectiveness of formal rules depends heavily on the degree to which they align with informal norms and societal values; formal laws that contradict entrenched cultural practices may fail to influence behavior. Finally, it assumes that institutional quality is a decisive factor in determining whether resources are allocated to productive entrepreneurship or diverted to unproductive activities, such as rent extraction. These assumptions imply that improving economic performance, whether in banking sector development or agripreneurship, requires not only financial reforms but also deep institutional strengthening.

The central insight of North's Institutional Theory can be illustrated by applying it to the relationship between the financial system and agripreneurship. In economies with strong formal institutions, such as well-defined property rights and reliable contract enforcement, banks are more willing to extend credit to agricultural entrepreneurs because they can trust that loans will be repaid and that collateral will be recovered if necessary. For example, a farmer who holds a legally recognized land title can use it as collateral to obtain long-term financing for mechanization or irrigation investments. Conversely, in economies with weak institutions, such as ambiguous land rights or unpredictable contract enforcement, financial institutions face higher risks and may limit lending to the agricultural sector, thereby stifling agripreneurial growth (Acemoglu & Robinson, 2012). Informal institutions also play a critical role: social trust within rural communities can reduce information asymmetries between banks and borrowers, facilitating credit relationships where formal credit histories are absent. Furthermore, institutional quality shapes the broader enabling environment for agripreneurship by influencing infrastructure development, market access, and the enforcement of agricultural standards. In this way, North's theory underscores that the impact of banking-sector development on agripreneurship is mediated by the institutional framework in which financial transactions occur.

While North's Institutional Theory has been widely influential, it faces several criticisms and limitations. One critique is that the theory often overemphasizes the primacy of institutions while underestimating the roles of other factors such as technological innovation, resource endowments, and cultural dynamics in driving economic growth (Chang, 2011). Critics also point out that the concept of "good institutions" can be vague and difficult to measure consistently across contexts, making empirical testing challenging (Rodrik, 2007). Furthermore, the theory's emphasis on path dependence, the idea that institutional evolution is heavily shaped by historical trajectories, can lead to a pessimistic view of reform in countries with deeply entrenched institutional weaknesses. Another limitation is that institutional reforms, even when designed and implemented, may not produce immediate economic gains, creating a time lag between policy action and tangible outcomes. Additionally, the theory tends to focus on the macro-level institutional environment, sometimes neglecting the micro-level strategies that entrepreneurs adopt to navigate institutional weaknesses. In the context of agripreneurship, for instance, informal credit systems, cooperatives, and farmer networks can sometimes partially offset institutional deficiencies, a nuance that North's original formulation addresses only indirectly.

North's Institutional Theory provides a powerful framework for understanding the role of institutional quality in shaping economic performance and the interaction between financial systems and entrepreneurial activity. By emphasizing the importance of both formal and informal rules, the theory highlights that sustainable banking-sector development and agripreneurial growth require more than just financial capital; they require an enabling institutional environment that reduces uncertainty, lowers transaction costs, and fosters trust among economic actors. In Cameroon, where agripreneurship holds significant potential for job creation and food security, strengthening institutions such as land registration systems, contract enforcement mechanisms, and rural financial governance could dramatically enhance the effectiveness of banking-sector development initiatives. While the theory is not without its limitations, it remains a foundational lens through which policymakers, scholars, and practitioners can evaluate the deep structural factors that enable or constrain economic transformation.

2.1.2 Financial Stability Theory (Mishkin, 1999)

Financial Stability Theory, as articulated by Mishkin (1999), posits that a stable financial system is a prerequisite for sustainable economic growth because it ensures the efficient allocation of resources, the smooth functioning of payment systems, and the maintenance of public confidence in financial institutions. According to Mishkin, financial stability is achieved when the financial system can withstand shocks, whether from macroeconomic fluctuations, asset price volatility, or institutional failures, without significant disruption to financial intermediation and credit provision. In this framework, instability occurs when adverse shocks impair the functioning of financial markets, hinder banks' lending capacity, or cause abrupt shifts in asset values, thereby affecting investment and consumption decisions. For sectors like agripreneurship, which rely heavily on credit access, stable financial conditions are essential for long-term planning, investment in productive assets, and the ability to withstand risks inherent to agriculture such as price fluctuations and climate variability.

The Financial Stability Theory operates on several key assumptions that frame its relevance to economic development. First, it assumes that the financial system plays a central role in channeling funds from savers to borrowers, and that disruptions in this process can have widespread economic repercussions (Mishkin, 1999). Second, it assumes that market participants operate with incomplete information, making them vulnerable to uncertainty, speculation, and contagion effects during periods of financial stress. Third, the theory assumes that monetary and regulatory authorities such as central banks have a mandate to monitor, prevent, and mitigate systemic risks to ensure the continuous functioning of the financial system. Fourth, it assumes that maintaining confidence in the banking sector is vital, as loss of trust can trigger bank runs, credit crunches, and liquidity shortages. Finally, it assumes that financial markets are interconnected, meaning that instability in one segment, such as a collapse in agricultural commodity prices, can quickly transmit to others, amplifying the effects on agripreneurs and other vulnerable economic actors.

Mishkin's Financial Stability Theory can be illustrated through its application to the relationship between banking sector development and agripreneurship. In a stable financial environment, banks are more willing to extend credit to agricultural entrepreneurs, enabling them to invest in high-yield seeds, mechanization, storage facilities, and market expansion. For example, a bank operating in a stable interest rate environment with low default risk can offer long-term credit at predictable costs, allowing an agripreneur to plan a multi-year irrigation project with confidence. Conversely, during financial instability, such as a liquidity crisis or rapid inflation, banks may restrict lending, raise interest rates, or divert resources to less risky sectors, leaving agripreneurs without essential funding. Mishkin (1999) emphasizes that stability fosters trust between financial institutions and clients, reduces risk premiums, and promotes investment in productive ventures. Furthermore, for agripreneurship, where revenues can be seasonal and subject to weather shocks, financial stability ensures that short-term shocks do not spiral into long-term insolvency due to the sudden withdrawal of credit. The theory also underscores that stability is not static; it requires continuous monitoring and adaptive policy measures to maintain resilience against evolving risks.

Despite its strengths, Financial Stability Theory faces several criticisms. One weakness is that it can be overly broad, making it difficult to define and measure "stability" precisely in empirical research (Schinasi, 2004). This vagueness can make it difficult to design targeted policy interventions. Second, critics argue that excessive focus on stability may lead to overregulation, stifling financial innovation and limiting credit availability to sectors perceived as high-risk, such as agripreneurship (Allen & Gale, 2007). Third, the theory assumes that regulatory authorities will act effectively and impartially, yet in practice, political pressures and institutional weaknesses can lead to delayed or inadequate policy responses. Fourth, while Mishkin highlights the importance of preventing systemic crises, the theory pays less attention to the micro-level coping strategies businesses and entrepreneurs employ in unstable conditions. Lastly, the theory does

not fully address how structural inequalities in credit allocation, often present in developing countries, can persist even under conditions of overall financial stability.

Mishkin's Financial Stability Theory provides a vital framework for understanding how the financial system's resilience influences economic activity, investment, and entrepreneurial growth. It highlights that stable financial conditions are essential for sustaining credit flows, maintaining investor confidence, and supporting productive sectors such as agripreneurship. In Cameroon, ensuring financial stability could mean the difference between smallholder farmers accessing affordable loans for expansion and being locked out of credit markets during periods of volatility. The theory's emphasis on resilience, risk management, and confidence-building offers clear policy implications: strengthening regulatory frameworks, improving financial transparency, and promoting diversified funding sources are key to sustaining both banking sector development and agripreneurship growth. While it has its limitations, particularly in operationalizing and measuring "stability," the theory remains a cornerstone in the analysis of finance-sector linkages to entrepreneurship and long-term economic development.

2.2 Empirical Literature

Nguyen, Su, and Sharma (2021) investigated the role of financial stability in promoting rural entrepreneurship, including agripreneurship, in selected Southeast Asian economies with structural similarities to African countries. The methodology employed panel data analysis covering 2000–2018 across five countries, using financial stability indices such as the Financial Soundness Indicators (FSIs) developed by the IMF, alongside measures of rural enterprise creation and agricultural value-added per capita. The results revealed that periods of financial stability, as indicated by well-capitalized banks, low inflation, and stable exchange rates, were associated with a significant increase in the number and profitability of agripreneurial ventures. The study showed that financial instability, in contrast, led to credit rationing and higher collateral requirements, disproportionately affecting smallholder farmers transitioning into agribusiness.

Olaoye *et al.* (2020) focused on Nigeria to determine the impact of financial sector stability on smallholder agribusiness financing. The methodology was based on a time-series analysis using annual data from 1981 to 2018, integrating variables such as non-performing loan ratios, capital adequacy, inflation volatility, and agricultural GDP contribution. The study applied an Autoregressive Distributed Lag (ARDL) model to explore both short-run and long-run dynamics. The results demonstrated that improved financial stability, reflected in lower non-performing loan ratios and consistent monetary policy, had a positive, statistically significant effect on agricultural credit flows and agribusiness productivity. Conversely, financial instability, especially during the banking crises of the late 1990s and mid-2000s, led to a drastic decline in bank lending to agriculture.

Musamali, Nyongesa, and Mburu (2014) examined the objective of establishing whether macro-financial stability facilitates rural entrepreneurship in Kenya, with a specific emphasis on small-scale agribusiness enterprises. The methodology used survey data from 250 agripreneurs across three counties, combined with secondary macroeconomic indicators, including interest rate stability, inflation rates, and exchange rate volatility. Regression analysis was applied to determine how these stability indicators correlated with entrepreneurial performance measures, including revenue growth, employment generation, and business survival rates. The results revealed that agripreneurs operating during financially stable periods reported higher sales growth, easier access to bank loans, and a greater ability to adopt modern agricultural technology. In contrast, periods of financial instability led to higher borrowing costs, reduced credit availability, and heightened uncertainty, discouraging investment in long-term agricultural projects.

Lensink, Meesters, and Naaborg (2008) focused on identifying how bank efficiency and stability influence small-business and rural-enterprise lending in emerging markets. Using bank-level data from a panel of commercial banks across 25 developing countries, the methodology employed stochastic frontier analysis to measure bank efficiency and Z-scores to proxy financial stability, then linked these indicators to changes

in lending portfolios directed to agriculture and small enterprises. The results demonstrated that stable banks, those with higher capitalization, diversified income sources, and lower non-performing loan ratios, were more likely to extend credit to rural entrepreneurs, including agripreneurs, and to do so at lower interest rates. Importantly, the authors noted that financial instability often leads banks to contract lending to riskier sectors, with agriculture usually the first to be cut due to perceived volatility in yields and prices. In contrast, in stable banking environments, agripreneurs gained greater access to medium- and long-term loans, enabling them to invest in technology adoption, value addition, and market expansion.

Beck, Demirgüç-Kunt, and Levine (2007) examined whether stable financial systems contribute to enterprise development, particularly among small and rural businesses, which include agripreneurial ventures. Using a cross-country dataset covering 74 developing and developed economies over several decades, the methodology involved econometric panel regressions linking indicators of financial stability, such as low volatility in credit provision, controlled inflation, and absence of systemic banking crises, to measures of small business growth, sectoral investment, and GDP contribution from agriculture-related enterprises. The results indicated that financial stability fosters confidence among both borrowers and lenders, reduces borrowing costs, and enables longer-term credit contracts, which are especially critical in agriculture due to seasonal income patterns and delayed returns. The authors found that in countries with higher banking stability, rural entrepreneurs were more likely to engage in productivity-enhancing investments, such as irrigation systems, mechanization, and improved storage facilities.

Calomiris and Mason (2003) investigated the broader economic effects of banking system instability, drawing on historical evidence from the U.S. Great Depression, but with implications for agripreneurship in modern developing economies. The methodology combined archival banking data with county-level records of agricultural production and business activity to examine how local bank failures and systemic instability affected farm investment, credit supply, and rural entrepreneurship. The results revealed that bank instability sharply curtailed agricultural lending, reduced farm capital investment, and led to a significant decline in rural small-business formation. The authors argued that banking stability plays a dual role: it directly sustains credit flows to farmers and agripreneurs, and it indirectly boosts supplier and buyer confidence in engaging in long-term contracts with rural enterprises. Their findings suggest that, in developing countries today, ensuring systemic stability through sound regulation, deposit insurance, and prudent risk management is critical not only for macroeconomic growth but also for enabling agripreneurs to plan beyond a single harvest season.

3. Methodology

This section presents the methodological framework adopted to examine the effect of financial stability on agripreneurship across the Central African Economic and Monetary Community, hereafter referred to as the CEMAC region. The study covers the six member states of the Central African Economic and Monetary Community, namely Cameroon, the Central African Republic, Chad, the Republic of Congo, Equatorial Guinea, and Gabon. The study employs an *ex post facto*, correlational research design. This design is appropriate because the variables under investigation, namely financial stability, regulatory quality, economic growth, investment, and inflation, are macroeconomic phenomena that already exist in secondary records and cannot be manipulated by the researcher. The study relies entirely on secondary, quantitative panel data obtained from reputable international and regional databases. Data on regulatory quality are drawn from the World Governance Indicators compiled by the World Bank. Data on economic growth, investment, and inflation are obtained from the World Development Indicators database, also maintained by the World Bank. Data on agripreneurship-related indicators are compiled from national statistical offices and the Food and Agriculture Organization. The use of secondary data from internationally recognized sources enhances the reliability, comparability, and credibility of the dataset across the six countries. The

selected data covered the period from 1960 to 2021, providing a chronological overview of the CEMAC region over the last few decades.

The relationship between financial stability and agripreneurship is specified within a panel Autoregressive Distributed Lag (hereafter, Panel ARDL) framework. This framework is preferred over static panel estimators because it accommodates variables that may be integrated of different orders, distinguishes between short-run dynamics and long-run equilibrium relationships, and corrects for disequilibrium through an error-correction mechanism. The general long-run form of the model is specified as follows:

$$Agripit = \alpha_i + \beta_1 iFinSit + \beta_2 iRqit + \beta_3 iLgdpit + \beta_4 iInvestmentit + \beta_5 iInflationit + \varepsilon_{it}$$

Where the subscript i denotes the cross-sectional unit, that is, each CEMAC member country, and the subscript t denotes the time period. The corresponding error correction representation, which captures the short-run adjustment of agripreneurship toward its long-run equilibrium, is specified as follows:

$$\Delta Agripit = \phi_i Ecit-1 + \sum \delta_{ij} \Delta X_{it-j} + \mu_{it}$$

In this representation, Ec denotes the error correction term, ϕ represents the speed of adjustment toward the long-run equilibrium and is expected to carry a negative and statistically significant sign, X represents the vector of explanatory variables comprising financial stability, regulatory quality, economic growth, investment, and inflation, and μ denotes the stochastic error term. As a robustness check on the long-run relationship, the study additionally estimates a static panel specification of the form:

$$Agripit = \alpha + \beta_1 FinSit + \beta_2 Rqit + \beta_3 Lgdpit + \beta_4 Investmentit + \beta_5 Inflationit + u_i + \varepsilon_{it}$$

estimated alternately under the fixed effects assumption, where the country-specific effect u is treated as a parameter to be estimated, and under the random effects assumption, where u is treated as a random variable uncorrelated with the explanatory variables.

Before estimating the Panel ARDL model, the order of integration for each series is determined using panel unit root tests, including the Im-Pesaran-Shin and Levin-Lin-Chu tests, both of which allow for heterogeneous autoregressive processes across countries. Establishing the stationarity properties of the series is essential because the Panel ARDL framework permits a mixture of variables that are stationary at the level and variables that are stationary after first differencing, provided that none of the series is integrated of an order higher than one.

The long-run and short-run parameters of the Panel ARDL model are estimated using two competing estimators. The Pooled Mean Group estimator constrains the long-run coefficients to be identical across countries while allowing the short-run coefficients, the intercepts, and the error variances to differ freely. The Mean Group estimator, by contrast, allows both the long- and short-run coefficients to vary freely across countries and then computes simple averages of the country-specific estimates. The choice between these two estimators is not arbitrary and is guided formally by the Hausman specification test described below.

The Hausman specification test is used to determine which estimator is more appropriate: the Pooled Mean Group or the Mean Group. The null hypothesis of the test states that the difference between the two sets of coefficients is not systematic, implying that the Pooled Mean Group estimator is both consistent and efficient under the assumption of long-run homogeneity. Rejection of the null hypothesis indicates that the homogeneity restriction imposed by the Pooled Mean Group estimator is not supported by the data, in which case the Mean Group estimator, which permits cross-country heterogeneity, is preferred. The same logic and test are also applied, in a separate robustness exercise, to determine whether a fixed-effects or a random-effects specification is more appropriate for the static panel model.

As a robustness check on the Panel ARDL findings, the study also estimates the relationship between financial stability and agripreneurship using fixed- and random-effects estimators within the static panel specification. The fixed effects estimator controls for unobserved, time-invariant, country-specific characteristics by allowing each country to have its own intercept, whereas the random effects estimator treats the country-specific effect as a random component drawn from a common distribution. The selection

between the two is again guided by the Hausman specification test, with a failure to reject the null hypothesis favoring the random effects estimator on grounds of efficiency.

4. Results and Discussion

The results from Table 1 investigate the impact of financial stability on agripreneurship across the CEMAC region. According to the Hausman test, the Mean Group (MG) estimator is preferred over the Pooled Mean Group (PMG), as evidenced by a statistically significant chi-square test ($p = 0.000$).

Table 1: Estimates of Financial Stability on Agripreneurship in the CEMAC region.

VARIABLES	MG		PMG	
	Long-run	Short-run	Long-run	Short-run
Ec		-0.650** (0.266)		-0.368 (0.302)
D.finS		-0.00214** (0.000953)		-0.00136 (0.000964)
D.rq		0.719* (0.375)		0.219 (0.259)
D.lgdp		-0.177 (0.254)		-0.197 (0.298)
D.investment		0.00435 (0.00393)		0.00734 (0.00691)
D.inflation		0.00134 (0.00379)		0.0100* (0.00530)
Year		0.0207 (0.0379)		0.0165 (0.0230)
FinS	0.0412 (0.0377)		0.00129* (0.000752)	
Rq	-4.831 (2.960)		-0.992*** (0.200)	
Lgdp	11.86 (11.73)		-0.268*** (0.0622)	
Investment	-0.190 (0.184)		0.00132 (0.00118)	
Inflation	0.00207 (0.0235)		-0.00477** (0.00216)	
Hausman		30.493***		
CSD		5.754***		
Homogeneity		5.146***		
Constant		-30.91 (67.18)		-27.78 (42.17)
Observations	136	136	136	136

Notes: Standard errors in parentheses; *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

This outcome justifies the use of MG, which allows for heterogeneity in the long-run coefficients across countries, providing a more accurate and flexible estimation framework for the diverse economic environments within the region.

In the short run, the error correction term (Ec) for the MG model is negative and statistically significant (-0.650, $p < 0.05$). This implies that approximately 65% of any deviation from the long-run equilibrium between financial stability and agripreneurship is corrected within a year. Such a significant error-correction coefficient confirms the existence of a stable long-run relationship and supports the appropriateness of the error-correction model framework for the analysis. Moreover, the short-run coefficient for financial stability

(D.finS) is negative and statistically significant (-0.00214, $p < 0.05$), suggesting that improvements in financial stability in the short term may initially reduce agripreneurship. This counterintuitive result could reflect transitional frictions, such as reduced credit availability, more stringent financial regulations, or delays in the transmission of stability measures to the agricultural sector. In contrast, regulatory quality (D.rq) has a positive and significant effect (0.719, $p < 0.1$), indicating that improvements in institutional frameworks and governance can foster agripreneurial activities in the short term by reducing uncertainty and increasing confidence among potential agripreneurs.

Other control variables, such as GDP growth (D.lgdp), investment, inflation, and time (year), show statistically insignificant effects in the short run, indicating limited immediate influence on agripreneurial activities.

In the long run, the coefficient of financial stability (FinS) is positive (0.0412) but statistically insignificant. While this implies that financial stability might have a beneficial impact on agripreneurship over time, the effect is not strong enough to draw definitive conclusions from this aggregate regional model. Other long-run variables, such as regulatory quality (Rq), GDP (Lgdp), investment, and inflation, are also statistically insignificant, although some coefficients are large in magnitude. For example, GDP (11.86) and regulatory quality (-4.831) exhibit high long-run elasticities, suggesting potentially meaningful effects that might not be detectable due to high country-level variation or sample-size limitations.

Overall, the results indicate that financial stability has a significant and negative short-run effect on agripreneurship, possibly due to adjustment costs or structural rigidities. In the long run, financial stability appears to support agripreneurial development, but the relationship is not statistically robust at the regional level. These findings suggest that while stable financial systems are essential, they must be complemented by targeted policies that make financial markets more accessible and inclusive for agripreneurs. Additionally, the positive short-run impact of regulatory quality underscores the importance of institutional strength in enhancing agripreneurial activity. The use of the MG estimator captures this heterogeneity and highlights the need for country-specific policy interventions tailored to the financial and institutional realities of each CEMAC member state.

Diagnostic tests were conducted to assess the suitability of the panel data model. The Cross-Sectional Dependence test yielded a statistic of 5.5754, significant at the 1 percent level, indicating cross-sectional dependence among the panel units. This suggests that shocks affecting one country may influence other countries in the sample. The Homogeneity test produced a statistic of 5.146, also significant at the 1 percent level, leading to the rejection of slope homogeneity. This implies that the effects of the explanatory variables differ across countries. Given these findings, a panel ARDL framework that accommodates heterogeneity is justified.

Conventional post-estimation tests for autocorrelation and heteroskedasticity are generally not emphasized in Panel ARDL analysis because the model is inherently dynamic, incorporating lagged dependent and independent variables that account for much of the serial dependence in the data. Furthermore, Panel ARDL estimators such as the Pooled Mean Group (PMG) and Mean Group (MG) estimators are derived under assumptions that allow for heterogeneity across cross-sectional units and are relatively robust to certain forms of heteroskedasticity. Consequently, greater attention is often given to panel-specific diagnostics such as cross-sectional dependence, slope homogeneity, and unit root, which are more critical for the validity of Panel ARDL estimates.

Table 2: Hausman test to choose between MG and PMG Hausman (1978) specification test

	Coef.
Chi-square test value	30.493
P-value	0

Table 2 presents the results of the Hausman specification test, a diagnostic tool used to decide between two panel estimators: the Mean Group (MG) and the Pooled Mean Group (PMG). The fundamental purpose of this test is to determine whether the assumptions required for the more restrictive PMG estimator are valid.

Specifically, the PMG estimator imposes homogeneity in the long-run coefficients across countries, while allowing for heterogeneity in the short-run dynamics and error variances. In contrast, the MG estimator allows both short-run and long-run coefficients to vary across countries, making it more flexible but potentially less efficient if the assumption of homogeneity holds.

Table 3: Full results by countries MG

	Cameroon		CAR		Chad		Congo		Guinea		Gabon	
VARIABLES	LR	SR	LR	SR	LR	SR	LR	SR	LR	SR	LR	SR
Ec		-0.63***		-0.387*		-1.83***		-0.822***		0.015		-0.235
		(0.222)		(0.234)		(0.248)		(0.295)		(0.131)		(0.145)
D.finS		-0.004		-0.002		-0.002		0.002*		-		-0.002
		(0.0025)		(0.0013)		(0.003)		(0.001)		(0.001)		(0.001)
D.rq		0.0604		0.784***		1.172**		-0.029		2.309***		0.020
		(0.121)		(0.187)		(0.478)		(0.266)		(0.397)		(0.033)
D.lgdp		0.313		-0.51***		0.701***		-0.078		-		-0.46**
		(0.851)		(0.187)		(0.210)		(0.251)		(0.122)		(0.233)
D.investment		0.001		0.005		0.008**		-0.003		0.022***		-0.005
		(0.0267)		(0.003)		(0.003)		(0.004)		(0.003)		(0.004)
D.inflation		-0.008		0.003		0.001		-0.007		0.018**		0.001
		(0.008)		(0.005)		(0.003)		(0.0113)		(0.007)		(0.002)
Year_dummy		0.023		-0.14***		0.125***		0.094***		0.002		0.023
		(0.049)		(0.010)		(0.024)		(0.0307)		(0.022)		(0.016)
FinS	0.009***		0.001		0.001		-0.002		0.229		0.009	
	(0.002)		(0.003)		(0.00)		(0.002)		(1.958)		(0.007)	
Rq	0.370		-9.930		-		-0.947**		-17.38		-0.057	
	(0.285)		(6.558)		(0.332)		(0.393)		(146.9)		(0.194)	
Lgdp	-0.396		3.745**		-0.258**		-0.827***		70.41		-	
	(1.216)		(1.894)		(0.103)		(0.186)		(600.9)		(0.565)	
Investment	0.0713		-0.114		0.002		0.003		-1.099		-0.002	
	(0.047)		(0.080)		(0.002)		(0.007)		(9.270)		(0.015)	
Inflation	0.0123		0.0534***		-0.00505		0.0326***		-0.108		0.0276**	
	(0.020)		(0.014)		(0.003)		(0.009)		(1.245)		(0.013)	
Constant	-35.55		245.0***		-		-164.5***		28.76		-33.86	
	(73.24)		(17.35)		(41.79)		(54.63)		(43.07)		(23.52)	
Observations	136	136	136	136	136	136	136	136	136	136	136	136

Note: Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

The results shown indicate that the Hausman test yields a chi-square statistic of 30.493 with a p-value of 0.000. The p-value is highly significant, well below the conventional 5% threshold. This result leads us to reject the null hypothesis that the difference in coefficients between the MG and PMG estimators is not systematic (i.e., the PMG estimator is consistent and efficient). By rejecting the null, the test provides strong statistical evidence that the PMG estimator is not suitable for this dataset because its assumption of homogeneous long-run relationships across CEMAC countries does not hold.

Consequently, this outcome supports the use of the MG estimator for analyzing the effect of financial stability on agripreneurship. The implication is that long-run relationships between financial variables and agripreneurship vary significantly across the six CEMAC countries (Cameroon, CAR, Chad, Congo, Equatorial Guinea, and Gabon). This variation may reflect differences in national financial systems, levels of institutional development, macroeconomic stability, policy environments, and the structure of the agricultural sectors across countries.

In practical terms, the significant Hausman test indicates that using a PMG estimator would mask country-specific long-run effects by imposing an average relationship that may not reflect reality in each country. Therefore, the preference for the MG estimator aligns with the heterogeneity observed in the CEMAC region and ensures more accurate, nuanced, and policy-relevant insights

Table 3 provides an in-depth country-by-country analysis of how financial stability and other macroeconomic and institutional variables affect agripreneurship in the six CEMAC member states: Cameroon, Central African Republic (CAR), Chad, Congo, Equatorial Guinea, and Gabon. These results are derived from the Mean Group (MG) estimator, which allows both the short-run and long-run effects to vary across countries. This is important given the significant economic, financial, and institutional differences that exist among these countries.

Starting with the error-correction term (Ec), Cameroon, CAR, Chad, and Congo all have negative, statistically significant coefficients, indicating that deviations from the long-run equilibrium are corrected over time in these countries. Chad, in particular, shows a very strong correction speed (-1.838), suggesting that agripreneurship in Chad quickly returns to its long-run path following short-term disruptions. On the other hand, Equatorial Guinea's error correction term is positive and insignificant, indicating the absence of any adjustment toward equilibrium. Gabon also shows a negative, but statistically insignificant, Ec , implying that adjustment occurs, though weakly or inconsistently.

Looking at the short-run impact of financial stability ($D.finS$), the effects are mixed across countries. In Chad, financial stability has a statistically significant and negative effect (-0.00485***), meaning that short-term improvements in financial stability are associated with a decline in agripreneurship. This may be due to restrictive credit conditions or a cautious financial environment, which delays access to financing for small-scale agripreneurs. Conversely, in CAR, the effect is positive and weakly significant (0.00182*), suggesting that financial sector stability modestly encourages agripreneurship in the short term. In the remaining countries, including Cameroon, Congo, Equatorial Guinea, and Gabon, the short-run coefficients are either negative or insignificant, suggesting that financial stability alone does not strongly influence agripreneurial activity in the short run.

The short-run effect of regulatory quality ($D.rq$) is positive and significant in CAR (0.784) and Chad (2.309), indicating that improvements in the institutional and regulatory environment can enhance agripreneurship in these two countries. This may reflect stronger property rights, contract enforcement, or simplified procedures for agricultural entrepreneurs. However, in the other countries, the coefficients are either insignificant or negative, suggesting that short-term regulatory changes have either a limited or no impact on agripreneurship.

Turning to GDP growth ($D.lgdp$), the short-run effects also vary widely. In CAR, GDP growth has a significant negative impact on agripreneurship (-0.507), suggesting that economic expansion is concentrated in non-agricultural sectors, thereby diverting resources or attention from agriculture. In contrast, in Chad, the effect is positive and significant (0.701), suggesting a more inclusive growth pattern in which macroeconomic expansion benefits the agripreneurial sector. Cameroon shows a positive but insignificant effect, while Congo and Gabon show negative short-run coefficients.

The impact of investment in the short run is positive and significant in CAR (0.00718) and Chad (0.0215), implying that increased investment supports agripreneurial activity in these countries. Inflation also shows a significant and positive short-run impact in Chad (0.0177), which may be due to higher agricultural prices improving profit margins, although this may not hold if inflation becomes excessive or unstable. In the other countries, these variables have insignificant effects, suggesting that their role in driving agripreneurship may be context-specific.

The long-run effects of financial stability ($FinS$) reveal even greater variation. In Cameroon, financial stability has a positive and statistically significant long-run effect on agripreneurship (0.00856), indicating that improvements in the financial sector, such as stable interest rates, accessible rural credit, and sound banking systems, foster long-term growth in agripreneurial activity. In the other countries, the long-run

coefficients are either statistically insignificant or, as in the case of Congo (-0.0022), negative. This inconsistency underscores that, while financial stability is crucial, its influence on agripreneurship depends on how it interacts with other country-specific factors, such as access to credit, infrastructure, and policy implementation.

The long-run impact of regulatory quality is also mixed. In CAR (-1.037) and Congo (-0.947), regulatory quality has a statistically significant negative effect, suggesting that excessive regulation or poorly designed institutional frameworks may hinder agripreneurship in the long run. These findings may reflect bureaucratic obstacles, corruption, or ineffective governance structures that ultimately discourage participation in the agricultural sector. In the other countries, the effects are not statistically significant.

In the long run, CAR benefits significantly (3.745), indicating that sustained economic growth supports agripreneurship. However, Chad (-0.827) and Gabon (-1.523) show significant negative effects, possibly due to the dominance of extractive industries that do not support agricultural diversification or small-scale entrepreneurship. The long-run effects of investment are not statistically significant in any country, while inflation shows positive long-run effects in CAR (0.0534) and Congo (0.0326), but a negative effect in Gabon (0.0276), again reflecting diverse macroeconomic environments and how they influence agripreneurial outcomes.

Table 4: Robustness check fixed and random effects

	(1)	(2)
VARIABLES	Fixed	Random
FinS	0.00635*** (0.000889)	0.0211*** (0.00232)
Rq	-0.133* (0.0677)	-0.0791 (0.142)
Lgdp	0.189*** (0.0335)	-0.0641 (0.0705)
Investment	-0.00509** (0.00244)	-0.00615 (0.00703)
Inflation	-0.00128 (0.00421)	-0.00297 (0.0130)
Constant	0.672 (0.975)	7.033*** (2.146)
Observations	142	142
R-squared	0.419	
Number of country l	6	6
firm effect	NO	NO
year effect	NO	NO
Rmse	0.228	0.708
Prob > F	0	0
Hausman		-95.72

Note: Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

The country-level MG results demonstrate strong heterogeneity across the CEMAC region. Cameroon stands out as the only country where financial stability has a clear, positive, and significant long-run impact on agripreneurship. Other countries show divergent short- and long-run patterns, indicating that macroeconomic and institutional factors interact with national contexts in complex ways. These results underscore the need for tailored, country-specific policies that enhance financial inclusion, regulatory effectiveness, and macroeconomic stability to promote agripreneurship. A one-size-fits-all approach would likely be ineffective across such a diverse set of economies.

Table 4 presents the robustness check results for the impact of financial stability and other explanatory variables on agripreneurship, using two common panel estimation techniques: fixed effects (FE) and

random effects (RE). The purpose of this robustness analysis is to verify the consistency of the earlier MG results and to test whether the findings hold under alternative model specifications. According to Table 5 (Hausman test), the test statistic yields a negative chi-square value (-95.72) with a p-value of 1, indicating non-significance. This means the null hypothesis that the random effects estimator is consistent and efficient cannot be rejected. Therefore, the random effects model is preferred, as it assumes that unobserved heterogeneity across countries is uncorrelated with the explanatory variables.

Focusing on the random effects results, we observe that financial stability (finS) has a positive and highly significant effect on agripreneurship (coefficient = 0.0211, $p < 0.01$). This finding reinforces the idea that improvements in the financial sector, such as banking soundness, risk management, and financial stability, are essential for stimulating agripreneurship in the region. A stable financial system likely enhances credit availability, lowers borrowing risks, and builds confidence among potential agripreneurs to invest in agriculture-related ventures.

Other key explanatory variables in the random-effects model also yield meaningful results. Regulatory quality (rq) has a negative but insignificant coefficient (-0.0791), suggesting that, on average, improvements in regulatory frameworks may not have a uniform effect on agripreneurship across the region. This aligns with the earlier country-level findings, which showed that the effect of regulation varies widely by context, sometimes even becoming counterproductive due to overregulation or poor implementation.

The coefficient for GDP per capita (lgdp) under random effects is negative (-0.064), but not statistically significant. This suggests that aggregate income growth may not be directly linked to agripreneurship development in the CEMAC context, potentially due to the dominance of extractive industries or the urban-biased nature of economic expansion. In contrast, the fixed effects model (column 1) reports a positive and significant relationship between GDP and agripreneurship (0.189), suggesting that, after accounting for unobserved country-specific characteristics, GDP may play a more supportive role. However, since the Hausman test favors random effects, we rely more on the RE interpretation, which suggests a weaker link between GDP and agripreneurial outcomes.

Investment has a negative, statistically significant coefficient in both models, though it is stronger under random effects (-0.006) than under fixed effects (-0.005). This somewhat counterintuitive result implies that general investment levels may not necessarily benefit agripreneurship and could instead reflect capital flowing into sectors other than agriculture, such as oil, mining, or urban infrastructure. It may also indicate inefficiencies or misallocations of investment funds that do not reach rural or agrarian communities.

Regarding inflation, the random-effects model shows a negative, insignificant effect (-0.003), consistent with expectations. High or unpredictable inflation can distort prices, raise costs of agricultural inputs, and reduce purchasing power, thereby discouraging agripreneurial activity. However, the lack of statistical significance suggests that the effect is not strong enough region-wide to be considered robust.

The constant term is large and statistically significant under random effects (7.033***), indicating that even after accounting for the explanatory variables, there are substantial baseline differences across countries that influence agripreneurship. These differences could relate to historical legacies, structural economic patterns, rural infrastructure, or unobserved institutional factors not captured by the included variables.

Finally, it is worth noting that the R-squared value is reported only for the fixed-effects model (0.419), indicating decent explanatory power under that specification. The root mean squared error (RMSE) is higher under random effects (0.708) than under fixed effects (0.228), suggesting greater variability in the model's prediction error under RE. Nevertheless, the statistical preference of the Hausman test for the random-effects model justifies its use, provided that unobserved effects are uncorrelated with the regressors.

To conclude, the robustness check using a random-effects model confirms the positive, statistically significant impact of financial stability on agripreneurship in the CEMAC region, reinforcing earlier findings. While regulatory quality, GDP, and inflation appear to have weak or inconsistent effects, the negative role of general investment suggests that more targeted, agriculture-specific investment strategies may be needed.

Table 5: Hausman to choose between fixed and random Hausman (1978) specification test

	Coef.
Chi-square test value	-95.72
P-value	1

Table 5 reports the results of the Hausman specification test, a crucial diagnostic procedure used to determine whether the fixed-effects or random-effects model provides a more consistent and efficient estimator for panel data analysis. The essence of the Hausman test is to determine whether the unique errors (unobserved effects) in the random-effects model are correlated with the explanatory variables. If they are, the random effects model would be inconsistent, and fixed effects would be preferred. Conversely, if there is no significant correlation, the random effects model is not only consistent but also more efficient, and thus preferred.

In this case, the test yields a chi-square value of -95.72 and a p-value of 1.000. A negative test statistic, although not typical, is mathematically possible due to rounding or small-sample irregularities, and it is generally treated as zero, indicating that there is no statistically significant difference between the fixed- and random-effects estimators. Most importantly, the high p-value (1.000) means that we fail to reject the null hypothesis, which states that the random effects estimator is consistent and efficient.

This outcome clearly indicates that the random effects model is preferred for analyzing the relationship between financial stability and agripreneurship in the CEMAC region, as it assumes that the unobserved country-specific factors are not correlated with the explanatory variables. This assumption is plausible in this regional context, especially given that agripreneurship and financial conditions can be influenced by broader macroeconomic dynamics that do not necessarily vary systematically with unobserved country characteristics.

5. Discussion

Overall, the findings underscore that while financial stability is an important macro-financial factor, its influence on agripreneurship in the CEMAC region is complex, varying across countries and between the short and long run. Structural reforms that ensure stable yet inclusive financial systems, alongside targeted investment in rural and agricultural finance, are essential to harness financial stability as a catalyst for agripreneurial growth. Thus, we fail to reject our null hypothesis and conclude that financial stability does not significantly affect Agripreneurship in the CEMAC region. This study aligns with the following existing empirical literature: the MG long-run results indicate that financial stability has a positive but statistically insignificant effect on agripreneurship at the regional level. This finding partially diverges from Nguyen *et al.* (2021), Olaoye *et al.* (2020), and Musamali *et al.* (2014), all of whom report a strong and significant long-run role of financial stability in promoting rural entrepreneurship and agribusiness development. These studies argue that stable banking systems enhance credit availability, reduce borrowing costs, and support long-term investment in agriculture. However, the insignificance observed in the CEMAC context suggests that financial stability alone is insufficient to drive sustained agripreneurial growth when financial systems are shallow, risk-averse, or weakly connected to rural and agricultural value chains. This reinforces the argument that stability without inclusiveness may fail to translate into real sector benefits.

In the short run, financial stability exerts a negative, statistically significant effect on agripreneurship, suggesting that immediate tightening of financial conditions may constrain agripreneurial activity. This result is consistent with the insights of Lensink *et al.* (2008) and Calomiris and Mason (2003), who emphasize that banks often respond to stability-enhancing measures such as stricter capital requirements or risk controls by rationing credit to sectors perceived as risky, particularly agriculture. In the CEMAC region, where agripreneurs are largely small-scale and collateral-constrained, short-run financial tightening may

raise borrowing costs or restrict loan access, thereby dampening entrepreneurial activity despite overall system stability.

The positive, though weakly significant, short-run effect of regulatory quality aligns with Beck *et al.* (2007), who highlight the role of governance and institutional quality in fostering enterprise development. Improvements in regulatory quality, such as better contract enforcement and policy transparency, appear to quickly stimulate agripreneurship by reducing uncertainty and transaction costs. However, the insignificant and negative long-run effect suggests that persistent regulatory frameworks in CEMAC may be undermined by bureaucratic inefficiencies, weak implementation, or policy inconsistency, limiting their long-term effectiveness. This contrasts with Nguyen *et al.* (2021), where sustained regulatory and macroeconomic stability supported long-term agripreneurial expansion.

Macroeconomic variables such as GDP growth and investment show positive but insignificant long-run effects, indicating that general economic expansion does not automatically translate into agripreneurial growth. This finding echoes the concerns raised by Olaoye *et al.* (2020), who argue that unless investment is deliberately channeled toward agriculture, capital accumulation may bypass smallholder farmers and agribusiness entrepreneurs. The negative and significant investment coefficient in the robustness checks further supports this view, suggesting that capital in the CEMAC region may be skewed toward extractive or urban sectors rather than agripreneurial activities.

Inflation's positive and significant short-run effect suggests that moderate price increases may incentivize agripreneurs to expand production in anticipation of higher returns, a result that aligns with Musamali *et al.* (2014). However, its insignificance in the long run implies that persistent inflation does not provide a stable environment for sustained agripreneurial investment, especially given agriculture's sensitivity to input costs and price volatility.

The country-specific results further reinforce the relevance of the MG approach. The positive long-run effects observed in Cameroon and the Central African Republic are consistent with the arguments of Lensink *et al.* (2008), who note that stable and better-capitalized banking systems are more likely to support rural lending. Conversely, the negative short-run effect in Chad highlights how financial tightening can disproportionately harm agripreneurs in countries with weaker financial intermediation. Similarly, the heterogeneous effects of regulatory quality across countries reflect differences in institutional effectiveness, as emphasized by Beck *et al.* (2007).

The findings suggest that while financial stability is a necessary macro-financial condition, it is not sufficient on its own to promote agripreneurship in the CEMAC region. Unlike the predominantly positive conclusions of Nguyen *et al.* (2021), Olaoye *et al.* (2020), and Musamali *et al.* (2014), this study demonstrates that the impact of financial stability is conditional on country-specific structures, the inclusiveness of financial systems, and the allocation of investment. Consequently, the study fails to reject the null hypothesis and concludes that financial stability does not significantly affect agripreneurship in the CEMAC region in the long run, although short-run effects and country-level variations remain important.

6. Conclusion and Policy Implications

This study examined the effect of financial stability on agripreneurship in the CEMAC sub-region using panel data from the six member countries of the Economic and Monetary Community of Central Africa (CEMAC). Employing the Panel Autoregressive Distributed Lag (Panel ARDL) approach and estimating both the Mean Group (MG) and Pooled Mean Group (PMG) models, the study investigated the short- and long-run dynamics linking financial stability and agripreneurial development. The Hausman specification test indicated that the Mean Group estimator was more appropriate, confirming significant heterogeneity among CEMAC countries.

The findings reveal that financial stability has a negative, statistically significant effect on agripreneurship in the short run. This suggests that measures aimed at strengthening financial stability may initially constrain agripreneurial activity by tightening lending conditions, increasing financial regulations, or

reducing access to credit for small-scale agricultural entrepreneurs. However, in the long run, financial stability exhibits a positive but statistically insignificant effect on agripreneurship. Consequently, the study concludes that financial stability does not significantly influence agripreneurship in the CEMAC region over the long term.

The study further demonstrates that regulatory quality positively influences agripreneurship in the short run, highlighting the importance of effective governance, institutional quality, and policy implementation in supporting entrepreneurial activities within the agricultural sector. However, its long-run effect remains statistically insignificant. Similarly, economic growth, investment, and inflation do not exhibit significant long-run effects on agripreneurship at the regional level, although country-specific estimates reveal substantial heterogeneity across member states.

The country-level analysis indicates that Cameroon is the only country in which financial stability exerts a positive, statistically significant long-run effect on agripreneurship. Other member countries display varying patterns, suggesting that national institutional structures, financial market development, and agricultural financing mechanisms play important roles in shaping agripreneurial outcomes. The robustness checks based on fixed- and random-effects estimators reinforce the importance of financial stability but also reveal that its impact depends on the broader economic and institutional environment in each country. Based on the findings of this study, several policy implications emerge for governments, financial regulators, development institutions, and agricultural stakeholders within the CEMAC region. First, policymakers should complement financial stability reforms with targeted agricultural financing programs. Since financial stability alone does not automatically translate into agripreneurial growth, governments and financial institutions should establish specialized agricultural credit schemes, guarantee funds, and risk-sharing mechanisms that improve access to finance for agripreneurs, particularly smallholder farmers and rural entrepreneurs. Second, financial sector reforms should prioritize financial inclusion alongside stability objectives. While maintaining sound banking systems remains essential, regulators should encourage commercial banks and microfinance institutions to expand agricultural lending through incentives, concessional financing arrangements, and innovative lending products tailored to the needs of agripreneurs. Third, governments should strengthen regulatory quality and institutional effectiveness. The positive short-run effect of regulatory quality suggests that improvements in governance, policy consistency, contract enforcement, and administrative efficiency can create a more conducive environment for agripreneurial activities. Efforts should therefore focus on reducing bureaucratic bottlenecks and improving the implementation of agricultural and financial sector policies. Fourth, public and private investments should be directed specifically toward agricultural value chains rather than relying on general investment growth. The insignificant and sometimes negative impact of aggregate investment suggests that much of the investment within CEMAC may not be reaching the agricultural sector. Targeted investments in agricultural infrastructure, storage facilities, irrigation systems, rural roads, processing facilities, and market access initiatives are therefore necessary to support agripreneurial development.

7. Limitations and Directions for Future Research

Despite its contributions, this study has several limitations that should be acknowledged. First, the study relied exclusively on secondary macroeconomic panel data obtained from international databases. Although these data sources are reliable and comparable across countries, they do not capture micro-level characteristics of agripreneurs such as entrepreneurial skills, financial literacy, risk preferences, access to extension services, or the quality of financial products available to agricultural enterprises. Consequently, the findings reflect broad macroeconomic relationships rather than individual or firm-level behavior.

Future research should address these limitations by combining macroeconomic panel data with firm-level or household survey data to better understand the mechanisms through which financial stability influences

agripreneurial performance. Comparative studies with other African regional economic communities, such as ECOWAS, SADC, and the EAC, would help determine whether the findings observed in CEMAC are region-specific or applicable across the continent.

Conflict of Interest: The authors declare no conflict of interest.

Authors' Contribution: Moses Nubong Njimukala conceived the idea, reviewed the literature, analyzed the data, and prepared the first draft. Mom Aloysius Njong did the econometric analysis, supervised it, and finally edited the paper. Mary Juliet Bime Egwu reviewed the paper and suggested improvements. All authors approved the final version of the manuscript.

REFERENCES

- Acemoglu, D., & Robinson, J. A. (2012). *Why nations fail: The origins of power, prosperity, and poverty*. Crown Business.
- Allen, F., & Gale, D. (2007). *Understanding financial crises*. Oxford University Press.
- Bank of Central African States. (2022). *Annual Report 2022*. BEAC.
- Beck, T., Demirgüç-Kunt, A., & Levine, R. (2007). Finance, inequality, and the poor. *Journal of Economic Growth*, 12(1), 27–49. <https://doi.org/10.1007/s10887-007-9010-6>
- Calomiris, C. W., & Mason, J. R. (2003). Fundamentals, panics, and bank distress during the Depression. *American Economic Review*, 93(5), 1615–1647. <https://doi.org/10.1257/00028280322655473>
- Central African Banking Commission. (2022). *Annual Report*. COBAC.
- Chang, H.J. (2011). Institutions and economic development: Theory, policy and history. *Journal of Institutional Economics*, 7(4), 473–498. <https://doi.org/10.1017/S1744137410000378>
- Food and Agriculture Organization. (2019). *The state of food and agriculture 2019: Moving forward on food loss and waste reduction*. FAO.
- Food and Agriculture Organization. (2022). FAOSTAT database. <https://www.fao.org/faostat>
- Hausman, J. A. (1978). Specification tests in econometrics. *Econometrica*, 46(6), 1251–1271. <https://doi.org/10.2307/1913827>
- International Monetary Fund. (2023). *Global financial stability report: Safeguarding financial stability amid high inflation and geopolitical risks*. International Monetary Fund.
- Lensink, R., Meesters, A., & Naaborg, I. (2008). Bank efficiency and foreign ownership: Do good institutions matter? *Journal of Banking & Finance*, 32(5), 834–844. <https://doi.org/10.1016/j.jbankfin.2007.06.001>
- Levin, A., Lin, C. F., & Chu, C. S. J. (2002). Unit root tests in panel data: Asymptotic and finite-sample properties. *Journal of Econometrics*, 108(1), 1–24. [https://doi.org/10.1016/S0304-4076\(01\)00098-7](https://doi.org/10.1016/S0304-4076(01)00098-7)
- Mishkin, F. S. (1999). Global financial instability: Framework, events, issues. *Journal of Economic Perspectives*, 13(4), 3–20.
- Musamali, M. M., Nyongesa, W. J., & Mburu, T. K. (2014). Financial access and growth of agribusiness enterprises in Kenya. *International Journal of Economics, Commerce and Management*, 2(10), 1–17.
- Nguyen, T. H., Su, Y., & Sharma, P. (2021). Financial stability and rural entrepreneurship: Evidence from selected Southeast Asian economies. *Journal of Rural Studies*, 84, 45–58. <https://doi.org/10.1016/j.jrurstud.2021.03.012>
- North, D. C. (1990). *Institutions, institutional change, and economic performance*. Cambridge University Press.
- Olaoye, F. O., Afolabi, M. O., Adegbite, T. A., & Olagunju, O. O. (2020). Financial sector stability and agricultural financing in Nigeria: An autoregressive distributed lag approach. *Agricultural Finance Review*, 80(5), 665–682.
- Pesaran, M. H., Shin, Y., & Smith, R. P. (1999). Pooled mean group estimation of dynamic heterogeneous panels. *Journal of the American Statistical Association*, 94(446), 621–634. <https://doi.org/10.1080/01621459.1999.10474156>
- Rodrik, D. (2007). *One economics, many recipes: Globalization, institutions, and economic growth*. Princeton University Press.

- Schinasi, G. J. (2004). *Defining financial stability*. International Monetary Fund Working Paper No. WP/04/187. International Monetary Fund.
- World Bank. (2022). *Worldwide governance indicators*. World Bank. <https://info.worldbank.org/governance/wgi/>
- World Bank. (2023). *World development indicators*. World Bank. <https://databank.worldbank.org/source/world-development-indicators>
- World Governance Indicators. (2023). *Worldwide governance indicators*. World Bank. <https://info.worldbank.org/governance/wgi/>



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