

Financial integration and economic growth in Africa

 NGO Yonga Debra Blanche^a †

^a University of Douala, Cameroon.

 NGO NONGA Fidoline^b

^b University of Yaoundé II, Cameroon.

✉ blancheyonga@gmail.com (Corresponding author)

History of the article

Received: 25 March 2024

Revised: 16 July 2024

Accepted: 25 July 2024

Published: 12 August 2024

Keywords

African countries
Economic growth
Financial integration
Generalized moments method.

ABSTRACT

The main objective of this article is to assess the link between financial integration and economic growth in African countries during the period 1990-2017. To achieve this goal, we used a dynamic panel model using the generalized method of moments (GMM) in first difference with threshold effects on a sample of 29 African countries. The results of the estimates reveal, on the one hand, that the countries that benefit from the benefits of financial integration on economic growth are those with high trade and financial openness, high human capital, low inflation, democratic regime, and high public expenditure. On the other hand, these results indicate that financial integration is associated with a low probability of surviving a banking crisis in the countries studied. Thus, the governments of African countries must implement policies aimed at a progressive liberalization of trade and financial activities, coupled with the implementation of macroeconomic stability policies and the improvement of the quality of the institutional environment, which determines the impact of financial integration on economic growth.

Contribution/Originality: This study differs from other research in that it focuses on the impact of capital account liberalization on financial development and examines the effect of financial integration on the economic growth of African countries.

DOI: 10.55493/5004.v14i3.5152

ISSN(P) : 2306-983X/ ISSN(E) : 2224-4425

How to cite: Blanche, N. Y. D., & Fidoline, N. N. (2024). Financial integration and economic growth in Africa. *Asian Journal of Empirical Research*, 14(3), 60-66. 10.55493/5004.v14i3.5152

© 2024 Asian Economic and Social Society. All rights reserved.

1. BACKGROUND

Financial integration can be defined as a process of strengthening interactions between national financial systems (banks and/or financial markets) at the global and regional levels. First, it creates larger financial spaces; second, it shapes the regional and global allocation of savings and credit to the most productive investments; and third, it promotes economies of scale and enhances competition, including through the progressive harmonization of regulations. Financial integration also reduces the costs of financial transactions and increases the availability of financing. Overall, it can be said that financial integration leads to an efficient financial system, and is therefore a factor for economic growth and development.

However, in developing countries and some developed countries, financial integration can be associated with increasing risks of contagion, as shown by the global financial crisis of 2008-2009, which highlighted the feedback effects between the real and financial spheres.

At present, African countries benefit very little from international financial flows and are therefore not very vulnerable to short-term speculation and the spillover effects of banking crises, especially those countries with limited convertibility or fixed exchange rate regimes. However, they are highly vulnerable to fluctuations in commodity prices, due to their high specialization in agricultural commodities and/or mining.

On this continent, financial liberalization policies were adopted in the late 1980s and early 1990s, under the impetus of the major international financial institutions. These financial liberalization policies seem to have become disconnected from the continent's economic integration strategies.

The interest shown by African states in economic integration is easily explained. Given the small size of African economies, projects aimed at developing production exclusively for domestic markets do not have strong multiplier effects. On the other hand, the structural handicaps associated with the low level of development of these countries (the majority of which are among the poorest in the world) and the difficulties they face in penetrating external markets may justify the desire to protect certain trade activities. The signing in Kigali in December 2019 by 54 African states of the plan to set up the African Continental Free Trade Area (AfCFTA) is an important step towards the economic integration of all countries on the continent. The success of this program depends on accelerating financial integration. Financial integration could therefore be seen as an essential step in the development of African economies and their profitable opening to the world market.

Defined as a process of strengthening interactions between national financial systems (banking and/or financial markets) at the global and regional levels (Baele, Ferrando, Hördahl, Krylova, & Monnet, 2004) financial integration seems to be an opportunity for Africa's development. It could enable the African continent to achieve attractive growth rates. This is also the opinion of the African Development Bank (2016) which considers that with an average gross domestic product growth rate of 3.5% in 2017, the growth of African countries was higher than the world growth rate (3.1%) and much higher than that of the euro zone, which averaged 1.8%. For this continental institution, with good financial integration, Africa could, in terms of rapid economic growth, rank second in the world, just behind East Asia (AfDB, 2016).

2. A BRIEF OVERVIEW OF THE EMPIRICAL LITERATURE

The analysis of the relationship between financial integration and economic growth remains relevant, since it was established with the construction of economic and monetary unions at the end of the 1990s.

Studies based on the theory of financial liberalization (R. I. McKinnon, 1973; Shaw, 1973) considers that financial liberalization can have a positive impact on financial integration, which in turn affects economic growth endogenously.

Since the 1990s, the impact of financial integration on macroeconomic performance has been the subject of a large number of econometric analyses. The results of these studies, both in Africa and abroad, show that it is difficult to establish a strong relationship between financial integration and economic growth.

Indeed, some studies find a positive and significant impact of capital account liberalization on growth, while others reject such a relationship. The study of Quinn (1997) is one of the first to find a positive link between capital account liberalization and growth. It adds to the set of variables included in a standard growth regression a variable representing its index of change in financial openness (called the intensity index). Quinn's empirical estimates indicate that capital account opening has a very significant effect on real gross domestic product (GDP) per capita in a sample of 58 countries over the period 1960-1989. Bailliu (2000) also notes that capital account liberalization stimulates economic growth by promoting financial development. It shows that the degree of liberalization (as measured by the Quinn Index and the change in that index) is positively associated with strong growth in gross domestic product (GDP) per capita using a sample of 60 countries based on data from the 1980s. His conclusion is that capital inflows promote economic growth, but only in economies where the banking sector has reached a certain level of development.

Arteta, Eichengreen, and Wyplosz (2001) point out that there could be threshold effects: the free movement of capital only seems to have a positive impact on the real sphere after a minimum level of development, institutions and the legislative framework play a key role. Appropriate banking regulation would therefore reduce the adverse effects of information asymmetry.

Bekaert, Harvey, and Lundblad (2005) show that capital account liberalization stimulates economic growth. Their result is statistically significant over the period 1980-1997 and in groups¹ from different countries. The generalized time method associated with the standard growth model is the means by which they were able to demonstrate this relationship. Klein and Olivei (2008) Used a sample of developed and developing countries and data for the period 1976-1995. The authors show that financial integration has a positive impact on growth, but only for industrialised countries. This study differs from other research in that it focuses on the impact of capital account liberalization on financial development and thus examines the effect of financial development on growth. According to the two authors, this divergence in results can be explained by the different levels of financial development between industrialized and developing countries, which is considered an important determinant of growth.

Contrary to the findings of the studies identified above, several other authors deny that there is a positive and significant correlation between the degree of financial openness and economic growth, or at best conclude that the effect of financial integration on growth is mixed. The work of Alesina, Grilli, and Milesi-Ferretti (1994) on the one hand, and Grilli and Milesi-Ferretti (1995) on the other hand, can be considered as the first studies to have highlighted the absence of links between the degree of financial integration and economic growth. Rodrik (1998) casts doubt on the effect of capital account liberalization on growth. In his sample of nearly a hundred developed and developing countries, and over a period from 1975 to 1989, Rodrik does not find, using the share index², a significant

¹The groups include 95, 75, 50 and 25 countries, respectively.

²The Share index consists of establishing, for each country, a variable corresponding to the percentage of years during which the capital accounts of those countries were opened (according to the IMF's Annual Report on Exchange Rate Regimes and Restrictions). Thus, if the report judged that the financial markets had been free

effect of this liberalization on the percentage change in real per capita income (Kraay, 1998) also finds no significant relationship between the degree of capital account liberalization and growth, using various measures of capital account opening. Kraay's studies cover a variable sample of countries (64, 94 or 117) over the period 1985-1997. The author shows that there is no significant effect by using indicators of restrictions on capital transactions as measures of the degree of financial liberalization. On the other hand, the results are mixed when these measures are combined with volume indicators (net capital flows) obtained from balance of payments statistics.

Similarly, the results obtained by Edison, Klein, Ricci, and Slok (2002) show that the estimated effect on economic growth of opening up the capital account or liberalizing stock markets is mixed. On the one hand, by using an indicator of capital account opening, these authors show that this effect is greater in the case of developing countries than in that of industrialized countries, and, on the other hand, by maintaining the degree of liberalization of stock markets, the results also indicate very significant effects for both developing and industrialized countries. The Reisen and Soto (2001) examines six types of capital flows (Foreign Direct Investment, Equity Portfolio Investment, Bond Portfolio Investment, Long-Term Bank Loans, Short-Term Bank Loans, and Official Flows) to test the relationship between financial integration and economic growth.

The estimate covers 44 countries for the period 1986-1997. Of the six types of capital flows, only FDI (foreign direct investment) and portfolio investment in equities are positively correlated with the growth rate. Similarly, on the basis of the argument that the effects of financial integration on growth depend on the level of development of the economy, Edwards (2001) shows that the degree of capital account liberalization has no effect on growth in the case of developing countries.

In a synthesis of the work proposed by Kose, Prasad, Rogoff, and Wei (2006) No significant relationship has been established between financial integration and growth. The liberalization processes depend on the specificities of the economies in question, so that the lifting of controls will depend more on the degree of intermediation than on the level of income of the country (Edison et al., 2002). At the same time, and beyond the plurality of methods used to construct capital account liberalization indicators, panel studies have proved ill-suited to capturing the effect of liberalization, which is part of a continuous process, resulting in an underestimation of the benefits of liberalization, which would really become apparent from the fifth year onwards (Henry, 2007).

Specifically, in Africa, some authors argue that financial integration can have negative effects on growth. This is the idea conveyed by the work of Ekpo and Chuku (2017) and Mougani (2006). They concluded that financial integration does not have a positive impact on economic growth in Africa, as it increases volatility. On the other hand, some empirical studies, such as those of Allegret and Azzabi (2014) and Wakeman-Linn and Wagh (2008) show that financial integration indirectly improves economic growth, particularly through financial development channels and the quality of institutions. Abdullahi D Ahmed and Mmolainyane (2014) and Ahmed (2016) concluded that the positive effects were greater in southern African countries.

3. METHODOLOGY

3.1. Data sources

To achieve our goal, we used data from two sources. Data on financial integration were drawn from World Development Indicators (WDI) (2018) statistics, which provided data on the following variables :

- Trade openness as measured by the sum of exports and imports in relation to GDP (noted).
- The level of financial development approximated by the credit granted to the private sector as a percentage of GDP (denoted credit Pr).
- Macroeconomic stability and the ratio of public expenditure to GDP (noted Mr. Degov).

Data on institutional quality captured by the level of democracy (Polity2) and the sustainability of the regime (rated Durablreg) come from the databases of the Polity IV project (Marshall, Ted, & Keith, 2019). These databases provide information on a dataset of 29 African countries. The study period extends from 1990 to 2017. The choice of this time horizon is justified by the availability of data and the level of progress in the implementation of financial liberalization policies (Chouchane-Verdier, 2004).

3.2. Specification of the FD-GMM model with threshold effects

To study the effect of financial integration on economic growth, we used the dynamic panel data estimator called the Generalized First Difference Moment Method (FD-GMM) inspired by the work of Seo and Shin (2016) and Seo and Shin (2016). In its reduced form, our growth model is as follows:

$$CGDPPO_{i,t} = (\varphi_1 CGDPPO_{i,t-1} + \beta_{11} IF_{it} + \beta_{21} X_{it}) 1\{q_{it} \leq \gamma\} + (\varphi_2 + CGDPPO_{i,t-1} + \beta_{12} IF_{it} + \beta_{22} X_{it}) 1\{q_{it} > \gamma\} + \varepsilon_{it}(1)$$

The dependent variable is CGDPPO. This is the growth rate of real GDP per capita in purchasing power parity. IF is the index of financial integration and X is the vector of variables controlling for other factors associated with economic growth.

In Equation 1, $1\{\cdot\}$ is the indicator function, γ is the threshold parameter, and q is the transition variable. Eight (08) transition variables are defined.

for five years over a period of 10 years, the opening index of the share would be 0.5.

Therefore, we also have eight FD-GMM models to estimate. $E_{it} = \alpha_i + v_{it}$ with α_i an unobserved individual fixed effect and v_{it} an idiosyncratic random perturbation with a zero mean. The non-existence of the parameter capturing individual fixed effects is due to the fact that this estimator, when it includes autoregressive variables, is biased (Arellano & Bond, 1991; Seo & Shin, 2016). This model takes into account biases that arise from country-specific effects. Another important advantage of this model is that it provides coefficients of the estimated parameters of the variables as a function of the regimes and solves the problem of introducing the dependence between estimates at distinct thresholds, which violates the validity of the asymptotic results (Seo & Shin, 2016).

For the coherence of the FD-GMM model, the interest of highlighting threshold effects requires a linearity test. This implies testing $H_0: \delta = 0$ for any $\gamma \in \Gamma$ vs. $H_1: \delta \neq 0$ for some $\gamma \in \Gamma$ with $\delta = \delta_1 - \delta_2$. Next, a natural test statistic for the null hypothesis considers H_{0is} :

$$SupW = (\gamma \in \Gamma^{SUP}) W_n(\gamma) \quad (2)$$

Where $W_n(\gamma)$ is the standard Wald statistic for each fixed γ , that is:

$$W_n(\gamma) = n(\hat{\delta}(\gamma) - \delta) (\hat{\Sigma}(\gamma))^{-1} \hat{\delta}(\gamma) \quad (3)$$

Where $\hat{\delta}(\gamma)$ is the FD-GMM estimator of δ , given γ and $(\hat{\Sigma}(\gamma))^{-1}$ is the consistent asymptotic variance estimator for $(\hat{\delta}(\gamma))$.

4. RESULTS AND DISCUSSION

Table 1 in Annex 1 summarizes the results of the estimation of the dynamic threshold model of economic growth, using the capital account opening index, the human capital index, trade openness, credit to the private sector, the consumer price index, the political system, public expenditure, and the sustainability of the political system used as transition variables.

The main finding is that the estimated dynamic models are not linear, given the strong significance of the p-value associated with Wald's standard statistic. In addition, the instruments are also smaller than the number of countries in the sample.

Model (1) in the attached table highlights the effects of financial integration on economic growth when the opening of the capital account (Kaopen) is considered as a transition variable. Indeed, for a significant and positive threshold of 0.130, in the lower regime, the coefficient associated with the variable IF is negative and not significant, i.e. -0.0002%, while in the higher regime, the coefficient is positive and significant at 0.0002%. This result suggests that financial integration increases real GDP per capita when the capital account opening index is above 0.130. The opening of the capital account thus appears to be beneficial to financial integration. This is a prerequisite for integration into regional and international financial markets (Bonfiglioli, 2008; Kose et al., 2006).

Model (2) in the annexed table corresponds to the situation where the human capital index (HCI) is a transition variable in the relationship between financial integration and economic growth. For a significant and positive threshold of 0.865, the coefficient associated with the variable FI is negative (lower regime), i.e. -0.0002%, while this coefficient is positive and significant, i.e. 0.003 (upper regime). This result suggests that financial integration increases real GDP per capita when the human capital index is above 0.865. Indeed, the growth gains generated by financial integration are greater in countries with high human capital. Improving the cognitive and health capacities of the populations of some countries in our sample increases the impact of financial integration on economic growth. This finding supports the argument that the externalities of human capital formation affect capital flows between countries and de facto economic growth (Lucas, 1990; Reinhart & Rogoff, 2004).

Model (3) highlights trade openness as a transitional variable in the relationship between financial integration and economic growth. Indeed, for a threshold of 76.55%, we obtained a coefficient associated with the variable IF with a negative and significant sign in the lower regime, and a positive and significant sign in the upper regime, i.e. -0.13% and 0.13% respectively. This result shows that financial integration increases real GDP per capita when the trade openness rate is above 76.55% of GDP. Below 76.55%, the process of financial integration has negative effects on the growth of real GDP per capita. This result confirms the idea of the proponents of "financial gradualism" (Beji & Oueslati, 2013; McKinnon & Pill, 1997) insofar as 76.55% is the level of trade openness to be achieved in order to achieve the growth gains generated by financial integration.

Model (4) illustrates the effects of financial integration on economic growth when credit to the private sector is taken as a transition variable. For a significant and positive threshold of 28.15%, the coefficient associated with the variable IF is positive and significant, i.e. 0.002% in the lower regime, while this coefficient is negative and significant, i.e. -0.003% in the higher regime. This result shows that financial integration increases real GDP per capita when credit to the private sector is less than 28.15% of GDP. Above 28.15%, financial integration reduces real GDP per capita. Financial integration therefore improves economic growth in countries with a low level of financial development. In other words, financially underdeveloped countries benefit from integration into regional financial markets. In fact, this result confirms the theoretical developments made by Wakeman-Linn and Wagh (2008) to the extent that it determines exactly the limit at which financial integration begins to reduce economic growth in Africa.

In model (5), the effects of financial integration on economic growth are assessed using the macroeconomic stability variable Inflation as a transition variable. For a positive threshold of 2.621%, the sign of the coefficient associated with the variable IF is positive and very significant, i.e. 0.0456%. In the lower regime, this coefficient is negative and significant in the higher regime, i.e. 0.0516%. This result shows that financial integration increases real GDP per capita when the consumer price index is below 2.621%. Above 2.621%, financial integration reduces real GDP per capita.

Indeed, inflation control is a framework in which credit market integration is more developed. It is therefore not surprising that it can have positive effects on economic growth (AfDB, 2016; Sub-Regional Office for Central Africa, 2008). This result corroborates the importance of a price stability policy for further financial integration.

The model (6) highlights the effects of financial integration on economic growth by considering the political regime as a transition variable. Indeed, for a significant threshold of 0.0735, the coefficient associated with the variable IF is very low, negative and non-significant (-0.0000432%) in the lower regime, while this coefficient is positive and significant (0.002%) in the higher regime. This result indicates that financial integration increases real GDP per capita when the score of the political regime is very significant, i.e. 0.002% in the upper regime. Moreover, it shows that financial integration increases real GDP per capita when the political regime's score is above 0.735. Thus, financial integration is conducive to economic growth in countries with a political regime that tends towards a democratic regime.

The model (7) presents the effects of regional financial integration on growth taking into account another macroeconomic stability variable, namely public expenditure, as a transition variable. Thus, for a significant and positive threshold of 14.31%, the coefficient associated with the variable IF is positive and significant, i.e. -0.000637% in the lower regime, while this coefficient is positive and significant, i.e. 0.003% in the higher regime. This result shows that regional financial integration increases real GDP per capita when the level of public expenditure as a percentage of GDP is above 14.31%. In this respect, the growth gains from financial integration are consistent with a high level of public spending aimed at modernising and stimulating the credit market (Wakeman-Linn & Wagh, 2008).

We tested the relevance of the sustainability of the political regime as a transition variable in the relationship between financial integration and economic growth in the model (8) and obtained a threshold value equal to 5.291 years. In the lower regime, the coefficient associated with the variable IF is positive and very significant, while this coefficient is negative and very significant in the upper regime, i.e. -0.002%. As a result, financial integration increases real GDP per capita when the duration of the political regime is less than 5.291 years. Beyond this period, financial integration reduces real GDP per capita. In this spirit, it would be important to a certain extent for a democratic political change to bring a new dynamic to the process of deepening financial integration. In addition, we conclude that financial integration, population growth, and domestic investment remain the main determinants of economic growth.

Indeed, financial integration improves economic growth by 0.0649% (model 6) in the lower regime and by 7.823%, 7.107% and 3.855% respectively in the models (4, 6 and 8) of the higher regime. As far as population growth is concerned, the beneficial effects on economic growth can be seen in the models (2, 6 and 7), i.e. 2.361%, 6.016% and 5.150% in the lower scheme. In the models (4, 5 and 8), population growth increases real GDP per capita by 8.165%, 10.73% and 1.698% in the top plan. In model (1), domestic investment increases real GDP per capita by 1.192% in the lower regime. Under this regime, domestic investment increases real GDP per capita by 0.699%, by 1.698% in the models (2 and 5) respectively in the upper regime.

5. CONCLUSION AND ECONOMIC IMPLICATIONS

Using a dynamic panel model of 29 African countries over the period 1990-2017, we estimate a non-linear relationship between financial integration and economic growth. Our results show that the effect of financial integration on economic growth is positive. However, this positive effect depends on certain conditions, namely: a high openness of the capital account and trade, high human capital, low financial development, low inflation, a democratic regime and high public expenditure.

Ultimately, our results suggest that efforts need to be made to ensure the increasing liberalization of financial activities through the further opening of the capital account. This will strengthen the functioning of the bank credit market and attract more foreign capital for optimal financing of African economies. For financial integration to produce satisfactory economic results, African countries need to put in place macroeconomic stabilization policies and stable and democratic regimes, while continuing to intensify trade relations and improve tools for regulating banking activities.

Funding: This study received no specific financial support.

Institutional Review Board Statement: Not applicable.

Transparency: The authors state that the manuscript is honest, truthful, and transparent, that no key aspects of the investigation have been omitted, and that any differences from the study as planned have been clarified. This study followed all writing ethics.

Competing Interests: The authors declare that they have no competing interests.

Authors' Contributions: Both authors contributed equally to the conception and design of the study. Both authors have read and agreed to the published version of the manuscript.

REFERENCES

- AfDB, O. (2016). *African economic outlook 2016: Sustainable cities and structural transformation*. In African development bank, organization for economic cooperation and development. Tunis: United Nations Development Program.
- African Development Bank. (2016). *Group policy of prevention, in terms of, and illicit financial flows*. Côte d'Ivoire: African Development Bank Publication.

- Ahmed, A. D. (2016). Integration of financial markets, financial development and growth: Is Africa different? *Journal of International Financial Markets, Institutions and Money, Elsevier*, 42(C), 43-59.
- Ahmed, A. D., & Mmolainyane, K. K. (2014). Financial integration, capital market development and economic performance: Empirical evidence from Botswana. *Economic Modelling*, 42, 1-14. <https://doi.org/10.1016/j.econmod.2014.05.040>
- Alesina, A., Grilli, V., & Milesi-Ferretti, G. (1994). *The political economy of capital controls*. In: Leiderman L. et Razin A. *Capital mobility: The impact on consumption, investment, and growth*. Cambridge: Cambridge University Press for CEPR.
- Allegret, J.-P., & Azzabi, S. (2014). International financial integration and economic growth in emerging and developing countries: The financial development channel. *Revue d'Economie Du Développement*, 22(3), 27-68. <https://doi.org/10.3917/edd.283.0027>
- Arellano, M., & Bond, S. (1991). Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. *The Review of Economic Studies*, 58(2), 277-297. <https://doi.org/10.2307/2297968>
- Arteta, C., Eichengreen, B., & Wyplosz, C. (2001). *When does capital account liberalization help more than it hurts?* Retrieved from NBER Working Paper, No. 8414:
- Baele, L., Ferrando, A., Hördahl, P., Krylova, E., & Monnet, C. (2004). Measuring financial integration the euro area research notebook. *Oxford Review of Economic Policy*, 20(4), 509-530.
- Bailliu, J. (2000). *Private capital flows, financial development, and economic growth in developing countries*. Retrieved from Bank of Canada No. 2000-15:
- Beji, S., & Oueslati, A. (2013). Regional financial integration: What impacts for developing countries? *Financial Techniques and Development*, 111(2), 63-74.
- Bekaert, G., Harvey, C., & Lundblad, C. (2005). Does financial liberalization spur growth? *Journal of Financial Economics*, 77(1), 3-55. <https://doi.org/10.1016/j.jfineco.2004.05.007>
- Bonfiglioli, A. (2008). Financial integration, productivity and capital accumulation. *Journal of International Economics*, 76(2), 337-355. <https://doi.org/10.1016/j.jinteco.2008.08.001>
- Chouchane-Verdier, A. (2004). An empirical analysis of the impact of financial liberalization in Sub-Saharan Africa over the period 1983-1996. *Revue Tiers Monde*, 3, 617-641.
- Edison, H., Klein, M., Ricci, L., & Slok, T. (2002). *Capital account liberalization and economic performance: A review of the literature*. Retrieved from IMF Working Paper, No. 120:
- Edwards, S. (2001). *Capital mobility and economic performance: Are emerging economies different*. Retrieved from NBER Working Paper, No. 8076:
- Ekpo, A., & Chuku, C. (2017). Regional financial integration and economic activity in Africa. *Journal of African Economies*, 26(suppl_2), ii40-ii75. <https://doi.org/10.1093/jae/ejx030>
- Grilli, V., & Milesi-Ferretti, G. M. (1995). Economic effects and structural determinants of capital controls. *IMF Staff Papers*, 42(3), 517-551. <https://doi.org/10.5089/9781451844993.001>
- Henry, P. B. (2007). Capital account liberalization: Theory, evidence, and speculation. *Journal of Economic Literature* 45(4), 887-935. <https://doi.org/10.1257/jel.45.4.887>
- Klein, M. W., & Olivei, G. P. (2008). Capital account liberalization, financial depth, and economic growth. *Journal of International Money and Finance*, 27(6), 861-875. <https://doi.org/10.1016/j.jimonfin.2008.05.002>
- Kose, M., Prasad, E., Rogoff, K., & Wei, S. J. (2006). *Financial globalization: A reappraisal*. Retrieved from IMF Working Paper, No. 189:
- Kraay, A. (1998). *In search of the macroeconomic effects of capital account liberalization*. Washington, D.C: World Bank, Development Economics Research Group.
- Lucas, R. E. (1990). Why doesn't capital flow from rich to poor countries? . *The American Economic Review*, 80(2), 92-96.
- Marshall, M. G., Ted, R. G., & Keith, J. (2019). *Polity IV project: Political regime characteristics and transitions, 1800-2018. Dataset Users' Manual*. Center for Systemic Peace. Retrieved from <http://www.systemicpeace.org/inscr/p4manualv2018.pdf>
- McKinnon, R. I. (1973). *Money and capital in economic development*. Washington, DC: Brookings Institution.
- McKinnon, R. I., & Pill, H. (1997). Credible economic liberalizations and overborrowing. *The American Economic Review*, 87(2), 189-193.
- Mougani, G. (2006). *International financial integration, macroeconomic impacts and volatility of external capital flows: An empirical analysis in the case of CEMAC countries*. Retrieved from Orleans Economics Laboratory/Laboratoire d'Economie d'Orleans (LEO), University of Orleans. No. 784:
- Quinn, D. (1997). The correlates of change in international financial regulation. *American Political Science Review*, 91(3), 531-551. <https://doi.org/10.2307/2952073>
- Reinhart, C. M., & Rogoff, K. S. (2004). The modern history of exchange rate arrangements: A reinterpretation. *The Quarterly Journal of Economics*, 119(1), 1-48. <https://doi.org/10.3386/w8963>
- Reisen, H., & Soto, M. (2001). Which types of capital inflows foster developing country growth? *International Finance*, 4(1), 1-14.
- Rodrik, D. (1998). Who needs capital-account convertibility? *Essays in International Finance*, 55, 1-16.
- Seo, M. H., & Shin, Y. (2016). Dynamic panels with threshold effect and endogeneity. *Journal of Econometrics*, 195(2), 169-186. <https://doi.org/10.1016/j.jeconom.2016.03.005>
- Shaw, E. S. (1973). *Financial deepening in economic development*. New York: Oxford Univ Press.
- Sub-Regional Office for Central Africa. (2008). *Prospectus on the state of integration in Central Africa*. Addis Ababa: @UN.ECA.
- Wakeman-Linn, J., & Wagh, S. (2008). *Regional financial integration: Its potential contribution to financial sector growth and development in Sub-Saharan Africa*. Paper presented at the International Monetary Fund Seminar "African Finance for the 21st Century", Tunis, March.
- World Development Indicators (WDI). (2018). *Is the primary World Bank collection of development indicators, compiled from officially-recognized international sources*. *DataBank, World Bank Group (2018), United Nations*. Retrieved from <https://databank.worldbank.org/>

ANNEX

Table 1. Dynamic effects of credit market integration on economic growth.

Variables	Kaopen (1)	Hci (2)	Open (3)	Prereidit (4)	Inflation (5)	Politics2 (6)	Degov (7)	Durable(8)
CGDPPO -1	-0.587 (0.696)	0.176** (0.0847)	0.201* (0.106)	Lower RPM -0.124** (0.0622)	0.279** (0.122)	0.119 (0.101)	-0.0945 (0.102)	-0.306*** (0.111)
YES	-0.0002 (0.000249)	-0.0002 (0.00112)	-0.13*** (0.0349)	0.002*** (0.000342)	0.0456** (0.0222)	-0.0000432 (0.000477)	0.0000637 (0.00054)	0.002*** (0.000269)
Trump	-45.64 (39.37)	2.446 (2.075)	3.786 (3.666)	-7.771** (3.361)	0.0649* (0.0365)	-7.053*** (2.317)	0.0485 (0.0457)	-3.787*** (1.470)
Population	-3.238 (8.658)	2.361*** (0.549)	1.269 (1.238)	0.881 (0.729)	-0.235 (0.878)	6.016*** (1.798)	5.150*** (1.690)	0.262 (0.809)
Invest	1.192* (0.722)	-0.140 (0.149)	-0.334 (0.213)	-0.109 (0.0875)	-0.484*** (0.0611)	0.135 (0.200)	0.292 (0.233)	-0.00459 (0.0674)
Against	-31.74 (50.96)	-11.12 (8.244)	3.649 (7.821)	-2.133 (8.479)	-32.65*** (8.611)	10.10 (7.924)	19.20** (7.543)	-5.418 (4.301)
<i>Cgdp-po-1</i>	0.582 (0.706)	-0.293 (0.213)	-0.442* (0.250)	Higher speed -0.530* (0.318)	-1.082*** (0.351)	-0.0148 (0.165)	0.430*** (0.160)	0.680*** (0.111)
YES	0.002*** (0.000197)	0.003*** (0.000655)	0.13*** (0.0332)	-0.003*** (0.000587)	-0.0516** (0.0217)	0.002*** (0.000528)	0.003*** (0.000215)	-0.002*** (0.000235)
trumpet	45.68 (39.37)	-2.415 (2.133)	-3.744 (3.627)	7.823** (3.362)	-10.12*** (2.957)	7.107*** (2.211)	-0.211 (0.130)	3.855*** (1.467)
Population	3.944 (8.501)	-4.640* (2.716)	1.880 (1.784)	8.165** (3.841)	10.73*** (2.930)	-6.209** (2.915)	-5.126*** (1.905)	1.698* (0.922)
<i>Invest</i>	-1.405* (0.754)	0.699** (0.341)	0.220 (0.267)	-0.775*** (0.232)	1.698*** (0.555)	-0.305 (0.245)	-0.312 (0.260)	-0.255** (0.125)
Threshold	0.130*** (0.0238)	0.865*** (0.191)	76.55*** (2.763)	28.15*** (5.329)	2.621*** (0.0216)	0.735 (4.503)	14.31*** (2.793)	5.291 (3.994)
Observation	145	145	145	145	145	145	145	145
Linearity (p-value)	0.0	0.0	0.0	0.0	0.07	0.0	0.0	0.0
Number of countries	29	29	29	29	29	29	29	29
Number of instruments	24	24	24	24	24	24	24	24

Note: ***p < 0,01, **p < 0,05, * p < 0,1.

Views and opinions expressed in this study are the author views and opinions; Asian Journal of Empirical Research shall not be responsible or answerable for any loss, damage, or liability, etc. caused in relation to/ arising out of the use of the content.