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Interaction between Financial Systems, Economic Growth, and Globalization: A Transnational Perspective on Emerging Economies

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Abstract

This study examines the impact of economic globalization on the development of 38 emerging economies' financial systems during the period 1980–2021. Using cointegration tests and vector error correction models, the study investigates the interdependence of financial development, economic growth, and globalization. Evidence indicates that private credit and the liquidity ratio are forces behind financial development. Financial development is positively influenced by economic growth and good governance, while trade openness poses a risk. However, the net impact of financial liberalization and capital account openness mitigates the risks, favoring the benefits of globalization. The study concludes that a strategic globalization policy can increase the nexus between financial development and economic growth, as long as risks from trade openness are properly addressed. Policy recommendations entail promoting financial liberalization, attracting foreign direct investment, and carefully managing openness in trade. These measures offer balanced policies for developing countries' sustainable financial growth.

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1. Introduction

Such changes in the global economy, such as financial shocks and geopolitical developments, have stimulated ideas about the deepening of economic integration processes. In this sense, it is necessary to acknowledge the interplay between trade liberalization, financial development, and economic growth, particularly in the case of developing economies.

However, it still has certain lacunae that have been addressed in the existing literature or in looking into these issues. However, these studies tend to focus on these issues one by one, and it is reasonable to assume that the causal linkages between these important variables remain unclear. As touched on above, there is little emphasis on the relationship between the process of economic globalization and the evolution of the financial system in developing countries.

In such a way, the aim of this paper is to address these gaps by providing an analysis of factors influencing economic growth in emerging markets, which will contribute to their financial deepening. More specifically, we aim to develop a consistent argument regarding the impact of certain influences, such as economic growth, trade, and financial liberalization, on the financial systems of developing economies.

For this purpose, we undertake to enhance both practical and theoretical scholarship and methods in view of addressing such dynamic changes.

This is the major strength of our research study in the current globalization process, where these interactions are studied in a whirlpool manner. In this light, we strive to assist in broadening comprehension of the imagined threats and the real opportunities that economic globalization offers to poorer nations.

Our study is a contribution to the above process as it concerns a somewhat larger debate on economic globalization. It aims to explore the contribution made by the financial sector in developing economies. By

examining the existing literature on economic policy efforts and economic development strategies in such developing and dynamic environments, and by simplifying the linking of policy and concepts to works, we hope to assist policymakers and researchers in enhancing development strategies that are feasible amidst rapid changes in economies.

The organization of this article is as follows: one other literature that is to be studied is that of the financial development determinants, particularly covered in this literature with a focus on developing markets. Then, we will subsequently concentrate on the methods of qualitative and quantitative data analysis used in the research. Next, a presentation of the empirical results will be made, followed by discussions. Finally, we will conclude by summarizing the main findings of our study and discussing their implications for future research and economic policies.

2. Literature Review

The literature often shows that certain economies experience greater financial ease and less financial development when external financial liberalization and trade openness anticipate this process. Several studies have examined the relationship between the development of financial systems, trade openness, and GDP growth individually, including those conducted by Blackburn and Hung (1998); Mckinnon (1973); Schumpeter (1911); Sehrawat and Giri (2016a); Shaw (1973); Khan, Hassan, Paltrinieri, and Bahoo (2021) and Caporale, Sova, and Sova (2022). These research efforts have revealed a positive correlation between economic growth and financial development through private credit. The work of Thierry, Jun, Eric, Yannick, and Landry (2016) supports this idea. Therefore, analyzing a more in-depth correlation between economic growth, financial market development, and globalization is essential for formulating effective policy recommendations.

2.1. Literature Review: Links Between Financial Development, Economic Growth, and Trade Openness

The complex dynamics between financial development, GDP growth, and trade openness have sparked significant academic interest, leading to various interpretations regarding the sequence of trade liberalization and financial reforms. Research conducted by scholars such as Edwards and Van Wijnbergen (1986), Rajan and Zingales (2003), and Shabir, Jiang, Hashmi, and Bakhsh (2022) offers divergent perspectives on whether financial market development should precede or follow trade openness, highlighting the nuances of these interactions.

Bordo and Rousseau (2012), along with Shahbaz, Pervaz, and Ahmad (2011), emphasize the importance of policymakers and researchers closely examine the complex relationships among financial development, international trade, and economic growth. Specifically, Beck (2002) investigates the connection between financial development and foreign trade in the industrial sector, finding that countries with well-structured financial systems gain a competitive advantage in manufacturing. This theory, supported by empirical evidence, highlights the critical role of expanding financial markets in promoting international trade. Similarly, Baltagi, Demetriades, and Law (2009) identify commerce as a key driver of financial development.

A historical analysis by Bordo and Rousseau (2012) of data from 17 developed economies reveals that, before 1930, financial development and trade positively influenced one another. However, after World War II, significant changes occurred, with commerce taking on a more independent and dominant role in driving economic growth. The authors attribute this shift to structural transformations in the post-war global economy while emphasizing the continued impact of financial market evolution on growth and its links to political environment indicators.

In their study, Niroomand, Hajilee, and Al Nasser (2014) examined both short- and long-term relationships in 18 emerging economies, discovering a strong positive correlation between financial system development and trade openness. They observed that the nature of this connection varies depending on each country's unique economic structures and policies. Similarly, Lawal, Nwanji, Asaleye, and Ahmed (2016) used advanced estimation methods, specifically the Autoregressive Distributed Lag (ARDL) model, to identify a bidirectional cointegration relationship among economic growth, financial system development, and trade openness. Their findings suggest that effective strategies fostering financial stability and trade openness can contribute to Gross Domestic Product (GDP) growth.

Additionally, Öncel, Saidmurodov, and Kutlar (2024) reported a cointegration relationship involving economic growth, exports, private credit, and the broad money supply, highlighting their interconnectedness.

Menyah, Nazlioglu, and Wolde-Rufael (2014) performed a panel Granger causality analysis on 21 African countries, developing a composite index to evaluate the advancement of financial systems using four key indicators. Their results provided limited support for growth theories focused on financial development or trade liberalization, suggesting that recent efforts to enhance trade openness and improve banking infrastructure have not yet produced substantial economic benefits in these nations.

D'Onofrio and Rousseau (2017) extended this line of research to cover the period from 1850 to 1929, underscoring the essential role of financial system development in advancing global trade and fostering economic growth. However, their analysis revealed that during this era, the direct connection between trade and economic growth often showed a negative correlation.

Finally, Kong, Peng, Ni, Jiang, and Wang (2021) investigated the relationship between trade and economic performance in China, focusing on how trade liberalization influenced economic growth from 1994 to 2018.

Their study revealed a stable long-term relationship between trade openness and improved economic outcomes, with significant positive effects observed in both the short and long term. The research also highlighted regional disparities and non-linear threshold dynamics in this relationship, emphasizing the need for tailored policy strategies in specific regions to fully capitalize on the benefits of trade integration.

2.2. Literature Review on the Connection Between Financial Development and Economic Growth

In his study on Kenya's economy, Wolde-Rufael (2009) found a relationship between the development of financial systems specifically, the credit extended to the private sector and economic growth. This positive correlation was also observed by Zhang, Wang, and Wang (2012) in their analysis of China's economy. Likewise, Samargandi and Kutan (2016) concluded that the development of financial systems significantly influences growth in BRICS countries. Further research has underscored the vital role of financial sector development in promoting economic growth across African nations, as demonstrated by the work of Thierry et al. (2016) and Ibrahim and Alagidede (2018).

Research conducted by Beck (2002), Ahmed (2010), and Sehgal, Ahmad, and Deisting (2013) highlights the important role that a healthy financial sector plays in fostering long-term economic growth. For instance, Uddin, Sjö, and Shahbaz (2013) examined data from Kenya between 1971 and 2011, revealing a strong correlation. This viewpoint is further supported by Kim, Lin, and Suen (2011) and Ahmed and Wahid (2011), who highlight the pivotal influence of access to international financial systems.

Studies on the link between financial development and economic growth has traditionally relied on static models or focused on individual countries. To address these limitations, Nguyen, Le, Ho, Nguyen, and Vo (2022) used advanced econometric techniques to examine this relationship in emerging markets. Their results revealed a strong and linear connection, indicating a bidirectional Granger causation across various measures of financial development.

Similarly, Botev, Égert, and Jawadi (2019) conducted an extensive study involving 100 countries from 1990 to 2012. They discovered that domestic credit is essential for stimulating economic growth, highlighting its crucial role.

In contrast, several studies point to potential drawbacks, suggesting that there is an inverse relationship between the growth of financial institutions and economic growth in OECD and G20 countries. For example, Cournède and Denk (2015) noted that excessive credit can harm economic performance due to rampant financial deregulation and an uneven increase in consumer credit relative to commercial credit. Interestingly, while credit expansion may have negative effects, growing financing through stock markets has been found to positively impact economic growth.

Ashraf (2018) took a distinctive approach by analyzing how economic openness influences borrowing costs and the risks tied to bank funding. Furthermore, Klomp and De Haan (2014) argued that financial liberalization, driven by deregulation, increases risk exposure and underscores the importance of implementing stronger prudential regulatory frameworks.

2.3. Literature Review on the Financial Globalization Relationship

Economic openness, whether in trade or finance, has significantly expanded in recent decades, as evidenced by measures of trade and financial market openness. This trend has garnered increasing attention in economic literature due to its impact on various economic variables, particularly growth. High growth rates are often attributed to countries' integration into the global economy.

In their study, Baltagi et al. (2009) investigated how trade and financial openness impact the development of financial systems. By applying dynamic panel estimation methods to annual data from various countries, they found that both trade and financial liberalization play significant roles in expanding the banking sector, especially in economies that were previously more restrictive. Their results indicate that greater integration into global trade and capital markets drives banking growth.

In a separate study focused on India, Bal, Dash, and Subhasish (2016) examined the relationship between finance and economic growth using ARDL methodologies. Their findings highlighted that economic growth is supported by factors such as capital accumulation, trade openness, adjustments in exchange rates, and total factor productivity. However, they noted that inflation had a negative short-term impact. They stress that enhancing capital accumulation is essential for fostering economic growth.

Lemaallem and Outtaj (2023) examined how trade and financial openness influence economic growth, considering both short-term and long-term effects. By employing ARDL models to analyze panel data from established, emerging, and developing economies between 1980 and 2018, they found that economic openness has a positive long-term effect, especially in advanced and emerging markets. Conversely, developing countries may face challenges as the short-term effects are often negative. However, in developed economies, these short-term drawbacks are usually outweighed by long-term advantages.

Khan et al. (2021) investigated the connection between finance and globalization from 2007 to 2015. Their results indicated that trade and financial liberalization enhance the profitability of banking institutions, highlighting a strong synergistic relationship between these aspects of openness.

Table 1 Summarizes recent literature on the relationships between finance, economic growth, and globalization, highlighting key findings and methodologies across various studies.

Table 1. A review of recent literature "Finance-growth and globalization".

Study	Model	Study period	Sample	Conclusions
Nguyen et al. (2022)	DCCE (Dynamic conditional correlation estimator) and panel granger causality test	1980-2020	22 emerging economies	A bidirectional and linear association was established between finance-growth.
Bui (2019)	ARDL	2004-2018	Vietnam	The economy is significantly influenced by advancements in financial development.
Bui and Bui (2020)	GMM (Generalized method of moments)	2004-2017	Six ASEAN countries	A non-linear connection has been found between the advancement of the financial system and economic growth.
Aluko and Opoku (2022)	Panel data analysis	1996-2017	OECD countries	Financial globalization contributes to the promotion of financial development.
Tongurai and Vithessonthi (2023)	Systems of equations estimation	1960-2020	164 countries	A positive and mutually influential correlation was identified: financial development-financial openness.
Lyu, Xiao, and Pu (2023)	Parallel trend test	1996-2019	China	The international trade system benefits from increased financial openness, which in turn simplifies access to banking credit services.
Shabir et al. (2022)	Panel analyses	2006-2018	19 countries	A non-linear correlation has been observed between private credit and economic policies.
Bui and Bui (2020)	A model: A panel threshold regression	2000 to 2014	42 emerging markets	Greater trade openness directly enhances the stability of financial systems, while the development of the financial sector exhibits a favorable relationship with financial openness.
Lemaallem and Outtaj (2023)	ARDL model	1980-2018	developed, emerging, and developing nations	Reiterating a longstanding connection between domestic and international financial liberalization, trade openness, and economic growth, albeit accompanied by a temporary adverse impact.
Yuan, Wu, and Liu (2022)	Panel analyses	1987-2016	China	Enhancing financial openness improves the efficiency of national financial systems and mitigates macroeconomic fluctuations.
Khan et al. (2021)	Panel analyses	2007-2015	GCC countries	The interaction between trade openness and financial liberalization leads to beneficial outcomes for the overall progress of financial development.

3. Empirical Methods and Tools

In this study, we utilize the Kao cointegration technique to investigate the long-term dynamics between financial sector development and economic growth, while also considering the effects of globalization. This methodological choice ensures a robust analysis, facilitating a deeper understanding of the complex interdependencies among these pivotal economic elements. Simultaneously, FMOLS and DOLS estimates are employed to complement our analysis, providing a comprehensive perspective on the implications of these relationships in different economic contexts. This diversified methodological approach enhances the credibility of our research by capturing the subtle nuances of the interactions between the examined factors, contributing significantly to the existing literature.

A recent investigation examined 38 emerging economies[1], spanning from 1980 to 2021, with a focus on nations such as Algeria, Angola, Argentina, Brazil, China, India, and South Africa. The study utilized an annual panel dataset to assess the financial development and economic conditions of these countries. Key variables included trade openness (TO), quantified as the sum of exports and imports relative to GDP (Sehrawat & Giri, 2016b; Tiwari, Shahbaz, & Islam, 2013). Macroeconomic instability (instaeco) was evaluated through the standard deviation of the trade openness index, while economic growth was measured using GDP per capita adjusted for purchasing power parity (PPP).

The influence of government involvement and capital regulations was analyzed by assessing gross national expenditures (DP) in relation to GDP. Trade policies were indicated by the official exchange rate (TXC), while restrictions on long-term capital inflows were evaluated through foreign direct investment (FDI) as a percentage of GDP.

To evaluate financial development, two primary indicators were utilized: private credit (PC), which illustrates the proportion of domestic credit provided by banks to the private sector in relation to GDP, and broad money supply (BM), defined as the ratio of M3 to GDP (Farhat, 2023; Sehrawat & Giri, 2016b). These indicators offer a thorough perspective on the depth and liquidity of the economy's financial system.

Financial liberalization was assessed using two complementary metrics. The first, LIBFIN, serves as a de facto indicator, representing the ratio of foreign assets and liabilities to GDP. The second, KAOPEN, is a de jure measure based on the Chinn and Ito (2020), which evaluates the degree of restrictions on international financial transactions. Data were sourced from reputable institutions, including UNCTAD (2022), the World Bank (IBRD/IDA, 2022), and Chinn and Ito (2020).

The impact of economic and financial integration on financial system growth was analyzed through a cross-sectional regression method, building upon the foundational studies by Lemaallem and Outtaj (2023) and Farhat (2023). Within the framework of the financial development mode, two equations were formulated. The first measures financial system development using the volume of private credit provided by banks, while the second employs the M3 to GDP ratio as an indicator.

These equations were examined through two distinct theoretical lenses. The first aligns with sequencing theory, which advocates for a gradual approach to integration. In contrast, the second perspective suggests that the simultaneous liberalization of trade and financial sectors can amplify their mutual benefits, providing a broader understanding of integration.

This dual-framework approach deepens insights into how different integration strategies influence financial development, offering valuable guidance to policymakers aiming to optimize benefits and minimize risks associated with globalization. The equations representing the financial development model are as follows:

$$CP_{it} = c_i + \beta_1 GDP_{it} + \beta_2 TO_{it} + \beta_3 FL_{it} + \alpha Y_{it} + \varepsilon_{it} \quad (1)$$

$$BM_{it} = c_i + \beta_1 GDP_{it} + \beta_2 TO_{it} + \beta_3 FL_{it} + \alpha Y_{it} + \varepsilon_{it} \quad (2)$$

To evaluate the long-term linear relationship between economic growth and the development of the financial system, reinforced by global globalization, we propose a second model, based on the work of Öncel et al. (2024). The second model is defined as:

$$GDP_{it} = c_i + \beta_1 PC_{it} + \beta_2 BM_{it} + \beta_3 KAOPEN_{it} + \beta_4 TO_{it} + \alpha Y_{it} + \varepsilon_{it} \quad (3)$$

Where:

CP_{it}: Represents the ratio of domestic credit to the private sector by banks to GDP.

BM_{it}: Represents the ratio of broad money supply (M3) as a percentage of GDP.

GDP_{it}: Represents the gross domestic product per capita.

TO_{it}: Represents trade openness.

FL_{it}: Represents financial liberalization.

$KAOPEN_{it}$: Represents the opening of the capital account

Y_{it}: Represents a set of control variables.

ε_{it}: Represents the error term.

i = (1, 2, 3, ..., N) indicates the number of countries.

t = (1, 2, ..., T) indicates the number of periods.

4. Empirical Results

Table 2 displays the descriptive statistics for all variables, offering a comprehensive summary of their traits. The elevated average values of crucial variables such as private sector credit (PC), the depth of financial system development indicated by the broad money supply (M3) to GDP ratio (BM), and trade openness (TO) demonstrate substantial activity in these areas. These results validate the significance of our empirical analysis by emphasizing aspects that could affect the interaction between financial development, trade openness, and economic growth, which we intend to investigate. Additionally, exploring the descriptive statistics enhances our

[1] The study covers 38 emerging economies: Algeria, Antigua and Barbuda, Angola, Argentina, Brazil, Botswana, Bulgaria, China, Colombia, Chile, Costa Rica, Dominica, Dominican Republic, Ecuador, Gabon, Grenada, Iran (Islamic Republic of), Jamaica, Jordan, Lebanon, Libya, Malaysia, Maldives, Mexico, Namibia, Panama, Peru, Romania, Russia (Russian Federation), Saint Lucia, Saint Vincent and the Grenadines, Seychelles, South Africa, Thailand, Tunisia, Turkey, Uruguay, and Venezuela (RB).

understanding of the distribution and central tendency of each variable, thereby creating a strong basis for implementing Kao's cointegration tests alongside FMOLS and DOLS estimations within our methodology.

This initial data analysis provides vital insights into the configuration and variability of the indicators examined, thereby reinforcing the reliability of the econometric methods employed to study the intricate relationships among the key variables.

Table 2. Descriptive statistics of variables.

Summary statistics	PC	BM	TO	LGDP	TXC	INSTAECO	DP	FDI
Mean	41.47	57.96	73.45	8.23	406.31	4.207	92.60	3.69
Median	34.93	47.40	63.56	8.29$	3.52	2.38	100.10	2.50
Maximum	182.86	260.6	375.37	9.84	42000.00	166.52	167.04	57.87
Minimum	0.00	0.00	0.00	5.27	0.00	0.00	0.00	-10.72
Std. dev.	29.38	39.39	44.40	0.81	2766.03	7.66	29.31	4.57
Skewness	1.27	2.05	1.34	-0.48	12.01	10.42	-1.94	2.91
Kurtosis	5.05	9.06	7.07	3.16	161.91	175.92	6.46	21.86
Jarque-Bera	691.79	3451.01	1546.81	62.04	1703842	1921447	1675.48	25377.63
Probability	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sum	64154.42	89550.96	114436.2	12855.77	643188.4	6394.94	137697.5	5779.26
Sum sq. dev.	1334802	2395985	3070319	1043.08	12.1	89173.21	1276443	32699.29

An examination of the stationarity of the series in the panel data is a crucial step in our methodology. This approach aims to assess the temporal stability of the considered variables. We face the inherent complexity of the heterogeneous parameters of the model, requiring careful formulation of the hypotheses to be tested.

To address this issue, we chose to utilize second-generation unit root tests, specifically those formulated by Im, Pesaran, and Shin (2003) and Levin, Lin, and Chu (2002). These tests were chosen for their capacity to accommodate potential structural differences among the individuals in our sample, thereby providing a robust and dependable methodological framework. By employing these advanced tests, we mitigate possible biases that may arise from cross-sectional dependencies and heterogeneity, thereby enhancing the validity of our analysis.

The results of the unit root tests, presented in Table 3, provide essential insights into the stationarity characteristics of the variables being examined. Following the first differencing process, the variables PC (private credit), BM (broad money supply), TX (trade openness), and KAOPEN (capital account openness) all demonstrate stationarity. This result confirms that the transformed variables are appropriate for further econometric analysis, as they fulfill the necessary criteria for cointegration and error correction modeling. These findings highlight the significance of addressing non-stationarity in panel data to guarantee the accuracy and reliability of subsequent empirical results.

Following differencing, the variables PC, BM, TX, and KAOPEN all demonstrate stationarity. These results align consistently with our methodological approach, emphasizing the necessity of ensuring the stationarity of variables before proceeding with Kao cointegration tests and FMOLS and DOLS estimations.

Table 3. Unit root test.

Variables	Levine, Lin & Chu t (LLC)				Augmented Dickey Fuller (ADF)			
	At level		At first différence		At level		At first différence	
PC	-0.393	0.347	-16.938	0.000*	0.344	0.634	-19.799	0.000*
BM	-0.065	0.473	-15.308	0.000*	2.829	0.997	-20.271	0.000*
DP	-2.706	0.003	-19.024	0.000*	-5.459	0.000	-22.657	0.000*
LGDP	-5.046	0.000	-12.694	0.000*	1.533	0.937	-16.424	0.000*
FDI	-4.842	0.000	-22.023	0.000*	-5.771	0.000	-28.777	0.000*
INSTAECO	-12.700	0.000	-26.252	0.000*	-15.982	0.000	-37.657	0.000*
KAOPEN	-1.781	0.037	-13.897	0.000*	-2.003	0.022	-17.134	0.000*
TO	-3.779	0.001	-19.289	0.000*	-3.354	0.004	-23.235	0.000*
FL	-5.282	0.000	-21.799	0.000*	-5.730	0.000	-29.853	0.000*
TXC	4.570	1.000	-8.279	0.000*	8.150	1.000	-12.627	0.000*

Note: **(*) Stationary panel data at 5%. PC** = Ratio of domestic credit to the private sector by banks to GDP; **BM** = Ratio of broad money supply (M3) as a percentage of GDP; **DP** = Gross national expenditures; **LGDP** = Gross domestic product per capita; **FDI** = Foreign direct investment as a percentage of GDP; **INSTAECO** = Macroeconomic instability; **KAOPEN** = Capital account openness; **TO** = Trade openness; **FL** = Financial liberalization; **TXC** = Official exchange rate.

The tests developed by Pedroni (1995), Pedroni (1997), Pedroni (1999), Chihwa Kao (1999), and Kao and Chiang (2001) are used on panel data to examine the null hypothesis of no cointegration. These tests, similar to the methods developed by Engle and Granger (1987) for time series analysis, rely on the likelihood ratio and are particularly effective when the number of cointegration relationships is not predetermined. The

methodology adopted in these tests is sequential, considering the case where the number of observations increases indefinitely over both time (T) and cross-sections (N).

The findings from the panel cointegration tests, conducted using Pedroni's methodology and summarized in Table 4, reveal robust evidence of a long-term equilibrium relationship between financial system development, per capita GDP (measured through both private credit (PC) and broad money supply (BM)), trade openness, financial openness, and a range of control variables (Murthy, Kumar Patra, & Samantaraya, 2014; Sehrawat & Giri, 2016b). These outcomes, derived from the initial model, reinforce the hypothesis that the development of the financial system and policies promoting openness play a pivotal role in driving economic growth, a perspective also highlighted by Thierry et al. (2016). This alignment underscores the significance of integrating financial and trade openness strategies to foster sustainable economic progress.

Table 4. Cointegration tests (KAO) MODEL 1.

Endogenous variable: (CP)			
Relation	**Variables Included**	**t-statistic**	**Prob**
(1)	GDP, TO, FL, TXC, inter	-2.509*	0.006
(2)	GDP, TO, FL, TXC, inter, instaeco	-2.566*	0.005
Endogenous variable: (ME)			
(1)	GDP, TO, FL, TXC, DP, instaeco	-2.544*	0.005
(2)	GDP, TO, FL, TXC, DP, inter	-3.007*	0.001

Note: The symbols * indicate significance levels, denoting the rejection of the null hypothesis of no cointegration at the 10% thresholds, respectively.
Source: Author's calculations performed using EViews. 9.

The use of cointegration tests on panel data has gained popularity in empirical research, primarily for two major reasons. Firstly, combining the temporal dimension with the individual dimension enhances the power of these tests. Secondly, the null hypothesis of the non-existence of cointegration between variables is often challenging to reject in many econometric studies. Cointegration analysis provides a solution by helping to rectify potential errors in analysis stemming from variable differencing methods.

The outcomes of the Kao cointegration test, as shown in Table 5 for the second model offer compelling empirical support for a notable long-term association among the variables related to economic growth, the expansion of the financial system, and globalization. These results confirm the existence of a stable equilibrium relationship, reinforcing the idea of interdependence between the development of the financial sector and economic growth in the framework of globalization.

Table 5. KAO Cointegration tests results- Model 2.

Series	**MODEL 2**	
	t-statistic	**Prob**
Series: LGDP, PC, DP FDI INSTAECO KAOPEN BM TRADE_OP TXC	-4.248*	0.0000

Note: The symbols * indicate significance levels, denoting the rejection of the null hypothesis of no cointegration at the 10% thresholds, respectively.
Source: Author's calculations performed using EViews. 9.

After confirming the presence of cointegration, the next step is to estimate long-term elasticity using the Fully Modified Ordinary Least Squares (FMOLS) approach. In panel data analysis, two popular methods for robustly estimating cointegration relationships are FMOLS, which was initially introduced by Phillips and Hansen (1990) and later enhanced by Pedroni (1996), and Dynamic Ordinary Least Squares (DOLS). The latter was first proposed by Saikkonen (1991) for time series, before being adapted to panel contexts by Kao and Chiang (2001) and Mark and Sul (2003). Empirical studies, such as those by Kao and Chiang, indicate that both FMOLS and DOLS produce asymptotically normal estimators with a mean of zero. Additionally, Pedroni, along with Phillips and Moon, has provided supportive findings about the statistical properties of FMOLS estimators in panel analyses.

The DOLS method, introduced by Saikkonen (1991) for time series analysis, was adapted to panel data by Kao and Chiang (2001) and later refined by Mark and Sul (2003). This methodology integrates both past and future values into the cointegration framework to minimize potential endogeneity issues by mitigating the correlation between the independent variables and the error term. The outcomes of the FMOLS and DOLS estimations are presented in Tables 6 and 7 for Model 1, which focuses on financial development, and Model 2, which examines economic growth. These tables provide a detailed overview of the estimated coefficients and their associated t-ratios, enabling a thorough examination of the relationships between the variables analyzed in each model.

Table 6. Panel long-run elasticity FD: Model 1.

FMOLS				DOLS	
Regressors		**Coefficient**	***t*-ratio**	**Coefficient**	***t*-ratio**
Endogenous variables: (PC)					
Specification 1	LGDP	0.960***	2.290	0.874	1.403
	TO	-0.032**	-2.601	-0.027	-1.293
	FL	-0.003	-0.022	0.252	0.598
	D(TXC)	-0.0003	-0.570	-0.0003	-0.346
	KAOPEN	0.086	0.339	0.146	0.386
	INSTAECO	0.017	0.377	-0.120	-0.635
	DP	0.043***	1.723	0.059	0.871
	FDI	0.100	0.536	-0.143	-0.288
Specification 2	LGDP	-0.050*	-32.756	0.660	0.831
	TO	-0.006*	-3.344	-0.012	-0.340
	FL	0.098*	45.979	0.270	0.534
	D(TXC)	-0.008**	-2.599	-0.0005	-0.162
	KAOPEN	0.194*	121.64	0.264	0.568
	INSTAECO	-0.026*	-11.126	-0.193	-0.829
	DP	0.011*	10.469	0.066	0.803
	FDI	0.031*	12.616	-0.146	-0.241
	Inter	-0.0006	-0.301	0.000	-0.003
Endogenous variable: (BM)					
Specification 1	LGDP	1.113**	2.580	0.083	0.137
	TO	-0.029**	-2.306	-0.049	-2.420
	FL	-0.034	-0.221	0.409	0.997
	D(TXC)	0.0006	1.086	0.0001	0.191
	KAOPEN	0.065	0.249	-0.05	-0.155
	INSTAECO	0.024	0.522	0.008	0.047
	DP	-0.014	-0.558	-0.029	-0.446
	FDI	0.075	0.393	-0.158	-0.328
Specification 2	LGDP	-0.822	-1.255	-0.531**	-2.820
	TO	-0.056*	-4.798	0.006	0.606
	FL	0.396**	2.347	0.649**	2.536
	D(TXC)	0.0001	0.312	0.0007	0.825
	KAOPEN	-0.133	-0.548	-0.209	-1.121
	INSTAECO	-0.056***	-1.693	-0.052	-0.651
	DP	0.065**	3.028	0.036**	2.407
	FDI	-0.034	-0.230	0.0005	0.001
	Inter	-0.002*	-3.418	-0.003**	-2.528

Note: *, **, and *** indicate significance at the 1%, 5%, and 10% levels, respectively; estimation performed using EViews 9. **PC** = Ratio of domestic credit to the private sector by banks to GDP; **D(BM)** = First difference of the ratio of broad money supply (M3) as a percentage of GDP; **LGDP** = Gross domestic product per capita; **TO** = Trade openness; **FL** = Financial liberalization; **D(TXC)** = First difference of the official exchange rate; **KAOPEN** = Capital account openness; **INSTAECO** = Macroeconomic instability; **DP** = Gross national expenditures; FDI = Foreign direct investment as a percentage of GDP; **Inter** = Synergistic effect of simultaneous openness, combining trade openness (TO), financial liberalization (FL), and capital account openness (KAOPEN).

The FMOLS estimation results presented in Table 6 for the initial long-term elasticity model indicate that LGDP, TO, and DP significantly affect the endogenous variable D(PC). Specifically, the coefficients for LGDP, TO, and DP are 0.960, -0.032, and 0.043, respectively, all displaying noteworthy t-ratios.

Nevertheless, with the introduction of simultaneous opening policies in Specification 2, several additional variables attain statistical significance. In this specification, LGDP, TO, FL, D(TXC), DP, INSTAECO, KAOPEN, and FDI all exhibit statistically significant impacts on the endogenous variable D(PC). Notably, the t-ratios for these variables vary, indicating variations in the strength and significance of their respective influences.

Concerning the endogenous variable BM, in Specification 1, the coefficients for LGDP and TO are statistically significant, with respective t-ratios of 1.113 and -0.029. The findings suggest that both economic growth (LGDP) and trade openness (TO) significantly impact the endogenous variable D(BM). Economic growth positively contributes to financial development, whereas trade openness yields a more complex array of effects, offering both benefits and drawbacks. This complexity underscores the need for balanced policy measures that can leverage the benefits of globalization while reducing its associated risks, particularly in emerging economies with diverse economic and governance structures.

However, in Specification 2, when considering simultaneous opening policies, the results reveal that the variables LGDP, TO, FL, DP, INSTAECO, and inter are all statistically significant for the variable D(BM). The coefficients and t-ratios for these variables display variations, underscoring the intricate influence of multiple factors on financial development.

Table 7. Panel long-run elasticity GDP, Model 2.

FMOLS			DOLS	
Regressors	**Coefficient**	***t*-ratio**	**Coefficient**	***t*-ratio**
Endogenous variable: (LGDP)				
PC	0.008***	3.876	0.001	0.474
DP	0.006**	2.744	-0.003	-0.727
FDI	0.003	0.349	0.033	1.815
INSTAECO	0.003	0.727	-0.042*	-2.477
KAOPEN	0.232***	9.625	0.203***	5.592
BM	0.016***	9.401	0.021***	7.168
TO	0.003**	2.789	0.006***	2.920
TXC	-0.00000471	-0.458	-0.0000068	-0.248

Note: *, ** and *** are the significances at 1%, 5% and 10% respectively; Eviews 9.

The purpose of this section is to reinforce the existence of causal linkage between LGDP and PC, as well as between LGDP and BM, and seek to quantify their long-run effects – which are modeled in two of the FMOLS results for this section better illustrated in Table 7. They have revealed that the coefficients for PC and BM are positive, with significant t-ratios of 3.876 and 9.401, respectively. These findings are highly important, demonstrating a strong positive relationship between economic growth and financial development through their interaction. This connection underscores the vital role that economic growth plays in bolstering financial systems, particularly in emerging economies. The insights suggest the need for policies that promote sustainable economic growth to effectively improve financial development.

Such observations highlight a complex interaction between economic expansion and the maturation of the financial system, emphasizing the favorable and significant influence of various factors, such as in this case trade openness (TO), capital account openness (KAOPEN), and public expenditures (DP). These variables especially strengthen the relationships between economic growth and financial development, and the development of this phenomenon prefers concentrating on these relationships, while the others receive less attention.

5. Empirical Results and Discussions

The exploration commences with an exposition of the descriptive statistics in Table 2, delivering a holistic portrayal of pivotal variables like private sector credit (PC), the depth of financial system development (BM), and trade openness (TO). The elevated average values suggest noteworthy levels in these domains, affirming the significance of our empirical analysis. These statistics lay the groundwork for subsequent tests and estimations.

Transitioning to the scrutiny of stationarity in panel data, the unit root tests (Table 3) assume a pivotal role in evaluating the temporal stability of variables. The outcomes reveal that, subsequent to differencing, key variables such as PC, BM, TX, and KAOPEN manifest stationarity, aligning seamlessly with the methodological approach and setting the stage for ensuing tests.

The cointegration tests presented in Table 4 offer strong evidence of long-term relationships among financial development, income per capita, trade liberalization, capital account openness, and other explanatory variables in Model 1. The cointegration tests for Model 2 (Table 5) affirm a sustained relationship among variables related to economic growth, financial development, and scrutinized globalization factors.

Now that cointegration has been confirmed, the focus turns to evaluating long-term elasticities through the Fully Modified Ordinary Least Squares (FMOLS) and Dynamic Ordinary Least Squares (DOLS) methods. The results, displayed in Tables 6 and 7, offer important insights into the relationships among the variables. In Model 1, factors such as income per capita (LGDP), trade liberalization (TO), and public expenditures (DP) significantly impact indicators of financial development (PC and BM). Specification 2 incorporates the effects of simultaneous opening policies, enhancing the model with additional variables that demonstrate significant influences.

Regarding Model 2, the results show that private credit (PC) and the liquidity ratio (BM) have a positive impact on GDP growth, illustrating the complex interplay between the advancement of financial markets and economic progress. Additionally, factors such as capital account openness (KAOPEN) and public expenditures (DP) play a crucial role in this context, highlighting the complexity of the relationships involved.

The findings of this study deepen our understanding of the factors influencing financial development and their connections to economic growth and globalization. This research makes a valuable contribution to the existing literature and offers practical policy recommendations aimed at promoting financial development, particularly in emerging economies.

5.1. Analysis of the Financial Development Model: Model 1

Beginning with the assessment of the first model above the line, it would be the first one, that is the financial development model. The KAO cointegration estimates presented in Table 4 demonstrate a sustained connection between the metrics characterizing financial development, economic expansion, globalization-related factors, and control variables, including governance and trade policies. Overall, the FMOLS estimates seem to show more significant and robust results than the DOLS estimates.

The estimation of Model 1 for the two endogenous variables, PC and BM, confirms the existence of two long-term relationships for each specification. In the first specification, the analysis is based on the sequencing theory in the process of capital flows and the expansion of international trade. Thus, the results of specification 1 support the first hypothesis, suggesting that economic growth stimulates financial development through private credits and BM liquidity. In a comprehensive long-term analysis of two indicators of financial market development, the FMOLS estimation indicates that the coefficients for the LGDP variable meet theoretical expectations and are statistically significant. In the first specification of Model 1, the results reveal a positive LGDP coefficient of 0.960 with a t-ratio of 2.290 for the PC variable, and a positive coefficient of 1.113 with a t-ratio of 2.580 for the endogenous variable BM. This suggests that economic growth leads to an increase in private credit provided by banking institutions and aids in the advancement of financial sector development, as indicated by the BM liquidity ratio. The increase in credit availability promotes a more effective allocation of savings towards productive investments. These results are in line with earlier research by Adu, Marbuah, and Mensah (2013) as well as Sehrawat and Giri (2016b).

Similarly, the coefficient for DP is positive, standing at 0.043 with a t-ratio of 1.723, indicating that government involvement exerts a meaningful and favorable influence on the progression of financial development. Thus, effective and transparent governance can enhance investor confidence and create a conducive environment for financial activities. Well-managed government policies can encourage the financial sector by ensuring stability and predictability. The commercial integration of emerging countries does not stimulate financial market liquidity and has negative repercussions on credit volume. The perverse effects of commercial integration on private credit in emerging countries stem from increased competitive pressures, sensitivity to international market fluctuations, changes in investor preferences towards more attractive financial markets, inappropriate economic policies, and balance of payments pressures induced by rapid commercial opening. These results verify the second hypothesis.

In summary, the results of the analysis adopting the sequencing theory (Specification 1) indicate that economic growth and good governance are positive factors for financial development in emerging countries. However, commercial openness may pose challenges such as capital flight and vulnerability to external shocks, resulting in negative impacts on private credit and liquidity in the financial sector, thus confirming the third research hypothesis. These interpretations underscore the importance of well-balanced economic and financial policies to support financial development in these contexts.

However, the results of the second specification, introducing the synergistic effect of simultaneous opening (inter), present significant nuances. Drastic changes were reported, and specification 2 reduced the damage of trade openness (TO) to investors and the advantages of particularly foreign market investments, especially political risks and financial liberalization (FL) and capital account liberalization (KAOPEN). As for economic growth in Specification 2, that negative effect is offset by the other beneficial effects of financial liberalization and foreign direct investment.

There can be a number of reasons for this trend. Nonetheless, it can be posited that the combined opening-up effect will allow private credit access in such circumstances since few risks of sole commercial opening will be created. Thus, through trade openness and other methods, differentiating the negative impacts of this strategy makes it possible to use the financial structure effectively. Therefore, Hypothesis 4 is true. This inverse relationship is also observable in the works of D'Onofrio and Rousseau (2017).

Besides the negative impact of economic growth (LGDP) in Specification 2, it can also be traced back to the economic vulnerability (INSTAECO) of developing countries. Economic growth periods can lead to intense competition and make rapidly growing countries vulnerable to economic shocks, which can, in turn, harm financial development.

With respect to policy suggestions, political leaders in countries in the developmental phase may consider financial liberalization policies and attracting greenfield investments through safely regulated trade openness policies. This will enable the industrial sectors and the financial system to merge together, resulting in harmonized and sustainable financial market development.

This study highlights the substantial opportunities for improving financial systems in emerging economies amid globalization, which is frequently seen as a double-edged sword. Staggering the process of capital movement liberalization and trade integration, relying on the sequencing theory as mentioned in Model 1, has proven to provide very useful insights in this regard.

In line with the findings of Model 1, economic progress and effective governance act as driving forces in the development of developing nations. A rise in GDP enhances credit accessibility, thereby fostering the growth of financial markets, as reflected in the BM liquidity ratio. Transparency in governance attracts investors, which fosters a favorable business climate. Contrary to that viewpoint is the idea that, although trade liberalization

contributes to the growth of emerging economies by increasing their offerings, it also brings about challenges such as weakened capital outflow and the reduced ability of these nations to adapt to disruptions, which frequently result in issues with credit and liquidity, respectively. The results of this research align with the perspectives put forth by Botev et al. (2019) as well as those presented by Lemaallem and Outtaj (2023). In contrast to that viewpoint, Specification 2 highlights the aspects of their combined impact by distinguishing the drawbacks of trade openness and bolstering the advantages of liberalization and account accessibility in a synergistic manner. This particular specification suggests that economic growth may have consequences, but these are mitigated by the influences of financial liberalization and foreign direct investments. The results align closely with those found in the studies by Klomp and De Haan (2014) as well as Ashraf (2018).

Hypothesis 4, on the other hand, according to the expectation that the opening up of economies simultaneously acts to reduce some negative effects of trade openness while also reinforcing positive effects of financial liberalization and growth, should be accepted. For policymakers and program managers in emerging countries, it is necessary to implement financial liberalization policies, attract FDI, and manage trade openness appropriately and with caution. Strengthening the interplay between the real and financial spheres will optimize economic growth in a balanced and sustainable manner. These results emphasize the significance of cautiously interlinking economic policies to exploit the opportunities presented by globalization while at the same time controlling possible adverse effects.

5.2. Analysis of the Economic Growth Model: Model 2

The primary aim of this research is to examine the linear, and particularly unidirectional, relationship between GDP growth and the advancement of financial markets, with a specific emphasis on the historical dynamics of economic development and globalization. These insights were derived from Model 2, which sought to underscore the advantages of globalization in enhancing financial development's role in driving economic growth in emerging economies, yielding significant and noteworthy results.

The findings related to private sector bank credit (PC) reveal a positive coefficient of 0.008 with a t-ratio of 3.876, suggesting a strong positive association between economic expansion and financial development. This underscores the notion that increased credit availability, reflecting financial system progress, contributes to more robust economic growth. These results reaffirm the pivotal role of financial market development in fostering economic advancement. Similar conclusions have been documented in studies by Pagano and Pica (2012) and Thierry et al. (2016).

Regarding public expenditures (DP), the analysis reveals a positive coefficient of 0.006 with a t-ratio of 2.744, indicating that such expenditures contribute positively to financial development. However, their influence appears to be less pronounced compared to the effects observed for economic growth. These results suggest that better governance measures might bear fruit in the form of a positive relationship with economic growth, thus making room for some institutional enhancements.

The analysis of capital account openness (KAOPEN) shows a positive coefficient of 0.232 and a t-ratio of 9.625, indicating a significant and beneficial effect on financial development. Increased access to international capital flows promotes GDP growth, emphasizing the importance of liberalizing capital movements.

In terms of liquidity, represented by BM, the results indicate a positive coefficient of 0.016 with a t-ratio of 9.401. Trade openness (TO) also demonstrates a positive coefficient of 0.003 and a t-ratio of 2.789. These results point to a positive relationship between financial development, trade liberalization, and capital account openness, all of which support economic growth. These findings are consistent with the conclusions reached by Botev et al. (2019).

The results clearly demonstrate a direct and positive connection between the progression of financial systems and GDP growth in emerging economies that are reasonably well-integrated into global economic activities. As such, the first hypothesis is well-supported. These findings are consistent with earlier studies by Thierry et al. (2016), Nguyen et al. (2022), and Öncel et al. (2024). The empirical analysis provides policy recommendations for decision-makers, such as improving the performance of the financial sector, appropriately controlling public expenditures, instituting governance improvements, carefully monitoring capital account convertibility, and adopting selective international economic integration.

6. Conclusion

The outcomes of this comprehensive study on the drivers and effective strategies fostering financial development in developing and emerging economies contribute substantially to the existing body of knowledge. By examining the interplay between economic expansion, trade liberalization, and financial openness, our research distinguishes itself through two primary objectives. The first seeks to evaluate financial development with respect to globalization through the sequencing and simultaneous opening policies. The second approach is relevant in the context under consideration as well as the first, as the emphasis is placed on the investigation of the linear dependence of developing globalization finance and economic expansion.

The empirical examination of the first model emphasizes the substantial influence of economic expansion and governance quality on the progression of financial markets. At the same time, it draws attention to the challenges posed by trade openness, particularly in contexts characterized by inadequate policies and insufficient

governance frameworks. Specification 2, which allows for examining the synergistic effect of simultaneous opening, explains such a view as allowing more trade to open up more negative trade effects than narrower financial services trade.

Regarding the second model, the findings confirm that the advancement of financial markets significantly contributes to enhancing economic performance by fostering GDP growth. This positive impact is supported by factors such as sound policy governance, the liberalization of capital movements, and effective policies promoting the expansion of international trade.

Empirical findings help shape the policy directions of public authorities. Policies directed towards a sound financial sector, prudent public expenditure management, institutional reform, open capital accounts, and gradual external economic integration are necessary to ensure balanced financial development in emerging countries. Therefore, the present study is significant not only for identifying the determinants of financial development but also for making informed economic policies across different economies.

This conclusion reinforces the relevance and clarity of findings and discussions, with a restoration of our aims, the unique contributions made, and future implications.

References

Adu, G., Marbuah, G., & Mensah, J. T. (2013). Financial development and economic growth in Ghana: Does the measure of financial development matter? *Review of Development Finance*, *3*(4), 192-203. https://doi.org/10.1016/j.rdf.2013.11.001

Ahmed, A. D. (2010). Financial liberalization, financial development and growth linkages in Sub-Saharan African countries: An empirical investigation. *Studies in Economics and Finance*, *27*(4), 314-339. https://doi.org/10.1108/10867371011085156

Ahmed, A. D., & Wahid, A. N. (2011). Financial structure and economic growth link in African countries: A panel cointegration analysis. *Journal of Economic Studies*, *38*(3), 331-357. https://doi.org/10.1108/01443581111152436

Aluko, O. A., & Opoku, E. E. O. (2022). The financial development impact of financial globalization revisited: A focus on OECD countries. *International Economics*, *169*, 13-29. https://doi.org/10.1016/j.inteco.2021.11.001

Ashraf, B. N. (2018). Do trade and financial openness matter for financial development? Bank-level evidence from emerging market economies. *Research in International Business and Finance*, *44*, 434-458. https://doi.org/10.1016/j.ribaf.2017.07.115

Bal, D. P., Dash, D. P., & Subhasish, B. (2016). The effects of capital formation on economic growth in India: Evidence from ARDL-bound testing approach. *Global Business Review*, *17*(6), 1388-1400. https://doi.org/10.1177/0972150916660403

Baltagi, B. H., Demetriades, P. O., & Law, S. H. (2009). Financial development and openness: Evidence from panel data. *Journal of Development Economics*, *89*(2), 285-296. https://doi.org/10.1016/j.jdeveco.2008.06.006

Beck, T. (2002). Financial development and international trade: Is there a link? *Journal of International Economics*, *57*(1), 107-131. https://doi.org/10.1016/S0022-1996(01)00131-3

Blackburn, K., & Hung, V. T. (1998). A theory of growth, financial development and trade. *Economica*, *65*(257), 107-124. https://doi.org/10.1111/1468-0335.00116

Bordo, M. D., & Rousseau, P. L. (2012). Historical evidence on the finance-trade-growth nexus. *Journal of Banking & Finance*, *36*(4), 1236-1243. https://doi.org/10.1016/j.jbankfin.2011.11.012

Botev, J., Égert, B., & Jawadi, F. (2019). The nonlinear relationship between economic growth and financial development: Evidence from developing, emerging and advanced economies. *International Economics*, *160*, 3-13. https://doi.org/10.1016/j.inteco.2019.06.004

Bui, T. D., & Bui, H. T. M. (2020). Threshold effect of economic openness on bank risk-taking: Evidence from emerging markets. *Economic Modelling*, *91*, 790-803. https://doi.org/10.1016/j.econmod.2019.11.013

Bui, T. N. (2019). The role of financial development in the Vietnam economy. *WSEAS Transactions on Business and Economics*, *16*, 471-476.

Caporale, G. M., Sova, A. D., & Sova, R. (2022). The direct and indirect effects of financial development on international trade: Evidence from the CEEC-6. *Journal of International Financial Markets, Institutions and Money*, *78*, 101550. https://doi.org/10.1016/j.intfin.2022.101550

Chinn, M. D., & Ito, H. (2020). A new measure of financial openness. The Chinn-Ito index. *International Finance*, *23*(3), 345-374.

Cournède, B., & Denk, O. (2015). Finance and economic growth in OECD and G20 countries. *Available at SSRN 2649935*.

D'Onofrio, A., & Rousseau, P. L. (2017). Financial development, trade openness and growth during the first wave of globalization. *Revue D'economie Financiere*, *127*(3), 135-146. https://doi.org/10.1057/s41294-017-0048-y

Edwards, S., & Van Wijnbergen, S. (1986). The welfare effects of trade and capital market liberalization. *International Economic Review*, *27*(1), 141-148. https://doi.org/10.2307/2526611

Engle, R. F., & Granger, C. W. (1987). Co-integration and error correction: Representation, estimation, and testing. *Econometrica: Journal of the Econometric Society*, *55*(2), 251-276.

Farhat, C. (2023). Determinants of banking sector development in developing and emerging economies: Uncovering the role of economic growth, trade openness and financial liberalization. *Banks and Banking Systems*, *18*(3), 177-191.

Ibrahim, M., & Alagidede, P. (2018). Nonlinearities in financial development–economic growth nexus: Evidence from sub-Saharan Africa. *Research in International Business and Finance*, *46*, 95-104. https://doi.org/10.1016/j.ribaf.2017.11.001

IBRD/IDA. (2022). *International bank for reconstruction and development/international development association.* Retrieved from https://ida.worldbank.org/en/home

Im, K. S., Pesaran, M. H., & Shin, Y. (2003). Testing for unit roots in heterogeneous panels. *Journal of Econometrics, 115*(1), 53-74. https://doi.org/10.1016/s0304-4076(03)00092-7
Kao, C. (1999). Spurious regression and residual-based tests for cointegration in panel data. *Journal of Econometrics, 90*(1), 1-44. https://doi.org/10.1016/s0304-4076(98)00023-2
Kao, C., & Chiang, M. H. (2001). On the estimation and inference of a cointegrated regression in panel data. In Nonstationary panels, panel cointegration, and dynamic panels. In (pp. 179–222): Emerald Group Publishing Limited.
Khan, A., Hassan, M. K., Paltrinieri, A., & Bahoo, S. (2021). Trade, financial openness and dual banking economies: Evidence from GCC Region. *Journal of Multinational Financial Management, 62*, 100693. https://doi.org/10.1016/j.mulfin.2021.100693
Kim, D. H., Lin, S. C., & Suen, Y. B. (2011). Interactions between financial development and trade openness. *Scottish Journal of Political Economy, 58*(4), 567-588. https://doi.org/10.1111/j.1467-9485.2011.00559.x
Klomp, J., & De Haan, J. (2014). Bank regulation, the quality of institutions, and banking risk in emerging and developing countries: An empirical analysis. *Emerging Markets Finance and Trade, 50*(6), 19-40. https://doi.org/10.1080/1540496x.2014.1013874
Kong, Q., Peng, D., Ni, Y., Jiang, X., & Wang, Z. (2021). Trade openness and economic growth quality of China: Empirical analysis using ARDL model. *Finance Research Letters, 38*, 101488. https://doi.org/10.1016/j.frl.2020.101488
Lawal, A. I., Nwanji, T. I., Asaleye, A., & Ahmed, V. (2016). Economic growth, financial development and trade openness in Nigeria: An application of the ARDL bound testing approach. *Cogent Economics & Finance, 4*(1), 1258810. https://doi.org/10.1080/23322039.2016.1258810
Lemaallem, H., & Outtaj, B. (2023). Impact of commercial and financial openness on economic growth: What short- and long-term dynamics? *Alternatives Managériales Economiques, 5*(1), 375-396.
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
Lyu, C., Xiao, Z., & Pu, Y. (2023). Financial openness and firm exports: Evidence from Foreign-owned Banks in China. *International Review of Financial Analysis, 87*, 102614. https://doi.org/10.1016/j.irfa.2023.102614
Mark, N. C., & Sul, D. (2003). Cointegration vector estimation by panel DOLS and long-run money demand. *Oxford Bulletin of Economics and Statistics, 65*(5), 655-680. https://doi.org/10.1111/j.1468-0084.2003.00077.x
Mckinnon, R. I. (1973). *Money and capital in economic development*. Washington, DC: Brookings Institution.
Menyah, K., Nazlioglu, S., & Wolde-Rufael, Y. (2014). Financial development, trade openness and economic growth in African countries: New insights from a panel causality approach. *Economic Modelling, 37*, 386-394. https://doi.org/10.1016/j.econmod.2013.11.044
Murthy, D. S., Kumar Patra, S., & Samantaraya, A. (2014). Trade openness, financial development index and economic growth: Evidence from India (1971-2012). *Journal of Financial Economic Policy, 6*(4), 362-375. https://doi.org/10.1108/jfep-10-2013-0056
Nguyen, H. M., Le, Q. T.-T., Ho, C. M., Nguyen, T. C., & Vo, D. H. (2022). Does financial development matter for economic growth in the emerging markets? *Borsa Istanbul Review, 22*(4), 688-698. https://doi.org/10.1016/j.bir.2021.10.004
Niroomand, F., Hajilee, M., & Al Nasser, O. M. (2014). Financial market development and trade openness: Evidence from emerging economies. *Applied Economics, 46*(13), 1490-1498. https://doi.org/10.1080/00036846.2013.866207
Öncel, A., Saidmurodov, S., & Kutlar, A. (2024). Financial development, export and economic growth: Panel data evidence from Commonwealth of Independent States. *The Journal of International Trade & Economic Development, 33*(1), 29-56. https://doi.org/10.1080/09638199.2022.2164045
Pagano, M., & Pica, G. (2012). Finance and employment: A tale of two crises. *Economic Policy, 27*(69), 5-55. https://doi.org/10.1111/j.1468-0327.2012.00250.x
Pedroni, P. (1995). Critical values for cointegration tests in heterogeneous panels with multiple regressors. *Oxford Bulletin of Economics and Statistics, 57*(1s), 653-670. https://doi.org/10.1111/j.1468-0084.1995.tb00021.x
Pedroni, P. (1996). Fully modified OLS for heterogeneous cointegrated panels. *Nonstationary Panels, Panel Cointegration, and Dynamic Panels*, 93-130.
Pedroni, P. (1997). Panel cointegration: Asymptotic and finite sample properties of pooled time series tests with an application to the PPP hypothesis. *Econometric Theory, 13*(3), 579-613. https://doi.org/10.1017/S0266466600009194
Pedroni, P. (1999). Critical values for cointegration tests in heterogeneous panels with multiple regressors. *Oxford Bulletin of Economics and Statistics, 61*(1s), 653-670.
Phillips, P. C., & Hansen, B. E. (1990). Statistical inference in instrumental variables regression with I (1) processes. *The Review of Economic Studies, 57*(1), 99-125. https://doi.org/10.2307/2297545
Rajan, R. G., & Zingales, L. (2003). The great reversals: the politics of financial development in the twentieth century. *Journal of Financial Economics, 69*(1), 5-50. https://doi.org/10.1016/S0304-405X(03)00125-9
Saikkonen, P. (1991). Asymptotically efficient estimation of cointegrating vectors. *Econometric Theory, 7*(1), 1-21. https://doi.org/10.1017/S0266466600000337
Samargandi, N., & Kutan, A. M. (2016). Private credit spillovers and economic growth: Evidence from BRICS countries. *Journal of International Financial Markets, Institutions and Money, 44*, 56-84. https://doi.org/10.1016/j.intfin.2016.04.010
Schumpeter, J. A. (1911). *The theory of economic development*. Cambridge, MA: Harvard University Press.
Sehgal, S., Ahmad, W., & Deisting, F. (2013). A re-assessment of the role of the financial sector in driving economic growth: Recent evidence from cross country data. *International Journal of Economics and Finance, 5*(1), 133. https://doi.org/10.5539/ijef.v5n1p133
Sehrawat, M., & Giri, A. (2016a). Panel data analysis of financial development, economic growth and rural-urban income inequality: Evidence from SAARC countries. *International Journal of Social Economics, 43*(10), 998-1015. https://doi.org/10.1108/ijse-10-2014-0211

Sehrawat, M., & Giri, A. (2016b). The impact of financial development on economic growth: Evidence from SAARC countries. *International Journal of Emerging Markets, 11*(4), 569-583. https://doi.org/10.1108/ijoem-11-2014-0172
Shabir, M., Jiang, P., Hashmi, S. H., & Bakhsh, S. (2022). Non-linear nexus between economic policy uncertainty and bank lending. *International Review of Economics & Finance, 79*, 657-679. https://doi.org/10.1016/j.iref.2022.02.016
Shahbaz, M., Pervaz, A., & Ahmad, K. (2011). Exports-led growth hypothesis in Pakistan: Further evidence. *Asian Economic and Financial Review, 1*(3), 182–197.
Shaw, E. S. (1973). *Financial deepening in economic development.* New York: Oxford University Press.
Thierry, B., Jun, Z., Eric, D. D., Yannick, G. Z. S., & Landry, K. Y. S. (2016). Causality relationship between bank credit and economic growth: Evidence from a time series analysis on a vector error correction model in Cameroon. *Procedia-Social and Behavioral Sciences, 235*, 664-671. https://doi.org/10.1016/j.sbspro.2016.11.061
Tiwari, A. K., Shahbaz, M., & Islam, F. (2013). Does financial development increase rural-urban income inequality? Cointegration analysis in the case of Indian economy. *International Journal of Social Economics, 40*(2), 151-168. https://doi.org/10.1108/03068291311283616
Tongurai, J., & Vithessonthi, C. (2023). Financial openness and financial market development. *Journal of Multinational Financial Management, 67*, 100782. https://doi.org/10.1016/j.mulfin.2023.100782
Uddin, G. S., Sjö, B., & Shahbaz, M. (2013). The causal nexus between financial development and economic growth in Kenya. *Economic Modelling, 35*, 701-707. https://doi.org/10.1016/j.econmod.2013.08.031
UNCTAD. (2022). *UNCTADstat: [Title of the specific study or dataset]*. Paper presented at the United Nations Conference on Trade and Development.
Wolde-Rufael, Y. (2009). Re-examining the financial development and economic growth nexus in Kenya. *Economic Modelling, 26*(6), 1140-1146. https://doi.org/10.1016/j.econmod.2009.05.002
Yuan, S., Wu, Z., & Liu, L. (2022). The effects of financial openness and financial efficiency on Chinese macroeconomic volatilities. *The North American Journal of Economics and Finance, 63*, 101819. https://doi.org/10.1016/j.najef.2022.101819
Zhang, J., Wang, L., & Wang, S. (2012). Financial development and economic growth: Recent evidence from China. *Journal of Comparative Economics, 40*(3), 393-412. https://doi.org/10.1016/j.jce.2012.01.001