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FDI Led Economic Growth in Transitional Markets. Is Financial Development Relevant?

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Abstract: **Objectives:** The study examined the impact of foreign direct investment (FDI) and financial development on economic growth in transitional markets. The study established the FDI minimum threshold level that significantly influence economic growth in transitional markets. **Prior Work**: The available literature on the FDI-financial development-economic growth nexus failed to reach a consensus, its mixed and quite divergent. **Approach:** Fixed effects model, Mundlak random model and the two-step system generalized methods of moments (GMM) methods were used. Panel threshold regression analysis was also employed. Panel data used ranges from 2005 to 2023. **Results:** The study noted that economic growth was positively enhanced by its own lag. FDI and financial development had a separate significant enhancing influence on economic growth in transitional markets. Economic growth was also significantly improved by the complementarity variable (FDI x financial development) in transitional markets. **Implications**: Transitional markets are therefore urged to develop and implement policies earmarked to increase financial development and FDI to enhance economic growth. **Value:** The study shows that financial development is important in enhancing FDI's influence on economic growth in transitional markets.

Keywords: Foreign Direct Investment; Economic Growth; Transitional Markets; Panel Data

JEL Classification: C33; D53; F21; F43; P2

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1. Introduction and Background of the Study

Three sub-sections constitute the introduction, contribution and organization of the study.

1.1. Background of the Study

The influence of FDI on the economy is generally well agreed and is a settled matter in theoretical and related empirical literature, consistent with Chizema (2025). The consensus is that FDI harness financial resources, human capital development, skills, jobs and management expertise, from home countries towards host nations. The flow of these FDI's vast amount of financial resources passes through the financial sector, needs to be managed by the financial sector and needs to be efficiently allocated by the financial system (Shahbaz & Rahman, 2010; Soumare & Tchana, 2015). On the other hand, Osinubi (1998), Shaw (1973), Schumpeter (1911) and Townsend (1983) argued that financial development's influence on economic growth occurs through the financial sector's ability to save and investment, risk management, efficient allocation of financial resources and information costs reduction. Despite the existence of abundant evidence that FDI enhances the economy and financial development and that financial development spur economic growth, no study so far has strictly investigated financial development's role in the FDI-led economic growth nexus in transitional markets.

1.2. Contribution of the Study

The theoretical and empirical literature on the impact of FDI on the economy shows divergency, failed to reach a consensus and its mixed. This study intends to also contribute by clarifying the relationship between the variables using panel data analysis in the context of transitional markets. The available empirical literature also has some methodological limitations. Firstly, most of these empirical studies ignored the dynamic aspect of economic growth variable (Dhobha et al., 2025; Tshepo, 2014; Chizema, 2025; Gaye & Njie, 2023). Secondly, none of these empirical studies focused on transitional markets (Dhobha et al., 2025; Tshepo, 2014; Gaye & Njie, 2023; Chizema, 2025). Thirdly, endogeneity problem was completely ignored (Dhobha et al., 2025; Chizema, 2025; Gaye & Njie, 2023; Tshepo, 2014). Fourthly, the data used by these empirical studies is now outdated and can no longer for present

economic policy decision making purposes (Gaye & Njie, 2023; Tshepo, 2014). Fifthly, majority of these empirical research work ignored the absorption capacities in the FDI-economic growth nexus (Dhobha et al., 2025). Sixthly, threshold regression analysis in the FDI-led economic growth hypothesis (Dhobha et al., 2025; Chizema, 2025; Gaye & Njie. 2023; Tshepo, 2014). The current study filled in all these gaps.

1.3. Organization of the Paper

Section 2 details the literature review. Section 3 describes and explains the FDI-financial development-economic growth nexus. Section 4 is the research methodological framework. Section 5 presents, describes and explains the preliminary findings. Results presentation and discussion is Section 6. Section 7 concludes and summarizes the study. Reference list is presented in Section 8.

2. Literature Review

Endogenous growth theory, neoclassical theory, modernisation theory, and the non-linear theoretical hypothesis and dependency theory are the five theories that define the influence of FDI on economic growth.

Romer (1986) who is the proponent of the endogenous growth theory argued that resources that flows side by side with FDI (skills, technology, capital, managerial experience, human capital development) are quite essential in triggering economic growth. Swan (1956) and Solow (1956), the founders of the neoclassical theory noted that FDI's exceptional ability to flow along with foreign capital into developing economies stimulates both liquidity and economic growth.

Calvo and Sanchez-Robles (2002), the proponents of the modernisation theory explained that FDI creates jobs, social stability, education, health, human capital development and exports, all of which helps to stimulate economic growth. The theory also explained that FDI forces the host country's governments to implement economic reforms such as liberalization of domestic commodity and financial markets, both of which also contributes towards economic growth.

However, dependency theory spearheaded by Amin (1974) explained that FDI is not for the economy because markets and the economy controlled by foreign nationals is prone to instability and is fragile. On the other hand, according to the non-linear

hypothesis, there are certain absorption capacities which should exist in the host country, to smoothen the FDI's positive economic growth impact. These absorption capacities include financial development, human capital development, political stability, infrastructural development, stable regulatory infrastructure, among others (Tanggapantnam et al., 2011; Fu et al., 2011; Adams, 2009; Zhang et al., 2010).

Varied empirical literature exists which focused on the influence on FDI on economic growth. Four categories under which their findings fall include (1) FDI enhancing effect, (2) FDI's deleterious effect, (3) bi-directional view, (4) neutrality hypothesis and (5) absorption capacities hypothesis. The empirical research work on the relevant subject matter is extensively discussed next.

Dhobha et al. (2025) examined the impact of FDI on economic growth in South using ordinary least squares (OLS) regression. The study employed time series data spanning from 2000 to 2023. The study observed that FDI significantly exerted positive influence on economic growth. Employing feasible generalized least squares (FGLS) with panel data ranging from 2006 to 2022, Chizema (2025) explored the effect of FDI on economic growth in South eastern and South Asia. FDI alongside gross capital formation shows a consistent enhancing influence on economic growth. The study also noted that absorption capacities were very critical in enhancing FDI's impact on the economy in South eastern and South Asia.

Osarumwense and Drapkin (2023) explored the global influence of outward FDI on economic growth using common correlated effect mean group and cross sectionally augmented ARDL in high, low and middle-income countries. The panel data used was from 1998 to 2019. Outward FDI negatively affected the economy in low-income countries. Across all three-income group of countries, FDI alongside home country institutions had a significant positive effect on the economy.

Tran et al. (2023) studied the impact of FDI on economic growth in Vietnam using Bayesian linear regression with data spanning from 2005 to 2020. The findings are in three sets. Using national data, FDI improved economic growth whilst FDI negatively affected the economy when provincial data sets were employed. The complementarity between FDI and institutional quality significantly enhanced economic growth in the provinces of Vietnam. Employing time series data (1980-2018) within the ordinary least squares framework, Gaye and Njie (2023) explored the influence of FDI on the Gambian economy. A positive influence of FDI on the economy of Gambia was observed.

Table 1. Empirical literature on FDI's influence on the economy

Researchers	Country	Time span	Methodology	Results
Awolusi and Adeyeye (2016)	Africa	1980-2013	Generalized methods of moments (GMM)	The positive influence of FDI on the economy was non-significant.
Moudatsou (2003)	European Union	1980-1996	Panel data analysis	FDI indirectly and directly enhanced economic growth.
Tshepo (2014)	South Africa	1990-2013	Multi-regression analysis	Both in the short and long run, FDI enhanced economic growth and employment in South Africa.
Chaudhury et al. (2020)	South Asian nations	1990-2014	Panel data analysis	The positive impact of FDI on the economy depended to a large extent on the sectoral structure of FDI.
Ayenew (2022)	Sub-Saharan African (SSA) countries	1988-2019	Auto regressive distributive lag (ARDL)	FDI insignificantly improved economic growth in the short run. In the long run, the economy was significantly enhanced by FDI.
Gui-Diby (2014)	Africa	1980-2009	System GMM approach	FDI's significant enhancing effect on the economy was evident.
Bekere and Bersisa (2018)	East Africa	1996-2015	Dynamic GMM methodology	Economic growth was enhanced significantly by FDI in East Africa during the period under study.
Nguyen (2018)	Vietnam	1997-2018	Time series data analysis	A uni-directional causality relationship running from FDI, foreign aid and exports towards economic growth was observed.
Mehdi (2011)	Middle East countries	1980-2008	Panel data analysis	FDI had both a direct and indirect positive effect on the economy.

Forte and Moura (2013)	World-wide	-	Literature analysis methodology	FDI is a key driver of economic growth.
Gochero and Boopen (2020)	Zimbabwe	1988-2018	ARDL	Mining FDI significantly enhanced economic growth in the long run. Non-mining FDI had a lower positive effect on the economy in the long run. FDI had no meaningful influence on the economy in the short run.
Zain (2019)	Pakistan	2000-2016	Multi-regression analysis	FDI enhanced economic growth in a significant manner.
Gudaro et al. (2012)	Pakistan	1981-2010	Multi-regression analysis	A significantly positive impact of FDI on the economy was observed.
Dinh et al. (2019).	Developing countries	2000-2014	Fully modified ordinary least squares (FMOLS)	FDI improved economic growth in the long run whilst the results were opposite in the short run.
Makhoba and Zungu (2021),	South Africa	1960-2019	Vector autoregressive method	A bi-directional relationship between FDI and economic growth was observed.
Kulu et al. (2021)	Ghana	1995-2019	ARDL	Both in the short and long run, economic growth was significantly enhanced by the complementarity between FDI and institutional quality.
Mahembe and Odhiambo (2014)	World-wide	-	Theoretical framework analysis	Significant FDI-led economic growth was observed.
Baiashvili and Gattini (2019)	Developed and developing countries	1980-2015	Panel GMM	FDI's influence on economic growth was in the form of a U-shape. In other words, several factors influenced the relationship between the two variables and also that the relationship

				varied with stage of economic growth.
Mamingi and Martin (2018)	Organisation of Eastern Caribbean States (OECS)	1988-2013	GMM	FDI's influence in the economy was insignificant. However, the economy significantly improved in response to the complementarity between FDI and infrastructural development.
Koojaroenprasit (2012)	South Korea	1980-2009	Multi-regression analysis	FDI's positive influence on the economy of South Korea was significant. The economy was however negatively affected by interaction terms (FDI and exports; FDI and human capital development).
Ibara (2020)	Central African Economic and Monetary Community (CEMAC) region	1970-2019	System GMM	FDI's positive impact on the economy was direct. The second set of results showed that human capital development enhanced FDI's positive effect in the economy.

Source: Author compilation

The findings from empirical research is quite divergent, mixed and conflicting. Some of them supported FDI's positive impact on economic growth (Awolusi & Adeyeye, 2016; Tshepo, 2014; Ayenew, 2022; Nguyen, 2018; Zain, 2019; Moudatsou, 2003). Others agree with the FDI's negative influence on the economy (Dinh et al., 2019). The feedback effect between FDI and economic growth was supported by Makhoba and Zungu (2021). The neutrality hypothesis was supported by Mamingi and Martin (2018) and Ayenew (2022). The absorption capacity hypothesis is in line with empirical researchers such as Ibara (2020), Mahembe and Odhiambo (2014) and Kulu et al. (2021).

3. FDI-financial Development-Growth Theoretical Nexus

Four ways in which foreign direct investment (FDI) influence the financial sector are as follows: FDI forces host countries to implement friendly market policies and regulations that create a good business environment necessary for financial development (Soumare & Tchana, 2015). Consistent with Shahbaz and Rahman (2010), FDI forces host nations to develop and implement policies that enhances competition and financial market efficiency. The view was supported by Kholdy and Sohrabian (2008) whose argument was that FDI forces the implementation of financial reforms in the host country. These financial reforms enhance financial sector competition and development. According to Soumare and Tchana (2015), multinational firms which brings FDI have a higher chance of listing their shares at local stock markets of host countries. These multinational firms boost liquidity in the financial sector and economy at large of host countries if they buy bonds and shares at domestic stock markets.

On the other hand, the theoretical literature on financial sector's impact on the economy is available. Osinubi (1998) argued that financial liquidity enhances chances that firms' financial assets becomes acceptable when used as collateral security. Schumpeter (1911) noted that financial sector lends money to the firms to spearhead technological innovation and effective resources allocation. Financial sector smoothens efficient allocation of resources, savings mobilization and risk diversification, argued Schumpeter (1911). Other scholars who include McKinnon (1973), Townsend (1983), Shaw (1973) and Goldsmith (1969) also argued that the financial sector influence in the economy happens through its ability to reduce information costs, risk management, pooling of savings, efficient resource allocation and transaction costs reduction.

4. Methodology

The study used panel secondary data, which spanned from 2005 to 2023. The data which is publicly available was gathered from World Development Indicators and International Monetary Fund. The advantage of using such data sets are that the data is publicly viewable, complied by fields related experts, verifiable and consistent. Countries included in the study are Argentina, Brazil, China, Colombia, Czech Republic, Indonesia, India, Mexico, Malaysia, Peru, Philippines, Republic of Korea, Thailand, Turkey and South Africa.

The baseline dynamic growth model specification is shown in equation 1.

$$lnGrowth_{it} = \alpha lnGrowth_{i,t-1} + \beta_1 FDI_{it} + \gamma' X_{it} + \mu_i + \lambda_t + \varepsilon_{it}$$
(1)

Where:

$i = 1, \ldots, N$countries; $t = 1, \ldots, T$years; $Growth_{it}$= GDP per capita growth; FDI_{it}= FDI inflow (% GDP); X_{it}= control variables (financial development, remittances, technology, trade openness, urbanization and tax revenue); μ_i= country-specific effects; λ_t= time effects;

Objective 1. Examining the Influence of FDI on Economic Growth

Following Blundell and Bond (1998), the difference equation is specified as:

$$\Delta Growth_{it} = \alpha \Delta Growth_{i,t-1} + \beta_1 \Delta FDI_{it} + \gamma' \Delta X_{it} + \Delta \varepsilon_{it}$$
(2)

While the level equation is as follows:

$$Growth_{it} = \alpha Growth_{i,t-1} + \beta_1 FDI_{it} + \gamma' X_{it} + \mu_i + \varepsilon_{it}$$
(3)

The internal instruments are (i) lagged levels for differenced equation and (ii) lagged differences for level equation. The main econometric estimation approach employed is the two-step system GMM.

For robustness purposes, the Mundlak random effects (Correlated random effects) was used.

To address correlation between regressors and individual effects:

Decompose:

$$FDI_{it} = (FDI_{it} - \bar{FDI}_i) + \bar{FDI}_i$$
(4)

Full specification:

$$Growth_{it} = \alpha Growth_{i,t-1} + \beta_1 FDI_{it} + \theta_1 \bar{FDI}_i + \gamma' X_{it} + \delta' \bar{X}_i + u_i + \varepsilon_{it}$$
(5)

Where: $\bar{FDI}_i$= country mean FDI; $\bar{X}_i$= country mean controls; Allows testing whether random effects assumption holds.

Objective 2. Is financial development a channel through which FDI influences economic growth?

$$lnGrowth_{it} = \alpha lnGrowth_{i,t-1} + \beta_1 FDI_{it} + \beta_2 FD_{it} + \beta_3 (FDI_{it} \times FD_{it}) + \gamma' X_{it} + \mu_i + \lambda_t + \varepsilon_{it} \quad (6)$$

Interpretation: Marginal effect of FDI:

$$\frac{\partial \ln Growth}{\partial FDI} = \beta_1 + \beta_3 FD_{it} \quad (7)$$

If: $\beta_3 > 0$: financial development strengthens FDI-growth effect

The system GMM's interaction model was used to estimate equation 6 and 7.

The Mundlak random effects was used for robustness purposes to estimate equation 8.

$$lnGrowth_{it} = \alpha lnGrowth_{i,t-1} + \beta_1 FDI_{it} + \beta_2 FD_{it} + \beta_3 (FDI_{it} \times FD_{it}) + \theta_1 \bar{FDI}_i + \theta_2 \bar{FD}_i + \theta_3 (\bar{FDI}_i \times \bar{FD}_i) + \gamma' X_{it} + u_i + \varepsilon_{it} \quad (8)$$

Objective 3. Is there a threshold effect in the FDI-economic growth nexus?

Using financial development as the threshold variable with a define threshold parameter τ. The indicator function is:

$$I(FD_{it} \leq \tau)$$

Therefore, the dynamic panel threshold model is specified as:

$$lnGrowth_{it} = \alpha lnGrowth_{i,t-1} + \beta_1 FDI_{it} I(FD_{it} \leq \tau) + \beta_2 FDI_{it} I(FD_{it} > \tau) + \gamma' X_{it} + \mu_i + \varepsilon_{it} \quad (9)$$

Where τ is estimated endogenously and allows regime-switching FDI effects.

Wang (2015)'s dynamic fixed effect threshold model was used to econometrically estimate equation 9.

Table 2 describes the independent and control variables and how they affect economic growth.

Table 2. Control variables description

Variable	Theoretical validation	Proxy
Dependent		
Economic growth (GROWTH)	-	Gross domestic product (GDP) per capita
Independent		
Foreign direct investment (FDI)	Foreign direct investment flows alongside capital, liquidity, human capital development, technology and managerial expertise into the host country, all of which constitutes key drivers of economic growth.	Net foreign direct investment inflows (% of GDP)
Financial development (FD)	The financial sector helps the economy by helping to improve efficient resource allocation, risk management, pooling of savings, risk diversification and lowering transaction costs.	Domestic credit to private sector (% of GDP)
Controls		
Personal remittances (REMIT)	Remittances that flows into the labour sending country when directed towards education, health and income generating projects can help to spur economic growth.	Personal remittances received (% of GDP)
Technology (TECH)	Technological advancement smoothens business operations by reducing information gathering costs and improving the speed, effectiveness and efficiency in doing business.	Individuals using the internet (% of population)
Trade openness (OPEN)	Trade openness helps to spur economic growth by enabling easy sourcing of critical and rare raw materials from other countries. It also helps to improve economic growth by allowing easy access to international commodity and financial markets.	Exports of goods and services (% of GDP)
Urbanization (URBAN)	Urbanization is good for the economy because it enables concentration of industries, people, commodity markets and innovation, all in proximity to each other.	Urban population (% of total population)
Tax revenue (TR)	Increased tax revenue allows the government to direct substantial amount of financial resources towards capital investment projects, which are critical elements of economic growth.	Tax revenue (% of GDP)

Source: Author's compilation

5. Preliminary Findings

According to Table 3, economic growth averages 3.84, with a low standard deviation of 0.34, showing that economic growth did not vary too much across the transitional markets. FDI with a mean of 2.57 and a standard deviation of 1.49 indicates moderate variations in FDI inflows across the transitional markets studied. The mean of financial development was 1.74 accompanied by a low standard deviation of 0.30, indicates that transitional markets generally have a less volatile financial markets sector. Remittances' mean is 1.67 and its accompanying standard deviation is 2.47. The results show that there is a wide difference in the amount of remittance inflows into these labour sending transitional markets.

The mean of technology is 50.37 and its associated huge standard deviation is 2.47, an indication that technology advancement is so varied and diverse within the transitional markets group. Trade openness's mean is 46.26 and its accompanying standard deviation is very high at 30.84. Such results show that the transitional markets' openness to trade is very high but also at very different levels. Urban population's mean is 67.43 yet its standard deviation is 16.78, an indication that the transitional markets although they are growing at a faster rate, they are at very different stages of growth as measured by their population. Total revenue averages 14.01 whilst it has a high standard deviation of 3.61. The results show that transitional markets have got a better mechanism and frameworks to collect tax revenues. Their tax revenue collection abilities are also at very different levels, most probably in line with their economic growth statistics.

Table 3. Descriptive statistics

Variable	Observations	Mean	Standard deviation	Minimum	Maximum
Ingrowth	285	3.84	0.34	2.86	4.55
FDI	285	2.57	1.49	0.01	10.01
FIN	285	1.74	0.30	1.03	2.28
REMIT	285	1.67	2.47	0.07	12.78
TECH	285	50.37	26.32	2.39	97.69
OPEN	285	46.26	30.84	10.71	140.44
URBAN	285	67.43	16.78	29.24	92.23
TR	285	14.01	3.61	6.73	26.02

Source: E-Views

The only range which exceeds 100 is for trade openness, an indication that there exist extreme values in the variable. There is no evidence of the existence of outliers in the other variables because their range and standard deviation is less than 100.

According to Figure 1, countries such as Argentina, Brazil, Czech Republic, Malaysia, Mexico, Republic of Korea and Turkey had their mean economic growth values which exceeded the overall mean of economic growth.

Countries whose mean financial development exceeded overall mean financial development values of 1.74% of GDP include Brazil, China, Malaysia, Republic of Korea, South Africa and Thailand. Countries whose mean FDI was greater than the overall mean FDI (2.57% of GDP) are Brazil, China, Colombia, Czech Republic, Malaysia, Mexico and Peru.

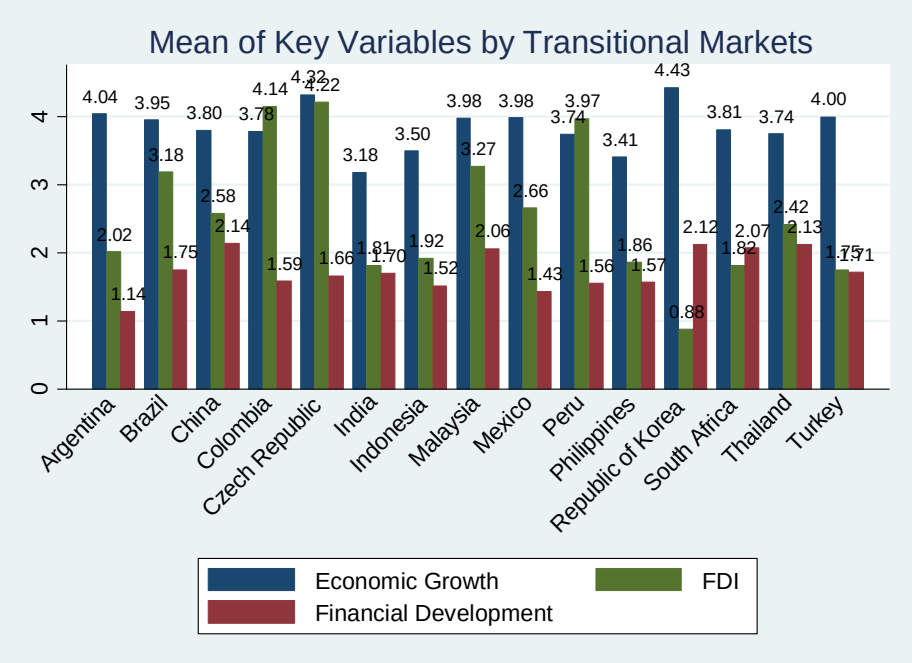

Table 4. Pairwise correlations

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) lngrowth	1.000							
(2) fdi	0.009	1.000						
	(0.883)							
(3) fin	0.202*	-0.161*	1.000					
	(0.001)	(0.007)						
(4) remit	-0.500*	-0.069	-0.250*	1.000				
	(0.000)	(0.243)	(0.000)					
(5) tech	0.750*	-0.085	0.307*	-0.263*	1.000			
	(0.000)	(0.154)	(0.000)	(0.000)				
(6) open	-0.187*	-0.009	0.465*	0.063	0.081	1.000		
	(0.002)	(0.886)	(0.000)	(0.292)	(0.173)			
(7) urban	0.755*	0.154*	-0.241*	-0.437*	0.565*	-0.188*	1.000	
	(0.000)	(0.009)	(0.000)	(0.000)	(0.000)	(0.001)		
(8) tr	-0.179*	0.002	0.296*	-0.169*	0.093	0.297*	0.152*	1.000
	(0.002)	(0.967)	(0.000)	(0.004)	(0.115)	(0.000)	(0.010)	

** shows significance at p<.05*

There are three variables which are positively related with economic growth in a significant way. These include financial development, technology and urban population. Remittances, trade openness and tax revenue were all individually negatively related with economic growth in a significant manner. The study also shows that economic growth and FDI are positively related in a non-significant manner. Correlations which are above 70% were observed between (1) technology and economic growth and (2) urban population and economic growth, showing that a multi-collinearity problem exists between these variables (Stead, 2007).

6. Results Presentation and Discussion

The study began with fixed-effects estimates to control for unobserved country heterogeneity. The study then implements a correlated random-effects (Mundlak) specification by augmenting the random-effects model with country means of time-varying regressors. The joint significance of these means indicates correlation between regressors and unobserved effects, ruling out standard random effects. Finally, as a robustness check addressing potential dynamic endogeneity and reverse causality, the study estimated a two-step system GMM model.

Table 5. The influence of FDI and FIN on economic growth

	Fixed Effect Model		Mundlak Random Model		Two-Step System GMM	
Variables	Economic Growth	Economic Growth	Economic Growth	Economic Growth	Economic Growth	Economic Growth
lnGrowth = L,					0.1617***	0.1551***
					(0.02023)	(0.0158)
	0.01577***		0.01577***		-0.0221*	
	(0.00525)		(0.00531)		(0.0107)	
FIN		0.224***		0.224***		0.0313*
		(0.073)		(0.075)		(0.0177)
REMIT	-0.0397**	-0.0371*	-0.0397**	-0.0371**	-0.0784***	-0.0793***
	(0.0177)	(0.0176)	(0.0180)	(0.0178)	(0.00114)	(0.00201)
TECH	0.00224*	0.00225**	0.00224**	0.00225**	0.00346***	0.00366
	(0.00107)	(0.000940)	(0.00109)	(0.000951)	(0.000243)	(0.00272)
OPEN	-0.000863	-0.000977	-0.000863	-0.000977	-0.00615***	0.00629***
	(0.000997)	(0.000999)	(0.00101)	(0.00101)	(8.75e-05)	(0.000578)
URBAN	0.0114	0.0111	0.0114	0.0111	0.0353***	0.0353***
	(0.00854)	(0.00852)	(0.00864)	(0.00862)	(0.000536)	(0.00191)
TR	-0.00545	-0.00826*	-0.00545	-0.00826*	-0.0578***	-0.0574***
	(0.00512)	(0.00441)	(0.00518)	(0.00446)	(0.000491)	(0.00135)
Constant	3.118***	2.801***	2.632***	2.953***	1.02854***	1.04513***
	(0.578)	(0.687)	(0.133)	(0.344)	(0.11477)	(0.10386)
R-squared	0.763	0.769	0.763	0.769		
Mundlak Test			66.69***	33.80***		
AR (1)					0.027	0.048
AR (2)					0.571	0.663

Sargan Test					0.348	0.295
Hansen Test					0.755	0.779
Year Effect	Yes	Yes	Yes	Yes	Yes	Yes
Country Effect	Cluster ID	Cluster ID	Cluster ID	Cluster ID	Yes	Yes
Number of Countries	15	15	15	15	15	15
Observations	285	285	285	285	270	270

*Note: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1*

According to Table 5 and Table 6, economic growth was significantly enhanced by its prior self as shown by the system GMM, consistent with Nor et al. (2015)'s argument. FDI had a significant negative influence on economic growth across the three panel methods (fixed effects, Mundlak random model, two step-system GMM), in line with Amin (1974) whose study noted that FDI can negatively impact the economy because markets and the economy controlled by foreign nationals is prone to instability and is fragile.

Across all three panel methods, the study also indicates that financial development's influence on economic growth was positive and significant across, in support of theoretical literature by Osinubi (1998) whose study argued that financial liquidity enhances chances that firms' financial assets becomes acceptable when used as collateral security. They also agreed with McKinnon (1973) whose argument was that efficient allocation of financial resources is enabled by a developed financial sector. Personal remittances had a significant deleterious influence on the economy, especially when remittances are directed more towards consumption expenditure.

Under all the three panel methods, technology's impact on economic growth was found to significantly positive, in support for literature which says technology promotes commerce and logistical networks and arrangements that spurs economic growth. Under the fixed effects model and Mundlak random model, trade openness non-significantly affected economic growth in a negative manner, in contradiction with available literature. The two-step system GMM shows that trade openness's impact on the economy was significantly positive. These results resonate with available literature (Baltagi et al., 2009) which says that an economy which is open to trade enables critical raw materials to flow from international markets and exporting of excess goods and services into other countries.

Urban population's positive impact on the economy was significant under Mundlak random and fixed effects models, yet its influence on economic growth under the two-step system GMM was significantly positive. These results support available literature (Glaeser et al., 2010) which says that increased urban population creates markets for products and services, creates more space for agriculture activities in the remote and rural areas. Tax revenue's influence on the economy was negative to a large extent across all three panel methods, in contradiction with available theoretical literature (Ho et al., 2023) which argued that tax revenue gives the government increased room to fund investment activities.

Table 6. Is financial development a channel through which FDI influences economic growth

	Fixed Effect Model	Mundlak Random Model	Two-Step System GMM
Variables	Economic Growth	Economic Growth	Economic Growth
lnGrowth = L,			0.0398**
			(0.0169)
FDI	0.0606*	0.0607*	0.210***
	(0.0333)	(0.0340)	(0.0153)
FIN	0.292*	0.292*	0.474***
	(0.155)	(0.157)	(0.0102)
c.fdi#c.fin	0.0372**	0.0373**	0.0995***
	(0.0112)	(0.0116)	(0.00984)
REMIT	-0.0386**	-0.0386**	-0.0746***
	(0.0172)	(0.0175)	(0.00107)
TECH	0.00205*	0.00204**	0.00433***
	(0.000956)	(0.000972)	(0.000278)
OPEN	-0.000944	-0.000943	-0.00540***
	(0.000971)	(0.000987)	(0.000217)
URBAN	0.00918	0.00918	0.0318***
	(0.00695)	(0.00706)	(0.000570)
TR	-0.00737	-0.00737*	0.0535***
	(0.00437)	(0.00444)	(0.000612)
Marginal Effect	0.0587**	0.0588**	
	(0.0212)	(0.0218)	

Constant	2.790***	2.550***	1.256***
	(0.622)	(0.552)	(0.0741)
R-squared	0.779	0.779	
Mundlak Test		68.38***	
AR (1)			0.004
AR (2)			0.719
Sargan Test			0.258
Hansen Test			0.633
Year Effect	Yes	Yes	Yes
Country Effect	Cluster ID	Cluster ID	Yes
Number of Countries	15	15	15
Observations	285	285	270

*Note: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1*

FDI's positive influence on the economy was found to be significant under the fixed effects, Mundilak random and the two-step system GMM approaches, in support of theoretical explanations put forward by Solow (1956). Just like in Table 5, financial management's impact on the economy was significantly enhancing, in line with the available literature (Shaw, 1973) which explains that financial sector smoothens efficient allocation of resources, savings mobilization and risk diversification.

The complementarity between FDI and financial development had a significant enhancing impact on the economy, in line with the endogenous growth theory proposed by Romer (1986) whose argument is that FDI flows alongside capital, which is a key ingredient for economic growth. In line with available literature, remittances can have a deleterious effect on the economy if the funds are channelled towards consumption expenditure. The results presented in Table 6 conforms to this available literature. Technology's impact on the economy was found to be significantly enhancing, in support of available literature which explains that technology reduces costs, smoothens economic transactions and trade.

Economic growth was negatively affected by trade openness in a non-significant manner under the fixed effects, Mundlak random model whilst trade openness' influence on the economy under the two-step system GMM was found to significantly negative. These results show that trade openness had a negative influence on the economy of transitional markets, in contradiction with available literature on trade openness-led growth hypothesis.

Under the two-step system GMM approach, urban population's impact on the economy was (1) positive and significant and (2) positive and non-significant under fixed effects and Mundlak random model. These results generally are in support of available literature. Under fixed effects, tax revenue had a non-significant negative influence on the economy whilst Mundlak random model indicates that tax revenue's influence on economic growth was negative and significant, contrary to the available literature. The two-step system GMM shows that tax revenue's impact on economic growth was significantly enhancing, consistent with literature which argued that increased tax revenue allows the government to have financial resources to spearhead investment activities.

Is there a threshold effect in the FDI-economic growth nexus?

Before examining absorptive-capacity effects, the study first tested whether the growth impact of FDI exhibited scale nonlinearities by estimating an endogenous threshold in FDI itself.

Table 7. Threshold effect in the FDI-economic growth nexus

	Dynamic Fixed Effect Threshold (Wang et al. 2015)	
	Scale Nonlinearity (model 1)	Absorptive Capacity (model 2)
Variables	Economic growth	Economic Growth
Threshold	1.32	1.1588
Threshold Interval	[1.3100 – 1.3500]	[1.1283 – 1.1607]
lnGrowth = L,	0.820***	0.834***
	(0.0314)	(0.0314)
0b._cat#c.fdi	-0.0114	0.0325***
	(0.00946)	(0.00923)
1._cat#c.fdi	0.00428*	0.00616***
	(0.00253)	(0.00234)
FIN	0.119**	0.118**
	(0.0472)	(0.0467)
REMIT	-0.0107	-0.0109
	(0.00683)	(0.00674)
TECH	9.52e-05	0.000218
	(0.000222)	(0.000224)
OPEN	0.00301***	0.00263***
	(0.000230)	(0.000227)
URBAN	0.00376***	0.00282**
	(0.00123)	(0.00125)
TR	-0.0260***	-0.0199***
	(0.00223)	(0.00222)

Constant	0.619***	0.625***
	(0.126)	(0.125)
Observations	270	270
R-squared	0.886	0.888
Number of countries	15	15

*Note: Threshold Variable are FDI and financial development in scale nonlinearity and absorptive capacity models respectively. Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1*

Table 7 presented FDI threshold's influence on economic growth in transitional markets. Economic growth was significantly enhanced by its own lag under both model 1 and 2, in support of Nor et al. (2015)'s explanation. In model 1, FDI minimum threshold of 1.32% of GDP is necessary to enable significant economic growth whilst FDI minimum threshold of 1.16% of GDP triggers significant economic growth in transitional markets in model 2. These results support Romer (1993)'s explanation that higher levels of FDI is better able to enhance significant economic growth.

Financial development, trade openness and urbanization's separate influence on economic growth was found to be positive and significant under both models, in support of the existing literature. These three variables' positive influence on the economy was more significant under model 1 (scale non-linearity). Tax revenue's influence on economic growth was found to be significantly negative under both models 1 and 2. Its influence was found to be more negatively significant under model 1 (scale non-linearity) in comparison to model 2.

7. Conclusion

The study examined the impact of FDI and financial development on economic growth in transitional markets using fixed effects model, Mundlak random model and the two-step system GMM. The study employed panel threshold regression analysis to establish the FDI minimum threshold level that significantly influence economic growth in transitional markets. The available literature on the FDI-financial development-economic growth nexus failed to reach a consensus, its mixed and quite divergent. The study noted that economic growth was positively enhanced by its own lag. FDI and financial development had a separate significant enhancing influence on economic growth in transitional markets. Economic growth was also significantly improved by the complementarity variable (FDI x financial

development) in transitional markets. Transitional markets are therefore urged to develop and implement policies earmarked to increase financial development and FDI to enhance economic growth. Further empirical research should focus on examining threshold levels of absorption capacities which are necessary to trigger significant economic growth in transitional markets.

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