Nexus between Financial Development and Economic Prosperity in Selected Countries of Emerging and Developing Asia

Prem Bahadur Budhathoki [iD]
Associate Professor, Saraswati Multiple Campus, Tribhuvan University, Kathmandu, Nepal
prem.budhathoki@mahmc.tu.edu.np

Ganesh Bhattarai* [iD]
Associate Professor, Nepal Commerce Campus, Tribhuvan University, Kathmandu, Nepal
ganesh@ncc.edu.np

Arjun Kumar Dahal [iD]
Lecturer (Economics), Mechi Multiple Campus, Tribhuvan University, Nepal
arjun.dahal@memc.tu.edu.np

Corresponding author*
Type of Research: Original Research

Abstract
Background: The link between financial development and economic growth remains debated in theoretical and empirical research. This research focuses on developing and emerging Asian nations to determine the impact of financial development on economic growth.
Methods: This study took a sample of six member countries from SAARC and BIMSTEC, covering the period from 1990 to 2021, resulting in 192 observations. It employs a descriptive and correlation matrix to examine the distribution and association between predictor and response variables. This study tests the "Finance-led growth theory" using FMOLS and DOLS estimators.
Results: The findings indicate a significant positive effect of financial development on economic growth, assessed through two measures: financial institution development and financial market development. Foreign direct investment has a positive effect on economic

growth. In contrast, age dependency, "young," has an adverse and noteworthy impact on economic prosperity. Similarly, export and personal remittance have an unfavorable yet negligible effect on economic growth.

Conclusion: Financial institutions and financial market development positively and significantly affect economic growth in emerging and developing Asia and support the "Finance-led growth theory."

Novelty: This study employs two metrics—financial institution and financial market development—to assess the link between financial development and economic growth and offers ample literature in the context of emerging and developing Asia.

Keywords: Financial development, foreign direct investment, age dependency, export, personal remittance

JEL Classification: G_{00}, G_{10}, G_{21}, G_{22}

Introduction

The mobilization of savings and capital allocation through credit to productive investments can be facilitated by financial development (hereafter FD) (Bardhan & Sharma, 2019). The easy access to financing allows entrepreneurs and firms to invest in innovation, which enhances productivity and actual economic output. FD can reduce information asymmetries, lower transaction, and monitoring costs (Shaw, 1973), and offer ground for better investment. The expansion of financial institutions such as banks, finance companies, microfinance companies, insurance, pension funds, and others stimulates competition and reduces funding costs, which creates an investment environment and brings economic prosperity. Furthermore, the expansion of financial institutions develops an inclusive financial system where they incorporate underprivileged groups, which can lead to reduced poverty and inequality. In addition, developing equity and bond markets in a market-based economy plays a pivotal role in obtaining the required funds to start new ventures and expand existing businesses.

Two contrasting theories, "Finance-led growth theory" and "Growth-led finance theory," present different arguments about the nexus between FD and economic growth (hereafter EGR). Finance-led growth theory posits that a well-developed financial system facilitates savings mobilization into productive investment, lowers transactions, and monitors costs (Adeyeye, 2015). In contrast, Growth-led finance theory states that as the economy expands, the uptake of financial services increases, prompting the expansion of financial institutions.

More recent studies demonstrated contradictory results about the influence of FD on EGR. For example, the study of Wang et al. (2024) has shown the adverse effect of FD on EGR in the context of developing nations, but a favorable effect has been demonstrated in the context of moderate and highly developed nations. However, Ur Rahaman and Hysa (2021) and Oncel et al. (2024) have shown a favorable impact of FD on EGR. In contrast, the study of Bui et al. (2023) revealed an insignificant effect of FD on EGR. Similarly, recent studies on the influence of foreign direct investment (hereafter FDI) and EGR are still inconclusive. For instance, Ayenew (2022b), Nguyen (2022), and Nguyen et al. (2022) found a significant favorable

influence of FDI on EGR. However, Eggoh et al. (2019) found an insignificant impact of FDI on EGR.

Similarly, recent studies on the influence of age dependency "young" (hereafter ADR(Y)) and EGR are still inconclusive. For instance, Bloom and Canning (2004), Kelly and Schmidt (2005), and Thanh Trong et al. (2024) found the unfavorable influence of ADR(Y) on EGR. However, Peprah et al. (2019) found a favorable impact of ADR(Y) on EGR in the short run. In addition, recent studies on the influence of export (hereafter EXP) and EGR are still inconclusive. For instance, Sultanuzzaman et al. (2018), Ramanayake and Lee (2015), and Oncel et al. (2024) found a favorable influence of EXP on EGR. However, Nguyen et al. (2022) found minimal impact of EXP on EGR. Finally, more recent studies on the influence of personal remittances (hereafter PRTGDP) and EGR are still inconclusive. For instance, Cao and Kang (2020), Ur Rehaman and Hysa (2021), and Tchekoumi and Nya (2023) found a significant favorable influence of PRTGDP on EGR. However, Ayenew (2022a) found an adverse impact of PRTGDP on EGR. These conflicting outcomes on the nexus between FID, FMD, FDI, ADR(Y), EXP, PRTGDP, and EGR are still inconclusive, and they demand additional research. This study offers new insights by incorporating two new metrics—the FID and the FMD—for the FD index to assess the impact on EGR. Furthermore, the ADR(Y) ratio is used to examine the demographic effect on EGR, which was rarely used in the previous studies. The upcoming content of this paper is presented as follows: The Second section presents research objectives. The Third section includes both theoretical and more recent empirical findings. The Fourth section presents methods, including research design, data source, variable definition, and model specification. The Fifth section presents results. The Sixth section presents a discussion, and the final section ends with conclusions.

Research Objectives

This study examines the "finance-led growth theory" by investigating the relationship between FD and EGR. This study also investigates the influence of FDI, ADR(Y), EXP, and PRTGDP on EGR, utilizing a sample of six countries from emerging and developing Asia.

Literature Review

Theoretical review

Finance-led growth theory posits that the advancement of financial systems catalyzes economic expansion, enhancing the availability of financial services (Adeyeye et al., 2015). According to this theory, a healthy financial system and market lower transaction, monitoring, and asymmetric information costs, mobilize resources from surplus to deficit units and allocate capital to the most profitable investments. Furthermore, financial markets provide opportunities for investors and businesses to spread risk via instruments such as insurance and derivatives, contributing to a more stable investment environment. This theory posits that FDI can potentially enhance the marginal productivity of capital, consequently fostering sustained EGR. Key figures in this theory, including Schumpeter (1911), and Shaw (1973), Mckinnon (1973), contended that financial intermediaries play a crucial role in fostering innovation by recognizing and financing new ventures. In conclusion, the "Finance-Led Growth Theory"

posits a positive relationship between FDI and EGR. Therefore, this investigation examines this theory.

Empirical studies and Hypotheses

Financial development and economic growth

Wang et al. (2024) investigated the effect of FD on EGR, utilizing a sample of 12 Asian countries from 1995 to 2020. This study, which used DCCE, found that FD had a negative effect on EGR in developing nations but had a positive effect in moderate and highly developed economies. This suggests that in developing nations, FD would not be given priority by the government and would not be able to stimulate EGR. Ur Rehman and Hysa (2021) investigated the influence of FD on EGR in Balkan countries, utilizing data from the years 2000 to 2017. This study, employing GMM estimators, demonstrated a positive effect of FD on EGR, and supported the supply-leading hypothesis. Uddin and Khan (2023) examined the link between FD and EGR using a sample of 156 countries from 2002 to 2018. Employing FM-OLS and DOLS, the findings indicated a positive relationship between FD and EGR. Oncel et al. (2024) analyzed the relationship between FD and EGR in nine Commonwealth nations from 1995 to 2020. This study, utilizing FM-OLS and DOLS estimators, identified a favorable effect of FD on EGR. In contrast, Bui et al. (2023) explore the relationship between FD and EGR, incorporating energy consumption, through a sample of Asian countries spanning the years 1981 to 2021. The study applied GMM-panel VAR estimators and discovered that EGR contributes to FD; however, FD does not facilitate EGR, thereby supporting the demand-following theory.

This study presents the following hypothesis derived from the previously discussed empirical findings.

H_{1a}: The expansion of financial institutions can produce favorable or unfavorable on EGR.

H_{1b}: The expansion of financial markets can exert either beneficial or harmful impact on EGR.

Foreign direct investment and economic growth

Ayenew (2022b) investigated the influence of FDI on EGR, using a sample of Sub-Saharan African nations from 1988 to 2019. The study utilizing the PMG/ADRL model revealed a notable positive impact of FDI on EGR; however, this impact appears to be insignificant in the short run. Eggoh et al. (2019) analyzed the impact of remittances and FDI on EGR, utilizing a sample of 49 countries over the timeframe from 2001 to 2013. The analysis utilizing PSTR, difference, and system GMM indicated that FDI has an insignificant effect on EGR. Nguyen (2022) used a sample of ASEAN-6 countries from 2002 to 2019 to examine the relationship between FDI and EGR. This study demonstrated a considerable beneficial influence of FDI on EGR using threshold and system GMM estimators. This effect would be considerably stronger when FDI surpasses the recommended threshold value. This finding suggests that the positive effect of FDI would be significantly enhanced when the banking sector and equity market are well developed. Nguyen et al. (2022) examined the influence of FDI on EGR in Vietnam,

focusing on the timeframe from 1986 to 2020.This study discovered, through ADRL bound testing, that FDI has a significant long-term effect on EGR.

This study presents the following hypothesis derived from the previously discussed empirical findings.

H_2: *The influence of FDI on EGR can be either positive or negative.*

Age dependency (Young) and economic growth

The ADR(Y) ratio serves as a demographic indicator that can impact EGR positively or negatively. An increased ADR(Y) ratio indicates a significant proportion of young dependents compared to the working-age population, which may result in economic strain, reduced labor supply, and decreased saving and investment, potentially hindering EGR. However, a temporary increase in the ADR(Y) ratio, influenced by a substantial population of children, may facilitate enhanced EGR in the future (Kelley, 1973). A high youth dependency ratio can provide an opportunity for economies that focus on investments in education, health, and skill development for the younger population. The integration of these individuals into the workforce enhances human capital, thereby improving productivity and promoting EGR. Bloom and Canning (2004) analyzed the correlation between demographic characteristics and EGR, employing data from 1965 to 1995. The study indicated that a decrease in the ADR(Y) ratio, marked by a rise in the working-age population, is associated with higher EGR rates, particularly in East Asia. Kelley and Schmidt (2005) found that a high dependency ratio adversely affects EGR rates, mainly due to reduced savings and increased consumption demands. A more recent study conducted by Peprah et al. (2019) examined the relationship between the labor force, treated as a control variable, and EGR in Ghana, utilizing a sample spanning from 1984 to 2015. This study, employing the ARDL model, reveals that an increase in labor force participation, characterized by a decrease in the dependency ratio, exerts a positive influence on EGR in the short run; however, this effect does not hold an important role in the long run. Similarly, Thanh Trong et al. (2024) examined how the ageing population affected the EGR of seven ASEAN countries between 2001 and 2021. The active labor force ratio has a positive and considerable impact on GDPPC growth, but ADR(Y) "old" has a negative impact on EGR, as this study showed using FEM.

This study presents the following hypothesis derived from the previously discussed empirical findings.

H_3: *The influence of ADR(Y) on EGR can be negative.*

Export and economic growth

Sultanuzzaman et al. (2018) investigated the influence of FDI and exports on EGR in Sri Lanka, utilizing data from 1980 to 2016. Through ADRL bound testing, the findings indicated a notable positive effect of exports on EGR in both the short-run and the long-run. Ramanayake and Lee (2015) used a sample of 205 nations, 156 of which were developing and 49 of which were developed, to investigate the link between export growth and EGR. This study, which used POLS, FE, and GMM estimators, discovered that export increase significantly boosted EGR as indicated by GDPPC growth. Nguyen et al. (2022) examined the influence of trade

openness on EGR in Vietnam, focusing on the timeframe from 1986 to 2020.This study discovered, through ADRL bound testing, that export has an insignificant long-term impact on EGR. Oncel et al. (2024) explored the relationship between export and EGR within nine commonwealth nations during the period from 1995 to 2020. This study utilized FM-OLS and DOLS estimators to identify a significant positive effect of exports on EGR.

This study presents the following hypothesis derived from the previously discussed empirical findings.

H$_4$: *The influence of export on EGR can be negative.*

Personal remittance and economic growth

Ayenew (2022a) analyzed the influence of remittance inflow on EGR, utilizing a sample of SSA countries from 2010 to 2019. Utilizing system GMM, the results indicated that remittance inflows have an unfavorable impact on EGR. However, this result became favorable when the study considered the joint impact of remittance and financial sector development. In a similar vein, Tchekoumi and Nya (2023) examined the influence of migrant remittances on EGR within the CEMAC zone, focusing on the timeframe from 1990 to 2018. Through the application of the PSTR and GMM methods, the outcomes indicated that remittances have a favorable impact on EGR up to a certain threshold, beyond which the effect becomes negative. In a similar vein, Ur Rehman and Hysa (2021) examined the influence of remittance on EGR in Balkan countries, utilizing data from the years 2000 to 2017. This study, employing GMM estimators, demonstrated a positive effect on EGR. This finding suggests that remittances will serve as a primary financing mechanism to enhance EGR in WBC. Cao and Kang (2020) investigated the effects of PRTGDP and FDI within 29 economic transition countries, utilizing data from the years 2000 to 2015. The results of the study, which used dynamic system GMM, showed a positive relationship between remittances and EGR. However, only those nations with low levels of FDI can benefit from this; those with high levels of financial growth experience a negative outcome.

This study presents the following hypothesis derived from the previously discussed empirical findings.

H$_5$: *The influence of personal remittance inflows on EGR can be either beneficial or detrimental.*

Based on the theoretical explanation and literature review, this study offers the following theoretical framework, which is presented in Figure 1.
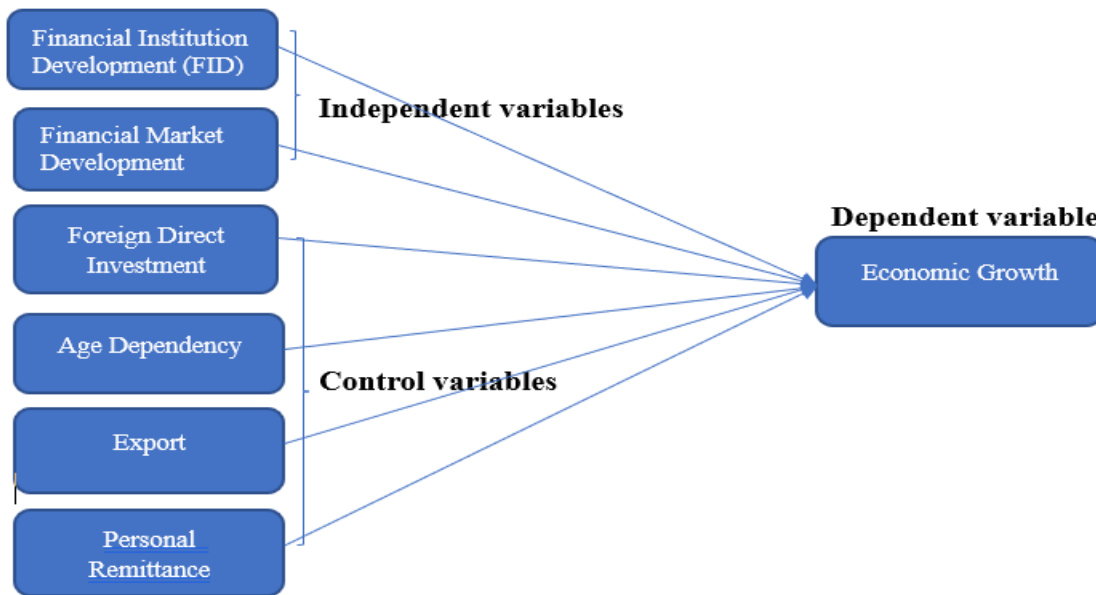
Figure1. *Theoretical framework*

Methods

Research design

By deductive reasoning, the study mainly employed an explanatory research design to investigate the impact of EXP, PRTGDP, ADR(Y), FID, and FMD on EGR. This study utilized descriptive and correlation research designs to outline key characteristics of the variables and identify any multicollinearity issues among the predictor variables.

Data source

This study applied annual data sourced from the World Bank (2024) and IMF (2024). The data concerning the FID and the FMD are sourced from the IMF (2024), and data related to FDI, ADR(Y), EXP, and PRTGDP are sourced from the World Bank (2024). The chosen "countries, sample periods, and number of observations" (Budhathoki et al., 2024) are comprehensively described in Table 1.

Table1. *Sample Countries, Periods, and Observations.*

S. N.	Countries	Periods	No. of observation
1	Bangladesh	1990-2021	32
2	India	1990-2021	32
3	Nepal	1990-2021	32
4	Pakistan	1990-2021	32
5	Sri Lanka	1990-2021	32
6	Thailand	1990-2021	32

Variable definition

Dependent variable

This study applied GDPPC growth as an indicator of EGR, reflecting the rise in the average economic output per individual in a nation. This is calculated by taking the present period's GDPPC, subtracting the earlier period's GDPPC, and then dividing by the earlier period's

GDPPC. Productivity is a significant factor in EGR, and rising GDPPC usually indicates increased productivity. This measure has been utilized in the earlier investigations conducted by Ramanayake and Lee (2015) as well as Thanh Trong et al. (2024).

Independent variables

This study used two measures of FDI, FID and FMD, as independent variables. Higher value of these indices signifies a higher level of FDI in a particular country. Other alternative measures of FDI have been used in the earlier investigations conducted by Bui et al. (2023), Uddin and Khan (2023), Oncel et al. (2024), and Wang et al. (2024).

Control variables

This study used FDI, ADR(Y) (young), export, and PRTGDP as control variables. The first control variable used in the study is FDI, which is measured by net investment inflows less disinvestment divided by GDP. This measure has been employed in the earlier studies conducted by Eggoh et al. (2022), Nguyen (2022), and Nguyen et al. (2022). This study employed ADR(Y) ratio, "young" a second control variable. The alternative measure of ADR(Y) "old" has been used in the earlier studies conducted by Bloom and Canning (2004), Kelley and Schmidt (2005), and Thanh Trong et al. (2024). This study employed export as a third control variable. This measure has been employed in the earlier studies conducted by Ramanayake and Lee (2015) and Nguyen et al. (2022). This study employed PRTGDP as a final control variable. This measure has been employed in the earlier studies conducted by Ayenew (2022a) and Tchekoumi and Nya (2023).

Model specification

This study used the FM-OLS and DOLS regression models to estimate the long-run association between variables either cointegrated of order I(0)/or order one I(1). The model gives consistent estimates by correcting for serial correlation and endogeneity (Phillips, 1995). This work estimates long-term coefficients using FMOLS and DOLS regression methods, in accordance with the research of Oncel et al. (2024). The regression equation is presented as follows.

$GDPPC_{it} = a_i + \beta_1 FID_{it} + \beta_2 FMD_{it} + \gamma_1 FDI_{it} + \gamma_2 ADR(Y)_{it} + \gamma_3 EXP_{it} + \gamma_4 PRTGDP_{it} + u_{it}$ ....(1)

where, GDPPC denotes the GDPPC growth. FID represents the financial institutions development. FMD denotes the financial market development. FDI represents the foreign direct investment. ADR(Y) denotes the age dependency ratio (Young). EXP represents the export. Finally, PRTGDP denotes the personal remittance.

i and t denotes country time period, respectively.

β_1 and β_2 are regression coefficients of independent variables.

$\gamma_1, \gamma_2,$ and γ_3 are regression coefficients of control variables.

u_{it} = effort term

Results

Table 2 displays the findings of the panel unit root test. The study's findings indicated that all three tests—LLC t-stat, IPS w-stat, and ADF-Fisher-chi square—demonstrated that GDPPC is non-stationary at level, suggesting that the presence of a unit root cannot be ruled out. In order to tackle this issue, we computed the first difference of the series, resulting in all three tests

indicating stationarity. In a similar vein, FID, FMD, ADR(Y), EXP, and PRTGDP exhibit non-stationarity at level. Nonetheless, all the variables discussed above exhibit stationarity at the first difference. Consequently, we can be assured in our forthcoming regression analysis to provide reliable estimates.

Table 2. *Results of Panel Unit Root Tests.*

| Variables | LLC t-stat. | | IPS w-stat. | | ADF-Fisher-chi-square | |
	At level	At first diff.	At level	At first diff.	At level	At first diff.
GDPPC	.598	-4.346***	3.964	-4.983***	1.876	47.888***
FID	.456	-4.514***	2.912	-7.215***	3.232	72.451***
FMD	-1.329*	4.353***	1.246	-6.200***	15.114	61.635***
FDI	-2.440***	-5.842***	-3.667***	-8.900***	38.891***	90.685***
ADR(Y)	-1.891**	-3.166***	1.464	-1.927**	7.655	26.913***
EXP	-.166	-3.810***	1.723	-4.983***	6.607	48.482***
PRTGDP	-.359	-3.510***	.369	-6.581***	10.748	64.513***

Note: ***, **, and * represent $p < .01$, $p < .05$, and $p < .1$ respectively.

Source: Authors own calculation.

Table 3 displays the results of the panel cointegration test, utilized to assess the presence of a long-run equilibrium link among variables across a set of cross-sectional countries. The PRCT results showed that among the eleven tests conducted, six tests rejected the null hypothesis of no cointegration. This suggests the presence of a long-run equilibrium relationship between GDPPC growth, FID, FMD, FDI, ADR(Y), EXP, and PRTGDP across the panel countries. The results from KRCT and JFPCT further corroborate the existence of a cointegration link among the variables. This finding establishes a consistent, long-term equilibrium nexus between the variables. In the long run, GDPPC growth, FID, FMD, FDI, ADR(Y), EX, and PRTGDP exhibit a tendency to move in together, notwithstanding short-term deviations.

Table 3. *Results of Panel Cointegration Tests.*

Panel A: Pedroni residual cointegration test (PRCT).				
PRCT (within-dimension)				
	Stat.	p-value	Weighted stat.	p-value
Panel v-stat.	-.912	.819	-1.321	.907
Panel rho-stat.	.092	.537	-.170	.432
Panel pp-stat.	-5.186	.000	-6.222	.000
Panel ADF-stat.	-2.636	.004	.0042	.001
PRCT (within-dimension)				
		Stat.		p-value
Group rho-stat.		.222		.588
Group pp-stat.		-9.325		.000
Group ADF-stat.		-2.951		.002

Panel B: Kao residual cointegration test (KRCT).				
			t-stat.	p-value
ADF			2.065	.019
Panel C: Johansen Fisher panel cointegration test (JFPCT).				
No. of CE(s)	Fisher stat.	p-value	Fisher stat.	p-value
r=0	275.1	.000	213.3	.000
r≤1	186.6	.000	90.46	.000
r≤2	113.4	.000	62.40	.000
r≤3	61.87	.000	25.66	.012
r≤4	44.80	.000	29.36	.004
r≤5	7.463	.008	29.54	.003

Source: Authors own calculation.

The descriptive characteristics of GDPPC, FID, FMD, FDI, ADR(Y), EXP, and PRTGDP are presented in Table 4. The average GDPPC is 3.356, with an SD of 2.872. The smallest and largest values of GDPPC are -8.765 and 9.347, respectively. Similarly, the average FID is .314, with an SD of .126. The min and max values of FID are .135 and .718, respectively. The average FMD is .268, with an SD of .228. The smallest and largest values of FMD are .005 and .735, respectively. Similarly, the average FDI is 1.139, with an SD of 1.080. FDI's min and max values are -.989 and 6.435, respectively. The average ADR(Y) is 53.664, with an SD of 16.797. The smallest and largest values of ADR(Y) are 22.192 and 85.452, respectively. The average EXP is 34.573, with an SD of 27.192. The smallest and largest values of exports are 5.119 and 116.46, respectively. Finally, the average PRTGDP is 5.754, with an SD of 5.953. The smallest and largest values of PRTGDP are .399 and 27.626, respectively.

Table 4. *Summary Statistics.*

Variables	Obs.	Mean	SD	Min.	Max.
GDPPC	192	3.356	2.872	-8.765	9.347
FID	192	.314	.126	.135	.718
FMD	192	.268	.220	.0005	.735
FDI	192	1.139	1.080	-.989	6.435
ADR(Y)	192	53.664	16.797	22.673	85.452
EXP	192	34.573	27.192	5.119	116.46
PRTGDP	192	5.754	5.953	.399	27.626

Source: Authors own calculation.

Table 5 illustrates the results of the association between predictor and response variables. The analysis demonstrated a noteworthy positive correlation (r = .742, p < .01) between the development of financial institutions and GDPPC. This indicates that a higher level of FID may enhance GDPPC growth. In a similar vein, the findings indicated a notable favorable correlation (r = .526, p < .01) between FMD and GDPPC. This suggests that an elevated level of FMD has the potential to enhance GDPPC. The findings indicated a noteworthy positive relationship (r = .595, p < .01) between FDI and EGR. This suggests that an increased ADR(Y)

ratio may enhance EGR in emerging and developing Asia. In contrast, the results indicated a negative relationship (r = -.816, p < .01) between the ADR(Y) and GDPPC growth. In a similar vein, a negative correlation exists (r = -.263, p < .01) between exports and EGR. Ultimately, the findings indicated a negative correlation (r = -.169, p < .05) between PRTGDP and EGR. The results suggest that an increased level of FDI may promote EGR. In contrast, an increased level of ADR(Y), EXP, and PRTGDP can negatively impact GDPPC in emerging and developing Asia. However, the correlations mentioned above do not imply causation and should be further explored through regression analysis.

Table 5. *Correlation Matrix.*

Variables	GDPPC	FID	FMD	FDI	ADR(Y)	EXP	PRTGDP
GDPPC	1						
FID	.742***	1					
	(.000)						
FMD	.526***	.717***	1				
	(.000)	(.000)					
FDI	.595***	.509***	.586***	1			
	(.000)	(.000)	(.000)				
ADR(Y)	-.816***	-.759***	-.522***	-.539***	1		
	(.000)	(.000)	(.000)	(.000)			
EXP	-.263***	.272***	.202***	.284***	-.468***	1	
	(.000)	(.000)	(.000)	(.000)	(.000)		
PRTGDP	-.169**	-.172**	-.550***	-.304***	.024	-.213***	1
	(.019)	(.017)	(.000)	(.000)	(.742)	(.004)	

Note: ***, **, and * represent p<.01, p<.05, and p<.1 respectively.

Source: Authors own calculation.

The results of the regression analysis utilizing fully-modified OLS are displayed in Table 6. The findings indicated that the FID had a significant and direct effect on the GDPPC. This indicates that the advancement of the FID resulted in a rise in GDPPC, with each additional unit increase in the FID contributing to a growth of 1.288 percent in GDPPC. In a similar vein, the findings indicated that the FMD had a significant and direct effect on the GDPPC. This indicates that the advancement of the FID resulted in an increase in GDPPC, with each additional unit increase in the FID contributing to a growth of 19.424 percent in GDPPC. In a similar vein, FDI has a favorable yet minimal impact on GDPPC growth in emerging and developing Asia. In contrast, ADR(Y) has a substantial and adverse impact on the growth of GDPPC. The findings ultimately indicated that two control variables, exports, and PRTGDP, have an adverse yet minimal impact on GDPPC in emerging and developing Asia.

Table 6. *Outcome of FMOLS*

	Dependent variable = GDPPC growth			
Variable	Coefficients	Std. error	t-stat.	p-value
FID	1.288***	.249	5.168	.000
FMD	19.424***	6.505	2.986	.003

FDI	.006	.013	.479	.633
ADR(Y)	-1.182**	.130	13.844	.000
EXP	-.041	.075	-.556	.579
PRTGDP	-.009	.0067	-1.377	.170

Note: ***, **, and * represent p<.01, p<.05, and p<.1 respectively.

Source: Authors own calculation.

Robustness check

This section presents the regression results derived from dynamic OLS regression analysis, as shown in Table 7. The outcomes demonstrated that the advancement of financial institutions had a notable and beneficial impact on the increase of GDPPC, aligning with earlier findings. The findings revealed that the advancement of financial markets had a notable and beneficial impact on the increase of GDPPC, aligning with earlier conclusions. In a related context, FDI demonstrates a favorable and notable effect on GDPPC growth, which contrasts with earlier findings. Conversely, ADR(Y) exerts a notable and detrimental effect on the growth of GDPPC, aligning with earlier findings. The robustness check results revealed that two control variables, export and PRTGDP, exert an adverse and substantial influence on GDPPC in emerging and developing Asia; however, this was found to be insignificant when assessed using FMOLS.

Table 7. *Outcome of DOLS*

	Dependent variable = GDPPC growth			
Variable	Coefficients	Std. error	t-stat.	p-value
FID	1.518***	.314	4.841	.000
FMD	12.526*	6.696	1.871	.068
FDI	.109***	.018	6.041	.000
ADR(Y)	-2.067***	.157	-13.196	.000
EXP	-.571***	.089	-6.355	.000
PRTGDP	-.032***	.007	-4.825	.000

Note: ***, **, and * represent p<.01, p<.05, and p<.1 respectively.

Source: Authors own calculation.

Discussion

The findings demonstrated that FID and FMD positively and significantly affect GDPPC. Ur Rehman and Hysa (2021) and Oncel et al. (2024) draw the same conclusion regarding the nexus between FD and EGR. In contrast, Wang et al. (2024) found the opposite result in the case of developing nations; however, the same conclusion in the case of moderate and highly developed economies. Bui et al. (2023) found an insignificant impact of FD on EGR. The results of this study revealed the potential of FD to enhance the allocation of capital towards productive investment and facilitate the mobilization of savings, thereby resulting in economic prosperity.

In the same vein, we discovered a substantial positive influence of FDI on EGR, which agreed with the findings of Ayenew (2022b), Nguyen (2022), and Nguyen et al. (2022), as opposed to

Eggoh et al. (2019). This finding supports the hypothesis that FDI fosters economic expansion by providing capital, technology, and expertise, thereby increasing productivity and output. FDI creates more employment and boosts exports and innovation, which ultimately enhances EGR. In contrast, we found a negative impact of ADR(Y) on EGR. Bloom and Canning (2004), Kelley and Schmidt (2005), and Thanh Trong et al. (2024) found the same results. However, Peprah et al. (2019) found a favorable impact of ADR(Y) on EGR. The result is backed up by the fact that a high ADR(Y) slows down EGR by directing savings towards basic needs like healthcare and schooling. This stops people from saving and investing, which ultimately slows down EGR. We found an adverse effect of EXP on EGR, which was in contrast with the results of Ramanayaka and Lee (2015), Sultanuzzaman et al. (2018), Nguyen et al. (2022), and Oncel et al. (2024). The finding is supported by the fact that EXP can limit EGR when countries rely on the export of raw materials, which contribute little to domestic income and job creation. Furthermore, export dependency can make economies vulnerable to global demand shocks and price volatility. Finally, we found a negative impact of PRTGDP on EGR, which was like the finding of Ayenew and unlike the findings of Tchekoumi and Nya (2023), Ur Rahman and Hysa (2021), and Cao and Kang (2020). These findings indicated that a high level of PRTGDP may negatively impact EGR as they may reduce labor force participation and create dependency on external income rather than domestic job creation. Additionally, remittances can lead to currency appreciation, making exports less competitive and slowing industrial output.

Conclusion

This study includes member countries of SAARC and BIMSTEC from 1990 to 2021. Its goal is to find the link between FD—including FMD and FID—and economic prosperity. This study uses descriptive statistics and a correlation matrix to explore the nature of the distribution and correlation between predictor and response variables. By employing FM-OLS and DOLS, this study supports the "Finance-led growth theory". The finding revealed a significant and positive impact of FD on EGR, measured by FID and FMD. Similarly, FDI positively affects the EGR. By contrast, ADR(Y) negatively and significantly affects economic prosperity. Similarly, export and PRTGDP negatively but insignificantly impact EGR. The robustness check results revealed that the impact of FDI, EXP, and PRTGDP on economic prosperity is unclear. This study used only two independent and four control variables. Other factors, such as capital formation, government expenditure, investment, unemployment rate, trade openness, population growth rate, "political stability, regulatory quality, control of corruption" (Maune, 2018), and others, affect EGR. Hence, future studies can be done by adding more predictor variables. Furthermore, this study covered only six member countries of SAARC and BIMSTEC and excluded some countries due to the unavailability of data.

References

Adeyeye, P. O., Fapetu, O., Aluko, O. A., & Migiro, S. O. (2015). Does supply-leading hypothesis hold in a developing economy? A Nigerian focus. *Procedia Economics and Finance*, *30*, 30-37. https://doi.org/10.1016/S2212-5671(15)01252-6

Ayenew, B. B. (2022a). Can remittance inflow fosters economic growth? What matters? Evidence from Sub-Sahara African countries. *Journal of East-West Business*, *28*(2), 150-163. https://doi.org/10.1080/10669868.2022.2077505

Ayenew, B. B. (2022b). The effect of foreign direct investment on the economic growth of Sub-Saharan African countries: An empirical approach. *Cogent Economics & Finance*, *10*(1), 2038862. https://doi.org/10.1080/23322039.2022.2038862

Bardhan, S., & Sharma, R. (2019). Does local financial development matter for growth? Evidence from Indian districts. In P. Biswas & P. Das (Eds.), *Indian economy: Reforms and development* (pp. 253–286). Springer.

Bloom, D. E., & Canning, D. (2004). Global demographic change: dimensions and economic significance. NBER Working Paper No. w10817. https://ssrn.com/abstract=601119

Budhathoki, P. B., Bhattarai, G., Aryal, N. P., & Ghimire, S. R. (2024). The bank concentration and risk exposure: Empirical insights from Asian countries. *Nepal Journal of Multidisciplinary Research*, *7*(2), 12-29. https://doi.org/10.3126/njmr.v7i2.68190

Bui, H. Q., Tran, T., Vo, A. T., & Vo, D. H. (2023). Financial development, energy consumption, and economic growth in the ASEAN countries: evidence from the PVAR approach. *Environmental Science and Pollution Research*, *30*(53), 114249-114263. https://doi.org/10.1007/s11356-023-30303-3

Cao, S., & Kang, S. J. (2020). Personal remittances and financial development for economic growth in economic transition countries. *International Economic Journal*, *34*(3), 472-492. https://doi.org/10.1080/10168737.2020.1765187

Eggoh, J., Bangake, C., & Semedo, G. (2019). Do remittances spur economic growth? Evidence from developing countries. *The Journal of International Trade & Economic Development*, *28*(4), 391-418. https://doi.org/10.1080/09638199.2019.1568522 https://doi.org/10.1007/978-981-13-8269-7_12

IMF. (2024). *FDI index database. https://data.imf.org/?sk=f8032e80-b36c-43b1- ac26-493c5b1cd33b*

Kelley, A. C. (1973). Population growth, the dependency rate, and the pace of economic development. *Population Studies*, *27*(3), 405–414. https://doi.org/10.1080/00324728.1973.10405489

Kelley, A. C., & Schmidt, R. M. (2005). Evolution of recent economic-demographic modeling: A synthesis. *Journal of Population Economics*, *18*, 275-300. https://doi.org/10.1007/s00148-005-0222-9

Maune, A. (2018). Financial inclusion and the trade-growth nexus: evidence from the emerging Zimbabwean economy. *Journal of Economics and Behavioral Studies*, *10*(6A (J)), 43–55. http://dx.doi.org/10.22610/jebs.v10i6A.2657

Mckinnon, R. I. (1973). *Money, capital, and banking*. Brooklyn Institution.

Nguyen, A. T., Anwar, S., Alexander, W. R. J., & Lu, S. H. (2022). Openness to trade, foreign direct investment, and economic growth in Vietnam. *Applied Economics*, *54*(29), 3373–3391. https://doi.org/10.1080/00036846.2021.2009112

Nguyen, M. L. T. (2022). Foreign direct investment and economic growth: The role of financial development. *Cogent Business & Management*, *9*(1), 2127193. https://doi.org/10.1080/23311975.2022.2127193

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

Peprah, J. A., Kwesi Ofori, I., & Asomani, A. N. (2019). Financial development, remittances and economic growth: A threshold analysis. *Cogent Economics & Finance*, *7*(1), 1625107. https://doi.org/10.1080/23322039.2019.1625107

Phillips, P. C. (1995). Fully modified least squares and vector autoregression. *Econometrica: Journal of the Econometric Society*, 1023–1078. https://doi.org/10.2307/2171721

Ramanayake, S. S., & Lee, K. (2015). Does openness lead to sustained economic growth? Export growth versus other variables as determinants of economic growth. *Journal of the Asia Pacific Economy*, *20*(3), 345-368. https://doi.org/10.1080/13547860.2015.1054164

Schumpeter, J. A. (1911). *Theory of economic development*. Oxford University Press.

Shaw, E. (1973). *Financial deepening in economic development*. Oxford University Press.

Sultanuzzaman, M. R., Fan, H., Akash, M., Wang, B., & Shakij, U. S. M. (2018). The role of FDI inflows and export on economic growth in Sri Lanka: An ARDL approach. *Cogent Economics & Finance*, *6*(1), 1518116. https://doi.org/10.1080/23322039.2018.1518116

Tchekoumi, L. B., & Nya, P. D. (2023). Remittances and economic growth: What lessons for the CEMAC zone?. *Cogent Economics & Finance*, *11*(1), 2191448. https://doi.org/10.1080/23322039.2023.2191448

Thanh Trong, N., Thi Dong, N., & Thi Ly, P. (2024). Population aging and economic growth: evidence from ASEAN countries. *Cogent Business & Management*, *11*(1). https://doi.org/10.1080/23311975.2023.2298055

Uddin, I., & Azam Khan, M. (2023). Global evidence on the impact of globalization, governance, and financial development on economic growth. *Journal of the Knowledge Economy*, 1–32. https://doi.org/10.1007/s13132-023-01656-4

Ur Rehman, N., & Hysa, E. (2021). The effect of financial development and remittances on economic growth. *Cogent Economics & Finance*, *9*(1), 1932060. https://doi.org/10.1080/23322039.2021.1932060

Wang, Y., Mazlan, N. S., Ngah, W. A. S. W., Faheem, M., & Liang, Y. (2024). Financial development and economic growth in Asian countries: evidence from the DCCE approach. *Eurasian Economic Review*, *14*(2), 397-420. https://doi.org/10.1007/s40822-024-00262-2

World Bank. (2024). *World development indicator.* https://databank.worldbank.org/source/world-development-indicators