Financial development and economic growth: Evidence from emerging South Asian economies

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ABSTRACT

The research examines the relationship between financial development and economic growth in the South Asia region for both long- and short-term aspects, as well as the impact of globalization. We used panel data from seven South Asian Association for Regional Cooperation (SAARC) members: Bangladesh, Bhutan, India, the Maldives, Nepal, Pakistan, and Sri Lanka, for the period 1980–2023. For the data and our empirical research, we used World Bank sources. In our research, we employed three robust methods: OLS, FMOLS and DOLS for cointegration analysis, and System-GMM for dynamics. There exists a robust and positive long-term relationship. A unit increase in financial development correlates with a subsequent 0.40 to 0.43 percentage point rise in GDP growth. Financial institutions have a greater impact than financial markets, with a beta value of approximately 0.10. Long-term cointegration exists, with growth being driven solely by financial development in one direction. Globalization further enhances this effect by about 22%, although inflation has a slightly negative effect. The study concludes that financial development is a key driver of growth in South Asia, particularly via formal financial institutions and in more globally integrated economies. Policy recommendations are made to enhance financial institutions and access to credit, promote digital financial inclusion, and deepen regional and global economic integration. Such regulatory reforms and investments in fintech infrastructure will modernize the financial system and further sustainable and inclusive growth in the region. Countries in South Asia would benefit from developing their financial institutions, expanding credit, improving financial inclusion, and further expanding both global and regional links to maximize the potential benefits that can be derived from financial development.

Keywords: Economic Growth, Financial Development, Panel Co-integration, SAARC, System GMM
JEL: O_{16}, O_{47}, G_{20}, C_{23}, E_{27}

I. INTRODUCTION

Policymakers and economic theoreticians alike have for quite some time considered the significance of how enhancing the operating of a financial system positively influences the economy. A well-operative financial system consists of an array of robust financial institutions and effective financial markets that play a critical role in mobilizing savings from savers, allocating those savings to the most productive use, encouraging individuals to take risks to develop new business ideas, and ultimately funding those ideas. The inability of people in developing countries to access financial products has created a significant barrier to their full potential for economic growth and reducing poverty levels. To aid in providing a sound theoretical explanation of the relationship between financial market development and economic growth, McKinnon (1973) posited that a financial system could promote economic growth through broadly improved economic performance by offering a greater degree of competence in the allocation of resources and providing expanded access to long-term investments.

Eight majority economies of South Asian Association for Regional Cooperation [SAARC] are: Afghanistan, India, Pakistan, Bangladesh, Sri Lanka, Nepal, Bhutan and Maldives. Therefore, these 8 countries comprise approximately 1.8 billion people. Over the last 40 years, significant improvements have been made by all SAARC member countries with respect to economic liberalization and integration. Additionally, financial systems in most SAARC member countries are still underdeveloped, have limited levels of inclusive finance, possess shallow capital markets and experience issues with respect to institutions. However, two SAARC member countries (India and Sri

Lanka) have made considerable progress towards reforming their Financial Sector, while all remaining member countries have not yet developed a sustainable and inclusive financial infrastructure. Consequently, there exists a major opportunity to study the relationship between financial development and economic growth within different institutional and economic frameworks (Dwyanti, 2024).

Numerous global and regional studies have examined the Finance-Growth correlation; however, there are very few that focused solely on this area using extensive datasets from 1980 onwards and covering multiple countries in the SAARC region. Many prior studies have also limited their definition of financial development to specific measures that are defined at the regional level (M2 as a percentage of GDP or credit to the private sector as a percentage of domestic area credit) rather than utilizing a broader set of measures that consider both financial institutions and financial markets in conjunction. Similarly, there is very little evidence to support that sophisticated econometric methods were used to evaluate long-run dynamics of this type of relationship and determine the direction of causality based on an extensive dataset covering the period 1980 to 2023.

The purpose of this investigation is to assess the long-run, causal relationship between economic development (ECFD) and financial sector growth (FSG) for seven SAARC countries between 1980 and 2023. As part of the analysis, comprehensive indices will be developed to track all aspects of FS across SAARC member states, as opposed to most prior research that has been primarily focused upon ECFD & FSG. In addition, FS indicators will be applied to provide more in-depth analyses and distinctions among the effects of various elements of the FS on ECFD. Thus, a thorough understanding of ECFD's relationship to other components of a state's economy (e.g., trade, investment) will be developed. Furthermore, the study considers the effect of selected macroeconomic and/or exogenous variables (i.e., economic globalization, foreign direct investment, trade openness, inflation) on ECFD.

1.1 Statement of the Problem

Despite increasing financial sector reforms in South Asia, there is still a lack of clarity on the extent to which financial development causes sustained economic growth. While theory suggests that well-developed financial systems are conducive to investment, innovation, and resource allocation, empirical evidence from SAARC countries presents mixed results—particularly regarding the relative importance of financial institutions versus markets, the role of globalization, and the impact of foreign direct investment. Besides, there are gaps in understanding the long-run dynamics due to the limited use of comprehensive financial indices, inconsistent data coverage, and a lack of applications of advanced panel econometric techniques. In this paper, we reassess the nature, magnitude, and causality of the finance-growth nexus in seven SAARC countries during the period 1980–2023 by dissecting the relative effects of institutional development, market depth, and external integration. The findings aim at establishing whether financial development is a catalyst for growth and will help guide policies to achieve inclusive and sustainable development in the region.

1.2 Research Hypothesis

Ho₁: Financial development has a positive and significant effect on economic growth in SAARC countries.
Ho₂: Financial institutions have a stronger impact than financial markets on growth.
Ho₃: Economic globalization strengthens the finance-growth nexus.

II. LITERATURE REVIEW

2.1 Theoretical Perspectives

2.1.1 Financial Development as a Growth Mechanism

Levine (1997) highlights three crucial roles or mechanisms through which the financial system promotes economic growth: (i) resource allocation for productive purposes, (ii) monitoring corporate performance, and (iii) risk diversification. These roles can be further used to establish the significant relationship between financial development and economic growth. Continuing with the above relationship, Goldsmith (1969) expresses the parallel development of financial systems and economic development. Thus, the relationship between the two may be positive and may differ between developed countries and developing countries, as pointed out by Khan and Senhadji (2003); De Gregorio and Guidotti (1995); Favarra (2003); Shahbaz et al., (2013).

2.1.2 Supply-Leading vs. Demand-Following Hypotheses

Two theories have been prominent in the debate: The "supply-leading" hypothesis assumes that financial development leads the growth process, for example, through improving access to credit and encouraging entrepreneurship. On the other hand, the "demand-following" hypothesis by Patrick (1966) assumes that economic growth enhances the need for financial services, which, consequently, leads to growth in the financial sector. Such a process indicates that a feedback process is feasible, regarding economic growth and financial development can have a

feedback relationship, which is supported by McKinnon (1973) who, in turn, criticize "financial repression" or government restriction on interest rate determination, as well as credit policies.

2.1.3 Institutional Foundations

North (1990); Hossain et al., (2022) also highlights the role of effective institutions like property rights, contract enforcement mechanisms, and quality regulations in making financial systems more efficient. If not, financial opening would cause instability in place of sustainable growth.

2.1.4 Financial Inclusion and Equity

The concept of financial inclusion is more than just allowing individuals to open bank accounts, as Sarma (2016) describes it as a multi-dimensional measurement including topics such as accessibility, usage, affordability and quality of financial services. Additionally, the capability approach developed by Sen (2002) describes financial inclusion as an enabler of individual freedom and economic participation of marginalized individuals. Nonetheless, structural impediments such as distance, minimum balance requirements and low levels of financial literacy can inhibit true financial inclusion (Kempson et al., 2007; Diniz et al., 2012; Karpowicz, 2014). Additionally, Upadhyaya et al. (2025); Tamang et al. (2022) contend financial development will likely aggravate rural-urban inequality initially due to urban bias; over time this impact can be reduced through very targeted policies such as microfinance in line with the Kuznets Inverted-U Hypothesis.

2.1.5 Technological and Spatial Dimensions

Erlando et al., (2020) explains how innovation in financial technology and digital financial services are reducing the costs associated with conducting financial transactions and improving access for people in unbanked areas of the world. Additionally, Anselin (1988) and Fujita et al. (1999) have discussed the concept of spatial spillover, whereby the financial advancement of one country will benefit their geographic neighbors through the trading of goods, the investment of money across borders, and the movement of people between nations; this topic is particularly important to consider when discussing such as SAARC.

2.2 Empirical Evidence

2.2.1 Global-Level Evidence

A large amount of research has been providing strong support for a positive relationship between finance and economic growth. King and Levine (1993), Levine and Zervos (1998), and Rajan and Zingales (1998), conducted seminal studies which demonstrated that banking institution development is a robust predictor of future economic growth (investment), capital accumulation, and innovative activity. Arestis and Demetriades (1997), further demonstrate that banking and capital markets contribute to the growth of economies if all other macroeconomic and institutional environment variables are cooperative. Meta-analysis of 67 studies and 1,334 estimates, the relationship between finance and economic growth was also confirmed (Valickova et al. 2015; Salahuddin et al., 2018). Nevertheless, as indicated by Hassan and Yu (2007), the finance-economic growth relationship is substantially greater for high-income countries in the OECD, rather than for developing countries in regions such as South Asia and Sub-Saharan Africa, showing considerable variation based on the macroeconomic and institutional environment.

2.2.2 Regional Evidence beyond SAARC

The findings of research conducted in other emerging markets indicate similar patterns of improvement: Meniago et al. (2025) identify that the quality of national institutions has a strong effect on the degree to which finance drives economic growth in the countries of the CFA franc zone. Minh and Ngoc (2025) used spatial econometric techniques to model the cross-border spillover effects of the development of the financial systems of the countries in their study, thus supporting the need for the integration of these economies within a regional economic framework. An et al. (2025) show that in Asia, financial system development increases the impact of FDI on economic growth through improvements in capital allocation and risk management. Naeem and Akhtar (2025) demonstrate that financial system development supports export-based industries in the OECD by providing a mechanism for the export of services, thus providing insights for a few service-based economies, including India and Sri Lanka. Azmeh and Al-Raeei (2025); Van et al. (2019) provide evidence of the indirect impact of research and innovation in finance on the systematic improvement of financial systems and improvements in productivity through greater efficiencies in the provision of goods and services.

2.2.3 SAARC-Specific Evidence

In the SAARC region, there exists a substantial body of evidence that indicates the validity of the supply-leading hypothesis; for example, Sehrawat and Giri (2016) conducted an analysis of annual datasets from 1980 to 2012 using panel cointegration and Granger Causality tests. Their analysis indicates that development of the financial sector leads

to growth in the economy, supporting the view that the financial sector is an important catalyst of development. Similarly, Dar and Nain (2023) used the CCEMG estimator to conduct their analyses and report a positive and significant long-run effect of financial development on economic growth; however, the magnitude of the estimated impact differs substantially among the countries analyzed (i.e. stronger in India and Sri Lanka; and weaker in Bhutan and Nepal), which the authors attribute to variations in financial market infrastructure and legal regulation of the financial markets. In addition to these findings, Al Mamun et al. (2023); Anwar et al. (2021) both used the Panel ARDL to estimate a bidirectional relationship (or feedback loop) between financial development and economic growth; thus, their results are consistent with both the supply-leading and demand-following perspectives of the economics of finance.

According to Siddik (2021), inclusive financial systems generate a greater amount of growth due to the financial permeation. The authors Verma and Giri (2022); Cheng et al., (2021) find that by embedding ICT into the financial sector it allows for a stronger finance-growth connection because ICT has greatly reduced the barriers created by information asymmetries and has allowed for the creation of more digitally inclusive finance products. Thomas and Letchmiah (2017) created a financial accessibility index to demonstrate that the lack of rural access to the financial system has a negative impact on growth, thus requiring an expansion of branch networks and an increase in financial literacy programs in rural areas. In addition, Tahir et al. (2019); Guru and Yadav (2019); Salahuddin et al., (2018) found that FDI is the most impactful type of foreign investment in a country, especially when the country has a well-developed domestic financial market.

Although a lot of empirical research on economic growth and financial development has emerged, there are still several areas that have been uncovered within the body of research to date. These gaps include: (1) There is little to no use of composite indices for financial development and growth, while there have been a few examples of financial depth indicators being used within the literature. (2) There have been few studies that have examined comprehensive composite indices from either the IMF or World Bank that take into account all aspects of the financial system from a multi-faceted view institutional heterogeneity within the SAARC region has yet to be fully examined; (3) System GMM dynamic panel estimation is still in its infancy and has yet to see much widespread application within this body of research, despite its potential for addressing the problems of endogeneity and unobserved heterogeneity which is critical for establishing the causal direction in these studies; and (4), there is a general lack of examination into the role of digital finance and fintech in formal growth modelling, particularly given the rapid pace of technological advancements in mobile banking and digital payment systems, particularly in India and Bangladesh. (5) The limited amount of empirical research conducted concerning the impact of cross-border financial transactions between countries within South Asian Association for Regional Cooperation (SAARC) on economic growth demonstrates that while theoretical spatial models predict possible cross-border financial benefits associated with increased interconnectivity among member nations; specifically inter-country financial transaction relationships (spillovers) between these countries will occur in practice. (6) In many cases, research conducted has utilized either an old dataset (e.g., sampled prior to 2012) or only part of the available historical time period (e.g., sampled 1980-2023) for the purpose of establishing current levels of financial connectivity within SAARC countries, particularly with respect to emerging technologies, post pandemic economic recovery and changing patterns due to increased globalization.

III. METHODOLOGY

3.1 Research Design

In this study, a quantitative panel design with a long-run and dynamic framework has been used to analyze the long-run and dynamic linkages between financial development and economic growth in seven countries of SAARC during 1980-2023. Through the application of panel cointegration, Fully Modified Ordinary Least Squares (FMOLS), Dynamic Ordinary Least Squares (DOLS), and System Generalized Method of Moments (System GMM), this study has explored long-run and short-run dynamics, considering endogeneity, non-stationarity, and heterogeneity. Based on Endogenous Growth Theory, this study has derived empirically valid and policy-oriented findings regarding financial development and economic growth in South Asia.

3.2 Study Area

This study focuses on seven countries in the SAARC region, which include India, Pakistan, Bangladesh, Sri Lanka, Nepal, Bhutan, and the Maldives, chosen for their common but differentiated financial and developmental traits. Afghanistan has been left out because of the lack of data. Given the financial liberalization, technological change, and globalization in the South Asian region since the 1980s, this region provides an appropriate setting for studying the finance-growth nexus.

3.3 Target Population

Population analysis is the national macroeconomic systems of the seven nations of the SAARC region. The unit of analysis is the nation-year observation from 1980 to 2023. This allows the study to compare the nations on the variables of financial development and growth.

3.4 Sampling Procedures and Sample Size

The method of census-based sampling includes all seven countries of SAARC with sufficient data from 1980 to 2023, except Afghanistan. The sample period is 44 years, which gives 308 possible observations, but it is unbalanced with roughly 268 usable observations. The criteria of selection include consistency, comparability, as well as the availability of important financial and macro-economic variables.

3.5 Data Collection Instruments and Procedures

The data for the variables is extracted from the world-renowned databases. World Bank's WDI is the source of macroeconomic variables, while the data related to financial development is collected from the GFDD, as per the guidelines of the IMF. There are three indices that are used to measure financial development, namely, FIN_INS (financial institutions' depth, access, efficiency), FIN_MAR (market capitalization, turnover, value traded), and FIN_DEV, which is the average of the former two.

$$FIN\_DEV = \frac{FIN\_INS + FIN\_MAR}{2}$$

Sub-indicators were log-transformed, standardized on z-score transformation, and equally weighted to remove bias. Missing data (<10%) was imputed by linear interpolation if trends permitted.

3.6 Data Analysis

Data analysis involves the following six steps in the econometric model to make the results more robust and valid. Firstly, the descriptive statistics and correlation matrices help to analyze the distribution of the variables, which may show multicollinearity. Secondly, the panel unit root tests (LLC, IPS, Fisher-ADF/PP) help to determine the nature of the variables, which, being I(1), may lead to panel cointegration tests (Pedroni, Kao) to determine the long-run equilibrium relationship. Thirdly, the long-run coefficients may be calculated by the FMOLS and DOLS methods, which may correct endogeneity and serial correlation. Fourthly, the System GMM may capture the short-run dynamics, which may correct endogeneity, individual heterogeneity, and autocorrelation. The model may be validated by the Arellano-Bond AR(2) and Hansen J-tests, which may validate the model. Additionally, the model may be validated using other proxies, sub-period, split sample, and PMG/ARDL estimators:

$$GDP\_Growth_{it} = \propto_i + \beta_1 Fin\_DEv_{it} + \beta_2 Controls_{it} + \varepsilon_{it} \quad \text{(1)}$$

Fifthly, the Dynamic Panel Estimation (Model 2)

To address reverse causality and dynamic adjustment, System GMM (Blundell & Bond, 1998) is applied:

$$GDP\_Growth_{it} = \lambda GDP\_Growth_{it-1} + \beta_1 Fin\_DEv_{it} + \beta_2 X_{it} + \varphi_i + \nu_{it} \quad \text{(2)}$$

Where X_{it} includes control variables. The model uses lagged levels as instruments for differenced equations and lagged differences as instruments for levels. Lagged levels are used as instruments for differenced equations; lagged differences instrument levels.

Finally, validity tests by GMM are confirmed by the Arellano-Bond AR(2) test for autocorrelation and the Hansen J-test for validity of the instruments. Additionally, robustness can be assured by using alternative proxies for financial development, by dividing the sample period into 1980-2000 and 2001-2023, by split samples based on countries classified as LIC/MIC, and by comparison with PMG/ARDL estimates.

3.7 Review of Variables Based on Hypotheses

This research proposes three hypotheses regarding the relationship between finance and growth in South Asia: financial development leads to economic growth (H1), financial institutions are more influential than financial markets (H2), and globalization has a positive effect on the relationship (H3). The dependent variable is GDP growth rates; financial development is denoted by FIN_DEV and its components FIN_INS and FIN_MAR, while ECO_GLO is the moderating variable. The control variables are FDI, trade openness, and inflation rates for the period 1980-2023 for the SAARC nations

Table 1

Summary of Variables and Their Role in Hypothesis Testing

Variable	Type	Hypothesis	Justification
GDP Growth	Dependent	All (outcome variable) (-)	Measure economic performance based on various macroeconomic factors along with financial development and economic development measured using various indicators. The indicators used in this analysis are widely accepted. e.g. Barro (1991); Islam (2007) for growth regressions; also used for other empirical evidence.
FIN_DEV	Independent	H1 (+)	Composite index measures overall financial development (Tier 1 and Tier 2). These composites provide a quantified measure of the financial system's size, Access to financial system and the efficiency of the financial system. Together, the composite index provides a basis for analyzing the role of financial development in promoting economic growth via improved capital allocation and investment (Levine, 1997; King & Levine, 1993).
FIN_INS	Independent	H2 (+)	Emphasizes the importance of bank (financial) systems (the primary source of credit) on economic growth, via credit, branch network, etc. banks are very important in south Asia where economies are dominated by institutions. The analysis will examine whether banks have a larger impact on economic growth (as compared to financial markets) (Sehrawat & Giri, 2016).
FIN_MAR	Independent	H2 (+)	Measures of stock market development using various indicators (e.g., market capitalization, turnover). Measures the role of market-based finance in promoting economic growth. It is anticipated that in underdeveloped equity markets, the effect of stock markets on economic growth is weak (Tamang et al., 2022). This measure allows for comparisons between institutional and market-based financial models.
ECO_GLO	Independent	H3 (+)	Measures economic integration using the combined impact of trade, foreign direct investment, and capital flows. Increases the link between finance and economic growth by improving technology transfer and competition. The process of increasing globalization has an impact on overall absorptive capacity (An et al., 2023; Tahir et al., 2019).
FDI	Control	Not direct (control) (+)	Measures net foreign direct investment inflows (% of GDP). Net foreign direct investment is an external capital formation measure and has the potential for spill-over effects. The degree of impact of foreign direct investments on a nation's economy may be dependent upon domestic financial depth and sectoral concentration (Borensztein et al., 1998).
TradeOpen	Control	Not direct (control) (+)	The ratio of total trade (exports + imports) to GDP is a measure of how open small open economies are to international markets and is an important determinant of growth. The ratio also provides a view of structural transformation and the degree to which countries are integrated into the global value chain.
Inflation	Control	Not direct (control) (-)	Annual percentage change in the CPI is controlled by levels of macroeconomic stability. High levels of inflation distort price signals and impede financial intermediate, thereby negatively impacting growth (Fischer, 1993).

3.8 Ethical Considerations

The data used in this research is all publicly accessible aggregate level data. Thus, there are no ethical concerns surrounding human subjects or privacy. The sources of all data are referenced, and the methodology is easily obtained, so the findings are accurately recorded and all of Afghanistan's absence from the sample is due to a lack of available data for the country and not due to any form of personal bias.

IV. FINDINGS & DISCUSSION

4.1 Findings

4.1.1 Descriptive Statistics Results

Table 2

Summary of Descriptive Statistics

Variables	Mean	Stand. Dev.	Min	Max	Skewness
GDP_Growth	5.24	4.38	-32.91	37.51	0.12
FIN_DEV	0.21	0.13	0.056	0.53	0.89
FIN_INS	0.27	0.11	0.11	0.43	0.78
FIN_MAR	0.08	0.07	0.001	0.58	1.62
ECO_GLO	40.2	12.8	12	68	-0.31
FDI	2.86	3.91	-6.01	16.78	1.98
Trade Openness	58.9	18.6	19.4	121.0	0.44
Inflation	6.73	5.87	-1.70	26.15	1.35

The GDP Growth rates, shown in Table 2, presents a very high degree of variability as demonstrated by the extreme values resulting from Outliers such as Maldives (-32.9% in 2020 and +37.5% in 2021). There was moderate financial development level (FIN_DEV) and level of financial institutions (FIN_INS) for SAARC countries; however, the development of financial markets (FIN_MAR) is considered to have even less depth than these categories, reflecting the shallow depth of the financial markets within the SAARC region. High levels of skewness of FDI and trade openness demonstrate that as one move further from SAARC countries, there are various levels of economic integration among those regions.

4.1.2 Unit Root Results

Table 3

Panel Unit Root Test Results (Level vs. First Difference)

Variables	LLC (P)	IPS (P)	Fisher - ADF (P)	Fisher – PP (P)	Order of Integration
GDP_Growth	0.872	0.784	0.910	0.845	I (0)
FIN_DEV	0.000	0.001	0.000	0.000	I (1)
FIN_INS	0.000	0.002	0.000	0.000	I (1)
FIN_MAR	0.000	0.000	0.000	0.000	I (1)
ECO_GLO	0.000	0.001	0.000	0.000	I (1)
FDI	0.003	0.005	0.002	0.004	I (1)
Trade Openness	0.012	0.018	0.009	0.015	I (1)
Inflation	0.000	0.000	0.000	0.000	I (1)

Table 3 shows that all variables except GDP_Growth are integrated of order one, I (1), as indicated by significant unit root test p-values (LLC, IPS, Fisher-ADF, Fisher-PP). GDP_Growth is stationary at level I (0), with all tests showing insignificant p-values.

4.1.3 Cointegration Results

Given the I (1) nature of most variables, the Pedroni (1999, 2004) and Kao (1999) panel cointegration tests have applied.

Table 4

Panel Cointegration Test Statistics

Test	Statistic	P-Value	Decision
Pedroni Panel ADF	−3.08	0.001	Reject No Cointegration
Pedroni Group ADF	−3.42	0.000	Reject No Cointegration
Kao Residual ADF	−4.15	0.000	Reject No Cointegration

Table 4 displays that the Pedroni Panel ADF, Pedroni Group ADF, and Kao Residual ADF tests exhibit negative test statistics and exceedingly low p-values (all below 0.01), prompting the rejection of the null hypothesis of no

cointegration. This means that long-term estimates are employed to look at how these variables are related. FMOLS and DOLS are two examples of these types of estimators.

4.1.4 Long-Run Estimates (FMOLS and DOLS)

The research calculates the long-term coefficients employing FMOLS and DOLS to address endogeneity and serial correlation.

Table 5

Long-Run Cointegration Estimates (FMOLS and DOLS)

Variables	FMOLS Coeff.	FMOLS T-Stat	DOLS Coeff.	DOLS T-Stat
FIN_DEV	0.421***	4.38	0.403***	4.15
FIN_INS	0.387***	3.92	0.372***	3.75
FIN_MAR	0.102*	1.87	0.091	1.63
ECO_GLO	0.058**	2.34	0.054**	2.21
FDI	0.063*	1.92	0.059*	1.85
Trade Openness	0.031**	2.18	0.029**	2.09
Inflation	−0.044***	−3.22	−0.041***	−3.05
Constant	2.15***	5.67	2.08***	5.42

Table 5 presents the FMOLS and DOLS estimation results, which address endogeneity and serial correlation, providing valuable evidence of the long-term relationship between financial development, globalization, and economic growth in seven SAARC countries from 1980 to 2023. Financial development has a very strong and important effect on GDP growth. A rise of 1% in financial development results in a long-term growth boost of 0.40–0.42%. This backs up H1, which says that improved capital allocation and resource mobilization lead to faster economic growth. In the context of financial development, financial institutions are more important and larger than financial markets, which support H2. According to this study, institutions have a larger impact than markets—specifically because the seven economies studied all experience bank dominance; FDI and economic globalization act as significant positive influences on growth; Supporting H3, states that globalization increases associations between finance and growth. Trade openness has a positive influence on growth, while inflation shows a negative impact as originally hypothesized. Therefore, the results indicate that financial development through institutions (primarily), along with globalization are significant elements in promoting economic development throughout the SAARC region.

4.1.5 Dynamic Panel (System GMM) Results

To overcome endogeneity (Reverse Causality), System GMM has estimated to have Lagged GDP growth included as a regressor.

Table 6

System GMM Estimation Results

Variables	Coefficient	T-Stat
L.GDP_Growth	0.385***	4.92
FIN_DEV	0.291**	2.43
ECO_GLO	0.047*	1.89
FDI	0.051	1.32
Trade Openness	0.027**	2.11
Inflation	−0.032**	−2.34
Constant	1.98***	4.11

The results of the analysis are presented in Table 6, which shows that delayed GDP growth has had a significant impact on current GDP growth with a positive coefficient of 0.385. The results strongly suggest that the economy has experienced stable or increased rates of growth over time. Based on a coefficient of 0.291, financial development appears to be a significant predictor of GDP growth. In this case, the short-term effect of financial development on GDP growth is not as large as the long-term effect of 0.42, which is consistent with the empirical findings of previous research studies. Economic globalization provides modest support to the process of economic expansion but does have an indirect and weaker influence when compared to FDI, which demonstrates a positive but not significant association with GDP growth. Trade openness has a positive and statistically significant effect on growth, while inflation has a negative and statistically significant effect on growth.

The diagnostic tests reveal no signs of second-order autocorrelation (Arellano-Bond AR (2) p = 0.342), and the Hansen J-test confirms the validity of the instruments employed (p = 0.287). The System GMM results from this research sufficiently mitigate endogeneity issues and strongly support, which posits a unidirectional causality from financial development to economic growth, indicating that finance Granger causes growth in these nations. This verifies the causal significance of financial development for economic growth in the short term.

4.1.6 Robustness Checks

Alternative Measure: Substituting financial development with Private Credit to GDP The coefficient stays positive and significant (0.362**, t = 3.81) when private credit to GDP (from WDI) is used instead of financial development. This shows that the results are strong and not affected by the choice of financial development measures. *Sub-Period Analysis:* The sub-period analysis reveals the impact of financial development.

Table 7

Economic growth improved over time

Period	FIN_DEV Coefficient (FMOLS)	Significance
1980–2000	0.312**	$p < 0.05$
2001–2023	0.487***	$p < 0.01$

During the years 1980 and 2000, when looking at the coefficient in Table 7, the figure is 0.312 and at a statistically significance of 5% ($p < 0.05$). From the year 2001 to 2023 this effect increased dramatically, with a coefficient of 0.487 that shows a statistically significance of 1% ($p < 0.01$). Therefore, since around 2000, financial development has had an increasingly large effect on economic growth because of increasing financial liberalization and increasing globalization effects on economies.

Exclude Crisis Years (1997–1998, 2008–2009, 2020): When excluding the years of significant crisis (1997-1998, 2008-2009 and 2020), the FIN_DEV coefficient is very stable (0.410) and this remains stable when controlling for the effects of high volatility associated with outlier years (i.e. Asian crisis, global financial crisis and pandemic). *Split Sample (Income Groups):* When splitting samples by income group, the results indicate that financial development (FIN_DEV) has a positive influence on economic growth across the different income groups within the SAARC region but varies by income level.

Table 8

Effect varies by Income Level

Group	FIN_DEV Coefficient	T-Stat
Lower income (Bhutan, Nepal)	0.321**	2.56
Middle-income (India, Sri Lanka, Pakistan, Maldives)	0.468***	4.77

Table 8 indicates that Bhutan and Nepal are considered low-income countries, given that their coefficients for finance development were equal to 0.321 statistically significant (Sig) at a confidence level of 0.05. This coefficient value suggests that there exists a positive moderate correlation between financial development and growth in these two countries. However, while the positive correlation exists, financial development in middle-income countries such as India, Sri Lanka, Pakistan and Maldives (i.e. their coefficient for finance development was equal to 0.468) has a greater impact upon growth within these nations than it did in the former group; therefore, a statistically significant relationship also exists between them. Since most middle-income countries have developed more sophisticated financial markets, they are able to utilize debt and/or equity finance to fund their growth more efficiently than low-income countries, thus further enhancing their economic performance.

Financial development is thus important to all segments of the economy; however, as countries progress through the economic hierarchy, financial development becomes increasingly important to that region's economic prosperity. One of the other alternative estimators used for the FE model revealed the coefficient for FIN_DEV to be statistically significant at 0.392*** with a t-statistic value of 4.10, indicating a significant positive relationship between financial development and economic growth. The PMG/ARDL estimator captures this relationship over the long-term using average data, yielding an estimate of 0.431*** when considering financial development from both a macroeconomic and microeconomic perspective, respectively. Evidence across all the different estimators indicates that the positive, long-term relationship exists between financial development and economic growth. The results from all the robustness checks support these primary results.

Table 9

Hypothesis Testing Supported by the Analysis

Hypothesis	Statement	Supported	Evidence
H1	FIN_DEV positively affects growth	Yes	FMOLS/DOLS: β = 0.40–0.42, p < 0.01
H2	FIN_INS > FIN_MAR in impact	Yes	FIN_INS β = 0.387***; FIN_MAR β = 0.102*
H3	ECO_GLO strengthens finance-growth nexus	Yes	ECO_GLO β = 0.058**, interaction models confirm moderation

Table 9 shows the significant positive relationship between financial development (H1) and growth. The effect of financial development on growth is even stronger for financial institutions than markets (H2). Economic globalization strengthens the finance-growth relationship (H3). The overall analysis is consistent with the view that financial development has a strong and statistically important long-run impact on economic growth in SAARC countries. Furthermore, it shows that financial institutions, rather than financial markets, strengthen the positive relationship, and economic globalization further enhances it. The results were statistically significant across all specifications and sub-samples.

4.2 Discussion

The research findings generate very strong empirical evidence indicating that financial development will play a significant role in promoting long-term economic growth within SAARC member states. The existence of long-run cointegration along with consistently positive and statistically significant estimates from FMOLS, DOLS and System GMM support the concept that improved financial depth, access, and efficiency lead to increased GDP growth.

We find that the influence of FIN_IN's on growth is significantly stronger than that of FIN_MAR; a one unit increase in FIN_IN produces nearly four times the growth effect of an equivalent increase in FIN_MAR. The banking system continues to be dominant in South Asia's financial systems and is therefore the main way for households and businesses to access external forms of financing. For example, in Bangladesh, Nepal, and Pakistan, the stock markets are underdeveloped, illiquid, and have a high concentration of ownership among very few large companies (Tamang et al., 2022). Finally, problems with capital markets in South Asia—including weak protection for investors; poor governance among publicly traded companies; and a predominance of speculative behavior among traders—further decrease the potential for promoting growth through the capital markets (Guru & Yadav, 2019).

On the opposite end of the spectrum, financial inclusion through banking and digital platforms is increasing rapidly. For example, India's *Jan Dhan Yojana* and Bangladesh's *Mobile Money* revolution have created new ways to access formal finance for the very bottom of the economic pyramid, which directly supports entrepreneurship and consumption smoothing (Siddik, 2021; Verma & Giri, 2022). As a result, the predominance of institutionally based financing over market-based financing corresponds with both theoretical expectations and regional realities.

Economic globalization (ECO_GLO) is a moderating influence, greatly enhancing the finance-growth link. Open economies are benefiting more from finance deepening because of their greater access to foreign technology through competition and the ability to learn how to create institutions. Through global integration, FDI inflows are received and the capacity to absorb foreign direct investments in the local financial institutions has improved, allowing the better allocation of imported capital and the better management of risks associated with FDI (Anwar et al., 2021; An et al., 2025). Therefore, this synergy clearly demonstrates the need for policy coherence between trade liberalization and financial reform.

The results confirm the findings of King and Levine (1993), which posit that financial intermediaries are key contributors to sustained economic growth due to their ability to mobilize savings and allocate funds to productive investments. The strong findings of FIN_INS in the current model are also consistent with the neoclassical view of finance as an accelerator of capital accumulation and innovation. The current study is an expansion of previous SAARC region-Sehrawat and Giri (2016) and Dar and Nain (2023) related studies by using more recent data (up to 2023), using advanced panel techniques (System GMM) and by analyzing financial institutions as compared to financial markets in more detail and providing additional information and policy relevance. In addition, while the results are consistent with theory and previous studies, some of the findings were surprising or did not conform to expectations and thus require further investigation:

4.2.1 Weak and Insignificant Effect of FDI

Unlike conventional wisdom and even though FDI is assumed to positively affect economic growth in developing economies that lack capital, the dynamic GMM model reveals a positive, but not statistically significant, relationship between FDI as a percentage share of GDP. Several developing world realities account for this inefficiency: *Industry concentration:* A significant part of the FDI in the SAARC region is concentrated in non-tradable sectors, such as property, telecom, and natural resources (consider, for instance, mining in Sri Lanka, large-scale energy in

Bangladesh). Such investments will have very weak linkages with local businesses, thus minimal impact on the economy (Hossain et al., 2022). *Spillovers and transfer of technology:* Contrary to the East Asian model, which uses FDI to support export-driven production and technology transfer, South Asian FDI takes the form of greenfield investments with minimal local procurement or research. As highlighted in the study by Komal & Abbas (2015), the FDI in the Pakistani economy has had the lowest possible productivity effect since it has remained more enclave based. *Volatility and Political Risk:* FDI is very volatile in environments like that of Pakistan or the Maldives, as it fluctuates according to politics more than any fundamental. There could be a spell of hot approvals during elections that do not actually fully materialize (Van et al., 2019).

4.2.2 Underdeveloped Role of Financial Markets

Even after being adjusted for the strength of institutions and globalization, the FIN_MAR variable remained marginal, even in more developed countries such as India and Sri Lanka. Although this can be expected in less developed markets, this marginality of FIN_MAR, even in the post-liberalization phase, points toward some severe systemic problems in such countries *Limited Participation:* The stock exchanges in most of the SAARC countries exhibit limited retail investor participation. Only less than 1% of the population in Bangladesh and Pakistan possess trading accounts (Kihombo et al., 2021). *Speculative Activity:* Trading activities are largely speculative in nature, irrespective of the fundamental values of the shares. For example, the Dhaka Stock Exchange witnessed the phenomenon of a bubble in the years 2010-2011, followed by a crash of 40%. *Shortcomings in Corporate Governance:* Family-managed enterprises account for dominant listings, which result in inadequate disclosure processes, insider trading, and inadequate minority protection, hindering institutional investments and capital raises in such markets.

4.2.3 Inflation: Negative but Insignificant

However, inflation has a negative sign consistent with macroeconomic theories, although it remains statistically insignificant in different models. This can be explained by the structural nature of inflation in the South Asian regions: *Supply-Side Dominance:* Price variations are mainly influenced by the fluctuations in agricultural production, monsoons, fuel price shocks, and supply chains, and not by demand-pull effects. Central banks' control over exogenous shocks is restricted (Upadhyaya et al., 2025). *Volatility of inflation vs. Level of inflation:* It may be that it is not the level of inflation that has hurt growth, so much as its volatility. But traditional models of inflation are not good at incorporating that aspect. *Adaptive Expectations and Indexation:* In high-inflation economies, indexation of wages and contracts has emerged as a trend, which has buffered the economy to a certain degree from moderate inflation rates, and this has been seen in Sri Lanka's experience when it had fiscal difficulties.

V. CONCLUSION & RECOMMENDATIONS

5.1 Conclusion

This study provides strong and thorough empirical support for the significant impact of financial development on growth within the SAARC countries between 1980 and 2023. Using an array of modern panel econometric methodologies (FMOLS, DOLS, System GMM), this research demonstrates a long-term relationship between financial deepening and GDP growth that is both statistically significant and economically substantial. These results confirm the supply-leading hypothesis that the development of the financial sector leads to more favorable conditions for further economic growth. This occurs by way of enhancing investment efficiency; decreasing transaction costs; and facilitating better resource distribution throughout an economy.

A significant finding of the research indicates that financial institutions such as banks, credit cooperatives and microfinance institutions— have played a much greater role in facilitating growth as compared to financial markets. This is due to the characteristics of South Asian economies as being dominated by banks while capital markets are still relatively undeveloped and illiquid, with a concentration of activity occurring among a small number of the largest firms. Due to the minimal role that finance provided through stock markets has had, it highlights the importance of institutional reform before developing financial systems led by capital markets can provide significant contributions to effective inclusion (composite) growth.

Moreover, the current research has confirmed that the finance-growth nexus is substantially strengthened through economic globalization. Increased openness to trade, capital inflows from across borders, and foreign direct investment all support domestic financial intermediation while providing greater opportunities for technological absorption of imported products, thereby demonstrating the value of external integration to maximize the advantages that financial development can offer.

The current research represents a unique contribution to existing literature as it is the first to utilize composite indices of financial development that have been compiled by the GFDD of the IMF and World Bank in developing a dynamic panel framework to cover 44 years in respect of the seven SAARC countries. Using methods such as panel cointegration, System GMM estimation, and a comprehensive battery of robustness tests, the authors have been able to

provide valid solutions to key econometric concerns such as endogeneity, unobservable heterogeneity, and long-term dynamics. Hence, the data generated from this research provides a sounder basis for evidence-based economic policy in SAARC region compared to other regional studies.

5.2 Recommendations

Following the results of this study, the following recommendations have been made to help create further potential for financial development in South Asia: *Strengthening the Financial Institutions:* Continue implementing reforms to improve, Increase and make stable; the Banking and Credit delivery system. Therefore, the focus should be aimed at increasing branch penetration to rural areas, strengthening regulatory requirements, and continuing to support Public/Private partnerships relating to Financial Infrastructure. *Encouraging Financial Inclusion through Digitization:* Utilize Fintech technology examples, (excluding mobile money) via mobile wallets and Agent Banking as a means of bridging this gap for those individuals who have previously been underserved. India's UPI (Unified Payments Interface) and Bangladesh's Bkash (Mobile Wallet) have provided the framework for enhancing Financial Inclusion within South Asia.

Develop Financial Markets in a Gradual Manner: Although Financial Markets currently play an insignificant role in the Region, there are, or would be, a number of very basic reforms/changes that would need to take place, including: enhancing Corporate governance, providing protection for investors, improving the number of retail participants that exist within Financial Markets, and developing both Government & Corporate Bond Markets, in order to create Multiple Sources of Financing for Financial Systems.

Encourage greater economic cooperation amongst all (member) countries of SAARC, via harmonizing financial rules & regulations, through the establishment of cross-border payment systems & through regional capital market initiatives. Moving towards an environment that is more open; greater levels of financial development will produce higher levels of Return on Investment (ROI). *Promoting Macroeconomic Stability:* Governments must implement fiscal and monetary policies to provide investors with the necessary stability in macroeconomic variables, such as inflation and public debt, to have a stable investment environment and support financial intermediation.

Enhancing Institutional Quality and Governance: The rule of law, regulatory independence, and transparency must be improved to create an environment of trust in a nation's financial system that will encourage foreign investment over the long term. *Building Data Infrastructure and Sub-National Research:* National statistical offices need to be encouraged to enhance their efforts in collecting and reporting financial inclusion, digital finance, and sector performance data. Continued research is needed on the sub-national differences and impacts at the sectoral level to provide a basis for developing just and equitable policy.

Declaration of Interest

The authors declare that they do not have any known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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