Journal of Management Science Research Review

ISSN Online: 3006-2047
ISSN Print: 3006-2039

Volume. 5, Issue No. 2 (2026)

ASSESSING THE IMPACT OF TRADE OPENNESS AND FOREIGN DIRECT INVESTMENT ON ECONOMIC GROWTH IN SOUTH ASIA: AN ECONOMETRIC ANALYSIS

[1]Arooj Asif, [*2]Atif Khan Jadoon, [3]Saima Liaqat, [4]Sania Zafar

[1]School of Economics, University of the Punjab, Lahore, Pakistan.
*[*2]School of Economics, University of the Punjab, Lahore, Pakistan*
[3]Department of Economics, Lahore College for Women University, Lahore, Pakistan
[4]Department of Economics, University of Jhang, Jhang, Pakistan

Email: aamahmood2014@gmail.com
Email: atifkhan.eco@pu.edu.pk
Email: saima.liaqat@lcwu.edu.pk
Email: saniazafar@uoj.edu.pk

Article History

Keywords: *Economic Growth; Foreign Direct Investment; Trade openness; South Asia*

Article History
Received on 17 April 2026
Accepted on 05 May 2026
Published on 06 May 2026

Corresponding Author: *

Atif Khan Jadoon

Abstract

The study analyzes the impact of trade openness and foreign direct investment on economic growth in South Asia. The research uses a balanced panel dataset covering the time period from 2000 to 2023. The main determinants include population growth, gross fixed capital formation, human capital, and institutional quality. The fixed-effects models are estimated using the Hausman test. For a robustness check, the control variables like inflation, globalization, and income inequality are analyzed. Driscoll-Kraay standard errors are used to account for heteroscedasticity and cross-sectional dependence. The baseline results indicate that the major drivers of growth are foreign direct investment, capital formation, human capital, and institutional quality, whereas trade openness and population growth indicate an adverse impact on economic growth. The results suggest that sustainable development depends more on reinforcing the country's core structural fundamentals than on trade liberalization in South Asia. The study recommends that governments may seek to attract productive foreign direct investment, build human capital, and improve institutional quality to sustain long-term economic growth.

ISSN Online: 3006-2047
ISSN Print: 3006-2039

Volume. 5, Issue No. 2 (2026)

1. Introduction

Foreign direct investment (FDI) and trade openness are widely discussed in the literature of development economics and are considered the main drivers of economic growth. The neoclassical and endogenous growth theories indicate that FDI contributes to economic growth in a capital-scarce world by augmenting investment volume and investment efficiency (Barro, 1995; Grossman & Helpman, 1991; Lucas Jr, 1988; Romer, 1986). FDI supports agglomeration economies through industry clustering and network effects, lowering the prices of all commodities in the market (Krugman, 1991; Andreou, 2021; Cizakca, 2024; Soliman, 2025). FDI inflows increase international competition and enhance the host nation's supply-side potential, thereby driving economic growth (Skhirtladze & Nurboja, 2019; Andreou, 2021; Porro & Gia, 2021; Riaz et al., 2024; Saim et al., 2025). Trade openness affects the international flow of capital through the risk-return relationship. As a matter of fact, nobody is interested in making a long-term investment in a country that imposes tariffs and non-tariff barriers on investment and poses issues with the repatriation of capital and profits (Dollar & Kraay, 2004). Trade openness also reflects a nation's comparative advantage in attracting investment (Edward, 1998). According to the transaction cost theory,Williamson (1975) argued that when the cost of doing business is low, both domestic and foreign investors would gain from long-term investment. Moreover, endogenous growth theories emphasize that an open trade policy framework enhances investment allocative efficiency through specialization (Balasubramanyam et al., 1996). Edwards (1992) also points out that when a country is more economically open, it can expand more rapidly and absorb emerging technologies. The extent of capital formation affects FDI and economic growth (Hwang & Lee, 2019; Sun & Chang, 2020; Mealli, 2021; Weber, 2022). The neo-classical growth model argues that developing economies that initially have a lower capital stock are likely to have higher marginal rates of return and growth rates. The new endogenous growth theories also assume that greater investment efficiency through FDI gives countries with scarce capital a comparative advantage in catching up or converging with richer economies (Romer, 1986). But the beneficial effect of FDI is not predetermined and depends on absorptive capacity, financial development, and institutional quality, in which case FDI can produce insignificant or even negative effects on growth (Carkovic & Levine, 2005; Arshad & Mkhtar, 2019; Naik, 2020; Mordecai & Akinsola, 2021; Khan et al., 2025; Al Rasasi, 2025). Excessive openness may expose developing economies

ISSN Online: 3006-2047
ISSN Print: 3006-2039

Volume. 5, Issue No. 2 (2026)

to external shocks, trade imbalances, and deindustrialization, thereby hindering long-term growth. Furthermore, if domestic investment is crowded out or if FDI is concentrated in low-productivity sectors, the growth benefits may be limited (Alfaro et al., 2004; Alzahrani & Salah, 2020; Irfan & Sohail, 2021; Kumar et al., 2025; Aqeel et al., 2025). FDI and trade openness are expected to drive economic growth, and the relationship may exhibit long-run co-movement. It is, however, unclear whether this positive association holds across all South Asian countries, given their heterogeneity in terms of economic structures, trade patterns, and institutional quality. These dynamics are important to understand to develop region-specific growth policies. The region of South Asia comprises diverse economies in terms of social, organizational, and development levels. These economies include Bangladesh, India, Pakistan, Sri Lanka, Nepal, and Bhutan. The region has seen significant economic change over the last 20 years, largely driven by globalization, trade openness, and FDI (Jadoon et al. 2015; Wang, 2023; Khalid et al., 2025; Alvi & Mudassar, 2025). Trade openness is increasing rapidly due to favorable trade policies. The impact of trade openness and FDI on the economic growth in the South Asian economies is uneven. For example, India and Bangladesh have been fairly effective in promoting trade openness and FDI to achieve export-oriented industrial growth. Pakistan is facing structural challenges due to political instability, an energy crisis, and weak institutional frameworks (IMF, 2019; Ammar et al., 2025; Soliman, 2025). These differences highlight the need to take into account country-specific and regional-specificities in explaining the trade-FDI-growth nexus.

Further, there are other challenges that limit the benefit from trade and FDI in South Asia. The region's dependence on commodity exports, the high concentration of low-skilled labor, and the lack of export diversification can undermine the positive effects of trade openness (Rossi, 2023; Farhadi & Zhao, 2024; Ditta et al., 2025 Hanvoravongchai & Paweenawat, 2025). Furthermore, FDI inflows can fail to boost growth when they are concentrated in sectors with low domestic interlinkages or subpar institutional quality, thereby impeding the absorption of technology and productivity gains (Hussain & Khan, 2022; Marc et al., 2022; Ibrahim & Simian, 2023). These structural concerns indicate that trade and FDI are not equally growth-promoting across the entire South Asian region and that stringent empirical research is needed that considers macroeconomic, demographic, and institutional variables.

The period from 2000 to 2023 is especially pertinent to studying

ISSN Online: 3006-2047
ISSN Print: 3006-2039

Volume. 5, Issue No. 2 (2026)

these dynamics. The economies faced various global and local shocks, including the global financial crisis of 2008-2009, commodity price volatility, and the COVID-19 pandemic, during this period. These shocks have different impacts on the trade flows, investment choices, and economic outcomes. This study will contribute to the literature by capturing the medium and long-term impacts of trade openness and FDI on economic growth. The study's findings will help address heterogeneity across South Asia's economies. The study has both academic and policy relevance. The study will help fill gaps in the literature on trade openness, FDI, and economic growth in a region that has remained underrepresented. The study will provide insights into trade openness and investment promotion policies to achieve sustainable economic growth. Further, the risks of structural constraints that hinder the effectiveness of these external linkages will be addressed.

2. Literature Review

2.1. Theoretical Considerations

The relationship between Foreign Direct Investment (FDI), Trade Openness (TO), and Economic Growth (EG) is primarily rooted in the evolution of growth theories, moving from neoclassical perspectives to modern endogenous growth models. Unlike neoclassical models (Solow-Swan), which argued that long-run growth arises solely from exogenous technological progress, Endogenous Growth Theory (Lucas Jr, 1988; Romer, 1986) suggested that policy-related variables, such as trade and FDI, can permanently increase growth rates. FDI is not just a capital inflow; it is a "package" of technology, management practices, and skills. In South Asia, when a multinational corporation sets up operations, local firms often learn through "demonstration effects" or by hiring workers trained by the foreign entity. Trade openness forces domestic firms to compete internationally, incentivizing them to innovate and move up the value chain to survive. This framework suggests that FDI acts as a catalyst for domestic investment. According to Modernization Theory, FDI fills three critical "gaps" in developing regions like South Asia:

1. The Savings-Investment Gap: South Asian countries often have low domestic savings; FDI provides the necessary capital to fund large-scale projects.
2. The Foreign Exchange Gap: FDI helps stabilize the balance of payments.
3. The Technology Gap: FDI introduces advanced machinery and digital processes that are often unavailable in the domestic market.

2.2. Past Empirical studies on the impact of Trade openness, FDI and Economic Growth

Another of the most controversial issues in development economics

ISSN Online: 3006-2047
ISSN Print: 3006-2039

Volume. 5, Issue No. 2 (2026)

has been the association between Trade Openness (TO), Foreign Direct Investment (FDI), and Economic Growth (EG). Although theoretical models may show a positive nexus, empirical findings remain inconclusive, especially in the South Asian region, where structural rigidities tend to dampen such effects.

2.2.1. Economic Growth and Trade

According to the Prebisch-Singer Hypothesis, primary commodity exporters (as was often the case with South Asian countries) experience a permanent decline in their terms of trade, leading to stagnant growth relative to manufacturers. de Mello, Wittmann, and Friend (1997) research concluded that technology transfer is a significant issue created by FDI. It also brings in different management practices and production methods. which can be emulated by local companies (the "demonstration effect"). According to Newbery and Stiglitz (1984), trade openness exposed one to international price shocks. This volatility in other regions, such as South Asia, may cause macroeconomic instability, hindering long-term investment. Grossman and Helpman (1991) argued that trade stimulates growth, provides access to a greater variety of intermediate inputs, and enables local markets to ride on the shoulders of global innovators through knowledge diffusion. A seminal cross-country study by Sachs and Warner (1995) found that open economies grew at an average of 4.5 percent per year, while closed economies grew at only 0.7 percent per year. They claimed that trade will enable them to allocate resources more effectively and integrate into the world economy. Alesina, Spolaore, and Wacziarg (2000) argued that small nations benefit from trade openness because it enables them to overcome the constraints of a small domestic market and gain economies of scale. The argument made by in "Kicking Away the Ladder" was that high protectionism was employed by the current developed countries (such as the UK and the USA) to establish their industrial base, and then they promoted free trade, meaning that the current openness in trade would have no chance to allow developing countries to ever become industrialized. In certain developing nations, trade barriers were positively correlated with growth (Yanikkaya, 2003; Marc & Ali, 2023; Marc, 2024; Iqbal et al., 2025). He proposed that the sudden openness may trigger the Dutch Disease or the downfall of local manufacturing, which is still unable to compete with global giants. Dollar and Kraay (2004) singled out a group of so-called post-1980 globalizers (such as India and China) and Wacziarg and Welch (2008) showed that these nations saw a substantial growth and poverty reduction rates directly related to the volumes of their trade.

ISSN Online: 3006-2047
ISSN Print: 3006-2039

Volume. 5, Issue No. 2 (2026)

They revised earlier data and found that liberalized countries experienced 1.5 percentage points of growth relative to the period before liberalization (1950-1998).

2.2.2. Economic Growth and FDI

One of the most famous theories of this kind is Chenery (1967) theory, which posits that foreign capital inflows bridge the so-called savings-investment gap, allowing the country to obtain the funding to construct factories and infrastructure that domestic resources alone cannot finance. Singer (1975) cautioned that FDI usually forms islands of wealth. As an example, one can take a foreign mine that is very high-tech and profitable, but does not purchase any products from local suppliers, does not employ local managers, and the rest of the country sees no gains (Ali & Naeem, 2017; Marc & Ali, 2018; Ahmad et al., 2022; Hamza et al., 2025).

The contribution to permanent growth, as proposed by Romer (1990) and Lucas Jr (1988), is that the knowledge acquired through FDI does not vanish; it remains with locals even after the foreign firm leaves. Dutt and Sen (1997) suggested that global corporations tend to exploit their wealth to establish monopolies in third-world countries, thereby slowing technological development and increasing prices for local residents. A study by Borensztein et al. (1998) found that a threshold level of human capital (education) is required by the host country to achieve FDI-driven growth. The spillovers do not occur without competent manpower to operate the new technology. According to Lall (2000), FDI assists developing countries in moving from trading in primary raw materials (such as crops) to trading in advanced manufactured products, by creating connections between them and global supply chains.

Agosin and Mayer (2000) found that, in most cases, FDI does not contribute to the economy; it merely substitutes for local investment. When a massive multinational company enters, small local businesses may fail to survive because they cannot compete, and no net growth will be realized. According to Alfaro et al. (2004), FDI only has its magic to play in nations with strong banks and stock exchanges. Failure by the local entrepreneurs to obtain loans to establish businesses halts growth. Carkovic and Levine (2005) analyzed a large dataset and concluded that there is no magic in FDI after controlling for other variables. They say that FDI concentrates on growth that is already occurring rather than being the cause of such growth. Hansen and Rand (2006) examined the statistics of 31 developing nations and found a causal relationship between FDI and increased GDP, as local industry becomes more productive due to competition. Busse and Hefeker

ISSN Online: 3006-2047
ISSN Print: 3006-2039

Volume. 5, Issue No. 2 (2026)

(2007) argued that it is more important to make FDI productive in countries with stronger institutions, such as fair legal systems, low corruption, and political stability. Findlay (1978) proposed that the gap between the foreign tech and local tech should be just right. When the foreign company is too sophisticated, local companies cannot learn how to do it; if it is too close, there is nothing new to learn.

2.2.3. Economic Growth and Capital

According to Mankiw et al. (1992) and Young (1995), the main reason for the Asian miracle was the massive mobilization of physical capital. Some of the main forms of capital during this period were heavy machinery and factory floor equipment. In South Asia, Sahoo (2012) concluded that a precondition for private investment was the presence of public infrastructure (roads and energy). Easterly and Rebelo (1993) argued that some forms of investment in public capital were strongly associated with long-term growth. According to recent works such as Mahmood et al. (2024) Digital Capital (broadband, AI servers, and high-tech grids) contributed indirectly to economic growth through productivity gains and improved resource allocation. Moreover, according to Khan and Siddiqui (2025), Green Investment, as an investment in renewable energy infrastructure, is a new requirement for sustainable GDP growth in the context of climate vulnerability.

2.2.4. Economic Growth and Population

Lucas Jr (1988) and R. J. Barro (1991) shifted the focus from the number of workers to the quality of the workforce. Psacharopoulos (1994) confirmed that the payback to education was greatest in the developing world, particularly in South Asia. The authors D. Bloom, Canning, and Sevilla (2003) discovered the so-called Demographic Dividend as one of the opportunities of South Asia. But according to Besley and Burgess (2004), this "dividend" was not taking its true form due to India's strict labor laws. Hanushek and Woessmann (2020) argue that years of schooling are an outdated measure and that cognitive skills and learning outcomes are the two factors driving growth today. The authors emphasize the rise of the so-called Gig Economy and remote digital labor as one of the most significant structural changes in South Asian labor markets, which demand new forms of institutional protection.

2.2.5. Economic Growth and Institutions

North (1990) and Acemoglu, Johnson, and Robinson (2001) have transformed the growth theory by claiming that institutions (property rights and rule of law) are the main reason of development. Evans and Rauch (1999) demonstrated that

ISSN Online: 3006-2047
ISSN Print: 3006-2039

Volume. 5, Issue No. 2 (2026)

economies with merit-based bureaucracies can take off. Mehlum, Moene, and Torvik (2006) investigated the role of extractive institutions in South Asia that fostered cronyism. The Sri Lankan economic crisis of 2022 served as a contemporary example of how institutional failures (poor debt management and the absence of central bank independence) can lead to an economic collapse (Perera et al., 2023; Ali et al., 2025). Recent studies by Ullah et al. (2024) focus on the concept of Institutional Resilience, the capacity of a nation's legal and political system to withstand shocks in the global arena.

In South Asia, population "explosions" were a major concern because they slowed per-capita growth. D. E. Bloom and Williamson (1998) shifted the story to the Demographic Dividend, demonstrating that the young workforce in South Asia could boost regional growth if combined with employment. Headey and Hodge (2009) affirmed that population growth is detrimental to the poorest but supports transitions between middle-income brackets. The risks posed by the Youth Bulge and the colossal contribution of out-migration and remittances to regional development have become the subject of current research (Cincotta, 2008; Rajan, 2023). The discussion in 2025 is whether South Asia will age before becoming rich (World Bank, 2024; Ali et al., 2025).

2.2.6. Economic Growth and Control Variables

2.2.6.1. Economic growth and Inflation

Fischer (1993) and R. J. Barro (2013) determined that high inflation built a fog of price uncertainty that killed long-term incentives to invest.

A study conducted by (Khan, Senhadji, and Smith (2006) specified that a critical value (between 7 and 11 percent in the case of developing countries) beyond which inflation is highly harmful to GDP growth. A similar threshold of 9% was affirmed by Mubarak (2005) for the South Asian environment.

2.2.6.2. Economic growth and Globalization

In an attempt to demonstrate how powerful economic flows are, Dreher (2006) used the KOF Index to demonstrate that Social Globalization (ideas and people) is equally powerful. Stiglitz (2002) warned about the dangers of unregulated financial globalization. Gurgul and Lach (2014) noted the spread of democratic and market-oriented norms through globalization. Savrul and Incekara (2015) examined how the global supply chain integration affects the small-scale South Asian companies. The tech rivalry between global giants and digital connectivity is a new factor in advancing the South Asian region. Recent research by Lang and Tavares (2024) globalization gains are unevenly distributed and increase inequality

ISSN Online: 3006-2047
ISSN Print: 3006-2039

Volume. 5, Issue No. 2 (2026)

within country and regional disparities.

2.2.6.3. Economic growth and income inequality

Persson and Tabellini (1994) put forth that inequality is a source of social unrest and redistributive demands that are detrimental to investment. Alesina and Rodrik (1994) found that high land tenure inequality was associated with low growth. The results from Forbes (2000) were somewhat contradictory, and inequality may stimulate saving in some settings and inhibit human capital investment in others. Berg and Ostry (2011) demonstrated that the longer a society sustains sustainable growth, the more equal it is. The Imported Inflation and Energy Inflation are discussed in post-pandemic research (Perveez, 2019; Perera et al., 2023; shahabuddin & Ali, 2024; Ali et al., 2025; Liu & Cai, 2025). In 2025, the literature states that the most important institutional moderator of growth derailment in volatile economies is Central Bank Independence.

Although a number of studies have been conducted on the correlation between trade openness and economic growth, much of the existing literature, like the one provided by Seti, Mazwane, and Christian (2025), covers a general group of emerging and developing economies, and in many cases, the study takes an approach that encompasses financial openness in addition to openness to trade. Nonetheless, regional studies in South Asia are rather sparse, especially those that simultaneously examine trade openness and foreign direct investment (FDI) as independent drivers of economic growth (Siddiqi et al., 2014; Ahmed et al., 2018; Zahid, 2018; Bashir & Rashid, 2019; Audi et al., 2021; Ali & Audi, 2023; Ahmed & Rura, 2024; Karul & Nawaz, 2025). In particular, given the importance of openness to growth, South Asian economies exhibit distinct features, such as differences in institutional quality, trade policies, and reliance on FDI inflows, which may not yield the same effects in other regions. The paper provides a fine-grained, context-sensitive examination of the effects of trade liberalization and FDI inflows on South Asian countries, pinpointing areas that can inform policymakers in the region.

3. Data, Model and Methodology

3.1. Data Description

This research employs a balance panel data of 6 South Asian[1] economies (Pakistan, India, Bangladesh, Sri Lanka, Nepal and Bhutan) covering the time span of 2000-2023 to examine the association between Economic Growth (EG), Trade openness (TO) and Foreign Direct Investment (FDI) while considering Pop (POP), Capital

[1] Maldives and Afghanistan are not included in this research because of non-availability of data of some variables.

ISSN Online: 3006-2047
ISSN Print: 3006-2039

Volume. 5, Issue No. 2 (2026)

(GFCF), Human Capital (HC) and Institution (INS) as control variables. We have also included other variables, such as Inflation (INF) and Globalization (GLOB), and income inequality, for robustness. A brief description of the variables is provided in Table1.

Table 1

Brief Description of Variables

Variables	Symbols	Measurement	Unit	Source
Economic Growth	EG_{it}	RGDPPC (Constant 2015 US$) (in log)	%	WDI
Trade Openness	TO_{it}	Trade as % of GDP	%	WDI
Foreign Direct Investment	FDI_{it}	Key independent variable; Foreign Direct Investment inflows in country *i* at time *t* (USD or % of GDP).	%	WDI, UNCTAD
Population	Pop_{it}	Population growth annual%	%	WDI
Capital	$GFCF_{it}$	Gross Fixed Capital Formation (% of GDP)	%	WDI
Human Capital	HC_{it}	School enrollment, secondary (% gross)	%	WDI
Globalization	$GLOB_{it}$	KOF index	Index	WDI
Institution	INS_{it}	Governance index constructed by PCA	Index	WGI
Inflation	INF_{it}	Inflation, consumer prices (annual %)	%	WDI

Source: Constructed by Author

3.2. Model

The Following Linear Static model is used to empirically estimate the relationship between economic growth, trade openness and foreign direct investment. The expected signs are based on literature are shown in parenthesis. The brief description of variables used in equation 1 is represented in table 1.

$$EG_{it} = \propto + \beta_1 TO_{it+} \beta_2 FDI_{it+} \beta_3 POP_{it+} \beta_4 GFCF_{it+} \quad (1)$$

+/- +/- +/- + + +/-

3.3. Methodology

In this section we are going to specify the suitable methodology.

3.4. Cross Sectional Dependence

In an econometric study, the initial step is to determine the direction of cross-sectional dependence. The panel setup of the CD test is used to assess the correlation of variables or residuals across groups. This test is important because combining a population of cross-sections that are similar in slope parameters but do not account for cross-sectional dependence reduces the efficiency

ISSN Online: 3006-2047
ISSN Print: 3006-2039

Volume. 5, Issue No. 2 (2026)

gains observed when comparing the results of common least-squares regressions (OLS) on individual cross-sections. To select the type of unit root test, the CD test is applied. This paper utilizes the CD test (M. H. Pesaran, 2021).

3.5. Panel Unit Root Test

To verify data stationarity, unit root tests are performed. To obtain credible findings, the unit root test must be conducted if panel data values are identified as non-stationary. For cross-sectional independent variables, the first-generation unit root test (M. Pesaran, Shin, & Smith, 1997) is used; for cross-sectional dependent variables, the cross-sectional augmented Im, Pesaran, and Shin (CIPS) unit root test is applied.

3.6. Fixed Effect Model (FEM)

The fixed effects model assumes that the effects of time-invariant, immeasurable factors can be represented by time-invariant, individual-specific dummy variables. It allows one to examine the time dependence of within-unit changes. The fixed-effect estimator is also known as the least-squares dummy variable (LSDV) estimator. Dummy variables would allow us to estimate each segment's constant using group-specific values.

3.7. Random Effect Model (REM)

Along with the FE model, another method for estimating panel data is the random effects technique (Arshad, Jadoon, Sarwar, & Javaid, 2024). In contrast to the FEM, the constant term is treated as a random variable with a known mean in the RE model. The equation above suggests that an intercept term, which captures the unique features of each entity, must include a random error component, commonly known as the individual error component. The value of AI would vary due to the random error component as per the equation. The explanatory factors are believed to have no relationship to a specific error component.

3.8. Hausman Test

The Hausman test is used to decide between the FEM and REM. The null hypothesis of the Hausman test is that there is no relationship between the error component and the exogenous variable. If the null hypothesis is rejected, the REM will be used to obtain unbiased estimators. We shall estimate using fixed effects.

3.9. Post Estimation Test

To achieve unbiased and BLUE9 results, the estimates should not be affected by heteroscedasticity. This study employed the Breusch-Pagan test to remove heteroskedasticity. This test can be applied to both balanced and imbalanced panels. The hypotheses are:

Ho: The residual values are homoscedastic.

H1: The residual values are heteroskedastic.

Journal of Management Science Research Review

ISSN Online: 3006-2047
ISSN Print: 3006-2039

Volume. 5, Issue No. 2 (2026)

4. Estimation results and Discussions

4.1. Descriptive statistics

Table 2

Summary Statistics of Variables

Variables	Mean	St.Dev	Min	Max	Obs
GDP_{it}	7.29221	.5581471	6.304853	8.410284	144
TO_{it}	49.4012	21.32676	21.45996	108.1578	
FDIit	.9477447	.8519549	-.6388063	5.881323	
POPit	1.210054	.7083733	-2.799683	2.82476	
$GFCF_{it}$	32.42047	13.0747	13.96815	69.44873	
HC_{it}	62.52299	24.66119	21.85283	100.878	
INS_{it}	-.9892199	.8414122	-2.482955	.5733886	
INF_{it}	7.281726	5.419301	2.007174	49.7211	
$GLOB_{it}$	47.74306	9.151213	25	60	
GINIit	5.344359	3.958933	-9.738144	25.07203	

Authors calculations

The sample of 144 observations is presented in Table 2, along with descriptive statistics. The average value of GDP per capita (log) is 7.29, with a standard deviation of 6.30 to 8.41 across South Asian countries. The extent of trade openness is great (mean 49.4% of GDP), with a wide range of 21.5% to 108.2%, and FDI inflows are also low at 0.95% of GDP, ranging from -0.64 to 5.88, indicating variation in investment attractiveness. The average population growth is 1.21%, with a range of -2.80 to 2.82, indicating population variability. The difference in human capital, proxied by education, is quite notable, with a mean of 62.5 and a range of 21.85 to 100.88. Institutional quality is poor, with an average of -0.99, and inflation is not high but volatile, with an average of 7.28 and a high of 49.72. Globalization is moderately varied with an average of 47.7 and a range of 25 to 60. Lastly, income inequality is highly heterogeneous across nations, providing sufficient variation to determine the impact of economic growth and openness to trade and FDI.

4.2. Correlation Analysis

Table 3

Correlation Outcomes

Indicators	EGit	Toit	FDiit	POPit	GFCFit	HCit	INSit
EGit	1.0000						
TOit	0.4239	1.0000					
FDIit	0.1963	0.1838	1.0000				
POPit	-0.3333	-0.1805	0.0619	1.0000			
GFCFit	0.3686	0.7484	0.0741	-0.1841	1.0000		

Journal of Management Science Research Review

ISSN Online: 3006-2047
ISSN Print: 3006-2039

Volume. 5, Issue No. 2 (2026)

HCit	0.6912	0.4210	0.0537	-0.6729	0.4069	1.0000	
INSit	0.6253	0.6054	0.2461	-0.0812	0.5548	0.4704	1.0000

The correlation matrix of the table 3 indicates that the economy growth has a positive relationship with human capital (0.69), institutional quality (0.63), trade openness (0.42), and gross fixed capital formation (0.37) and a negative relationship with population growth (−0.33) which implies that these factors that increase economic growth are higher education, high governance, openness, and investment capital. The openness to trade is closely related to investment (0.75) and institutions (0.61), suggesting that more open economies are likely to be more attractive to investment and to have superior levels of governance. FDI shows a positive, though weak, correlation with growth (0.20), trade openness (0.18), and institutions (0.25), suggesting that it may have conditional effects on growth. Human capital (negatively correlated at -0.67) and investment (negatively correlated at -0.18) negatively affect population growth, suggesting that rapid population growth may have limits. On the whole, the matrix shows moderate to high correlations among the important variables, providing sufficient separation to study their impact on economic growth without serious multicollinearity problems.

4.3. Cross Section Dependence and Panel Unit Root Test

Table 4

CD and Panel Unit Root results

Variables	CD P-value	CD Status	IPS At level	1st diff	Order	(CIPS) At level	1st diff	Order
TO_{it}	0.000*	Dep				-2.447**	-----	I(0)
FDI_{it}	0.001*	Dep				-3.538*	-----	I(0)
POP_{it}	0.000*	Dep				-1.605	-2.339**	I(1)
$GFCF_{it}$	0.405	Ind	0.2611	0.000*	I(1)	-0.678	-3.251*	I(1)
HC_{it}	0.000*	Dep				-1.558	-4.533*	I(1)
INS_{it}	0.280	Ind	0.0920***	-----	I(0)			
INF_{it}	0.000*	Dep				-3.025*	----	I(0)
$GLOB_{it}$	0.000*	Dep				-2.370***	----	I(0)
GINIit	0.000*					-3.227*	-----	I(0)

Authors Calculation

Notes: IPS use p-value while CIPS use calculated values and critical values. Critical values in case of CIPS are -2.21 -2.33 -2.57 at 10%, 5% and 1% level of significance. *, **and *** denotes level of

ISSN Online: 3006-2047
ISSN Print: 3006-2039

Volume. 5, Issue No. 2 (2026)

significance at 1%, 5% and 10% respectively.

4.4. Fixed Effects and Random Effects Estimation Results

The Fixed Effects (FE) model was first estimated, and then the Random Effects (RE) model. The Hausman test is carried out to identify the best specification. The Hausman test results indicated a p - value of 0.000, which is statistically significant at the 5% level. Thus, it was accepted that the null hypothesis of the Random Effects model was inappropriate, and the Fixed Effects model was chosen as the preferred estimation method. When we ran a diagnostic test, it revealed heteroskedasticity. To address this issue, we have computed the Driscoll-Kraay standard errors (D-KSE). The second section has a detailed presentation of the amended results. Results are reported in the subsequent Table 5.

Table 5

Fixed Effects Results

Dependent Variable: Economic Growth(EGit)				
Variables	Coeff	S.E	t-value	P-value
TOit	-.005462	.001523	-3.59	0.000*
FDI_{it}	.0398133	.0192973	2.06	0.041**
POP_{it}	-.1154139	.0275071	-4.20	0.000 *
$GFCF_{it}$	.0092533	.0025094	3.69	0.000*
HC_{it}	.0135679	.0009917	13.68	0.000*
INS_{it}	.1579639	.0462747	3.41	0.000*
CONS	6.671922	.1347265	49.52	0.000*
Summary Statistics				
Obs.			144	
Prob> F(FE)			0.0000*	
R2			0.7594	
Hausman Test Outcome:				
Prob> chi2			0.000*	
Diagnostic Tests Outcomes:				
BP Heteroskedasticity Test [H0: constant variance]				
Prob> chi2			0.0000*	
Conclusion			Heteroskedasticity	

Source: Authors calculations

Notes: *, **and *** denotes level of significance at 1%, 5% and 10% respectively.

ISSN Online: 3006-2047
ISSN Print: 3006-2039

Volume. 5, Issue No. 2 (2026)

4.5. Panel FEM Results (D-KSE): 2000-2023

Driscoll and Kraay standard errors are reported in Table 6 to address possible heteroskedasticity and cross-sectional dependence in the panel data. There are also additional control variables, inflation, globalization, and income inequality, which we use to verify the strength of our baseline estimates. The additions enable us to test whether the relations between trade openness, FDI, population growth, capital formation, human capital, and institutions with economic growth are stable across alternative model specifications.

Table 6

Panel FEM Results with GLS and D-KSE

Dependent Variable: Economic Growth(EGit)				
Regression Number				
	1.1	**1.2**	**1.3**	**1.4**
Variables	**Coeff/ p-value/S.E**	**Coeff/ p-value/S.E**	**Coeff/ p-value/S.E**	**Coeff/ p-value/S.E**
TOit	-.0055 (0.000*) [.0015]	-.0058 (0.000*) [.0015]	-.0063 (0.000*) [.0015]	-.00614 (0.000*) [.0015]
FDI_{it}	.0398 (0.041**) [.0193]	.0381 (0.000*) [.0192]	.0332 (0.087***) [.0192]	.0359 (0.067***) [.0194]
POP_{it}	-.1154 (0.000*) [.0275]	-.1096 (0.000*) [.0276]	-.0936 (0.001*) [.0287]	-.0987 (0.001*) [.0292]
$GFCF_{it}$	.0092 (0.000*) [.0025]	.0095 (0.000*) [.0025]	.00959 (0.000*) [.0024]	.01021 (0.000*) [.0026]
HC_{it}	.0136 (0.000*) [.0010]	.0135 (0.000*) [.0010]	.01035 (0.000*) [.0019]	.01030 (0.000*) [.00196]
INS_{it}	.1579 (0.001*) [.0462]	.1731 (0.000*) [.0471]	.1791 (0.000*) [.0467]	.1788 (0.000*) [.0467]
INFit		.0040 (0.125) [.0025]	.0036 (0.166) [.0026]	.00261 (0.346) [.0028]
GLOBit			.5747 (0.061***) [.3047]	.54208 (0.080***) [.3067]

ISSN Online: 3006-2047
ISSN Print: 3006-2039

Volume. 5, Issue No. 2 (2026)

GINIit				-.00354 (0.344) [.0037]
R2	0.7594	0.7637	0.7700	0.7716

Source: Author's own-calculation
Note: *, ** and *** denotes significance at 1%, 5% and 10% respectively.

The Fixed Effects regression (1.1) is used to investigate the determinants of economic growth (EG) in South Asian nations. A 1% increase in trade openness decreases per capita GDP growth by 0.55% when other factors remain unchanged. This negative correlation is congruent with the literature by Yanikkaya (2003), who concluded that in certain developing nations, abrupt trade liberalization may damage the domestic industries that are not yet competitive, slowing growth in the short term. Structural constraints can lead to an initially negative effect of trade openness in South Asia.

An influx of FDI by 1 % will improve the growth of the economy by an average of 3.98% ceteris paribus. This result is supported by Balasubramanyam et al. (1996) and Asiedu (2002), who argue that FDI is a driver of growth through capital and technology inflows as well as managerial skills. The positive effect shows that the economies of South Asia benefit from foreign investment, albeit to a moderate extent.

A 1% increase in population decreases per capita GDP growth by an average of 11%. The high population growth rates erode capital and human resources per capita, in line with the neoclassical growth model of Solow (1956), which forecasts that high population growth rates may lower per capita output in economies with very low levels of capital.

A 1% increase in GFCF elevates growth by 0.92%. This positive impact is consistent with the neoclassical and endogenous growth theories of Romer (1986) and Lucas Jr (1988), which argue that capital accumulation increases productive capacity and long-term growth.

A 1% rise in human capital boosts the growth by 1.36%. It aligns with R. J. Barro (1991), who argues that higher education and skills increase labor productivity and contribute to economic growth.

One unit of institutional quality improvement increases per capita growth by approximately 15.8%. Well-established institutions promote investment and will facilitate effective allocation of resources (Acemoglu et al., 2001). The beneficial impact supports the claim that governance, the rule of law, and political stability are key to South Asian development.

In the 1.2 specification, including inflation in the regression does not have a statistically significant impact on economic growth in South Asia over the sample period. Stable

ISSN Online: 3006-2047
ISSN Print: 3006-2039

Volume. 5, Issue No. 2 (2026)

growth could not be limited by moderate inflation in the region, or the inflationary effect on growth is nullified by other factors such as FDI, human capital, and institutions. This is in line with study of R. J. Barro (2013), which indicates that high and volatile inflation is the only growth-damaging phenomenon. Including inflation does not alter the direction or meaning of the baseline determinants (TO, FDI, POP, GFCF, HC, INS). This implies that the main growth drivers are strong, and the inflation does not confound their impact. The degree of inflation does not matter, so moderate inflation variation in South Asia has little influence on per capita GDP growth in the presence of other structural variables.

In specification 1.3, we include globalization in the regression. The positive, but small, effect on growth is the increase driven by globalization. It is an important part of FDI, trade, and capital formation, but it is not as powerful as structural factors such as institutions and human capital. Trade openness still has a negative impact on growth, possibly because globalization tends to distribute benefits unevenly through the integration process. Remaining positive and significant, albeit slightly lower, are FDI, GFCF, human capital, and institutions. The problem of population growth keeps per capita output from declining. An increase in R^2 indicates that globalization provides additional explanatory power, thereby reducing the unexplained variation in growth not accounted for by traditional factors.

We also include income inequality as a control variable in specification 1.4. Income inequality has little impact on growth in South Asia, suggesting that structural factors (FDI, human capital, institutions, and capital formation) have a greater impact. Trade openness is negative. FDI, GFCF, human capital, and institutions are positive and significant. Economic growth is still being hampered by population growth. Internationalization remains favorable, and inflation is negligible. The increase in R^2 is also low, suggesting that GINI fails to explain growth as well as other variables when introduced. Inequality can have little effect on growth in new and developing economies when capital, human capital, and institutions are taken into account (R. J. Barro, 2000).

5. Conclusion and Policy Recommendations

This study provides an empirical analysis of the impact of trade openness and FDI on economic growth in South Asia. It explicitly accounts for structural heterogeneity, institutional quality, and human capital accumulation. The analysis reveals that FDI, human capital, gross fixed capital formation, and institutional quality are robust, statistically significant drivers of economic growth, highlighting the

ISSN Online: 3006-2047
ISSN Print: 3006-2039

Volume. 5, Issue No. 2 (2026)

critical interplay between external capital inflows and domestic absorptive capacity. Conversely, the negative association between trade openness and growth underscores the nuanced, context-dependent nature of liberalization in developing regions. It suggests that premature or unaccompanied trade liberalization may exacerbate structural vulnerabilities, particularly in economies with low competitiveness or high population growth.

The robustness checks, including the incorporation of inflation, globalization, and income inequality, confirm that the baseline estimates are consistent. Inflation exhibits no significant effect, globalization exerts a modest positive influence, and income inequality does not materially alter growth dynamics once key structural factors are controlled for. These findings align with endogenous growth frameworks, emphasizing that long-run growth is driven less by short-term macroeconomic shocks and more by productive investments, human capital accumulation, and institutional efficiency.

From a policy perspective, the results imply that South Asian economies must adopt a strategically sequenced approach to FDI and trade liberalization, complementing external openness with domestic capacity-building. Policies should prioritize promoting high-quality FDI, investing in education and skill development, and implementing institutional reforms to create an enabling environment for sustainable growth. Moreover, the study underscores that cross-country heterogeneity within South Asia necessitates nuanced, country-specific policy prescriptions, rather than blanket regional strategies.

Overall, this research advances the literature by providing a context-sensitive, empirically grounded analysis of the trade-FDI-growth nexus, demonstrating that the efficacy of external linkages in promoting growth is conditional upon strong domestic fundamentals and institutional quality. These insights have both academic and policy relevance, offering a refined understanding of the mechanisms through which openness and investment can translate into sustained economic development in emerging regions.

References

Acemoglu, D., Johnson, S., & Robinson, J. A. (2001). The colonial origins of comparative development: An empirical investigation. *American economic review, 91*(5), 1369-1401.

Ahmad, K., Ali, A., & Yang, M. (2022). The effect of trade liberalization on expenditure structure of Pakistan. *Bulletin of Business and Economics (BBE), 11*(1), 73-84.

Ahmad, K., Ali, S., & Ali, A. (2018). *Trade Revenue Implications of*

ISSN Online: 3006-2047
ISSN Print: 3006-2039

Volume. 5, Issue No. 2 (2026)

Trade Liberalization in Pakistan. University Library of Munich, Germany.

Ahmed, J., & Rura, H. (2024). Understanding heuristics and investor behavior in financial markets. *Journal of Policy Options*, *7*(4), 22-29.

Al Rasasi, F. (2025). Examining the Nonlinear Dynamics of Trade Openness and Environmental Quality in Organization of Islamic Cooperation Countries. *Journal of Energy and Environmental Policy Options*, *8*(1), 14-23.

Alesina, A., & Rodrik, D. (1994). Distributive politics and economic growth. *The quarterly journal of economics, 109*(2), 465-490.

Alesina, A., Spolaore, E., & Wacziarg, R. (2000). Economic integration and political disintegration. *American economic review, 90*(5), 1276-1296.

Alfaro, L., Chanda, A., Kalemli-Ozcan, S., & Sayek, S. (2004). FDI and economic growth: the role of local financial markets. *Journal of international economics, 64*(1), 89-112.

Ali, A., & Audi, M. (2023). Analyzing the impact of foreign capital inflows on the current account balance in developing economies: A panel data approach. *Journal of Applied Economic Sciences*, *18*(2), 80.

Ali, A., & Naeem, M. Z. (2017). Trade Liberalization and Fiscal Management of Pakistan: A Brief Overview. *Policy Brief-Department of Economics, PU, Lahore*, *1*(1), 1-6.

Ali, A., Anjum, R. M. A., & Irfan, M. (2025). Impact of Exchange Rate Regimes on Financial Stability in Developed and Developing Economies. *Advance Journal of Econometrics and Finance*, *3*(2), 236-246.

Ali, A., Asim, M., & Ahmad, K. (2025). Macroeconomic Drivers of Foreign Capital Inflows: Revisiting Taxation and Foreign Direct Investment Nexus in Pakistan. *Indus Journal of Social Sciences*, *3*(3), 20-34.

Ali, A., Jabeen, R., & Ahmad, K. (2025). Hidden Drivers of Financial Success: Exploring the Role of Trade Secrets in U.S. Corporate Performance. *Competitive Research Journal Archive*, *3*(2), 421-439.

Alvi, A. A., & Mudassar, M. (2025). Revisiting the J-Curve: Nonlinear Exchange Rate Dynamics and Trade Balance Between Pakistan and China. *Journal of Business and Economic Options*, *8*(1), 77-91.

Alzahrani, M., & Salah, O. B. (2020). A time series analysis of bilateral trade of India and

ISSN Online: 3006-2047
ISSN Print: 3006-2039

Volume. 5, Issue No. 2 (2026)

Saudi Arabia. *Journal of Business and Economic Options*, *3*(2), 72-82.

Ammar, M., Ali, A., & Audi, M. (2025). The Impact of Financial Literacy on Investment Decisions: The Mediating Role of Peer Influence and The Moderating Role of Financial Status. *Journal for Current Sign*, *3*(2), 379-411.

Andreou, E. (2021). A literature survey trade policy dynamics: insights for assessing poverty and inequality impacts. *Journal of Business and Economic Options*, *4*(4), 1-8.

Aqeel, M. B., Audi, M., & Alam, M. (2025). Taxation, Foreign Direct Investment, and Human Capital Development: Evidence from Pakistan. (2025). *Contemporary Journal of Social Science Review*, 3(3), 115-119.

Arshad, A., Jadoon, A. K., Sarwar, A., & Javaid, M. F. (2024). Towards Asian Countries Sustainable Development: The Nexus between Information and Communication Technology, Energy Consumption and Carbon Dioxide Emission. *Bulletin of Business and Economics (BBE), 13*(2), 1-8.

Arshad, Z., & Mukhtar, S. (2019). Understanding Pakistan's trade dynamics: Import-export trends and trade balance analysis. *Journal of Business and Economic Options*, *2*(3), 115-122.

Asiedu, E. (2002). On the determinants of foreign direct investment to developing countries: is Africa different? *World development, 30*(1), 107-119.

Audi, M., Ali, A., & Roussel, Y. (2021). Aggregate and Disaggregate Natural Resources Agglomeration and Foreign Direct Investment in France. *International Journal of Economics and Financial Issues*, *11*(1), 147-156.

Balasubramanyam, V. N., Salisu, M., & Sapsford, D. (1996). Foreign direct investment and growth in EP and IS countries. *The economic journal, 106*(434), 92-105.

Barro, R. (1995). Economic growth/Robert J. Barro, Xavier Sala-i-Martin: McGraw-Hill New York.

Barro, R. J. (1991). Economic growth in a cross section of countries. *The quarterly journal of economics, 106*(2), 407-443.

Barro, R. J. (2000). Inequality and Growth in a Panel of Countries. *Journal of economic growth, 5*(1), 5-32.

Barro, R. J. (2013). Inflation and Economic Growth. *Annals of Economics and Finance, 14*(1), 85-109.

Bashir, F., & Rashid, B. (2019). Exploring the impact of

ISSN Online: 3006-2047
ISSN Print: 3006-2039

Volume. 5, Issue No. 2 (2026)

foreign direct investment, consumption, inflation, and unemployment on GDP per capita. *Journal of Policy Options*, *2*(2), 64-76.

Berg, A., & Ostry, J. D. (2011). Equality and efficiency. *Finance & Development, 48*(3), 12-15.

Besley, T., & Burgess, R. (2004). Can labor regulation hinder economic performance? Evidence from India. *The quarterly journal of economics, 119*(1), 91-134.

Bloom, D. E., & Williamson, J. G. (1998). Demographic transitions and economic miracles in emerging Asia. *The World Bank Economic Review, 12*(3), 419-455.

Bloom, D., Canning, D., & Sevilla, J. (2003). *The demographic dividend: A new perspective on the economic consequences of population change*: Rand Corporation.

Borensztein, E., De Gregorio, J., & Lee, J.-W. (1998). How does foreign direct investment affect economic growth? *Journal of international economics, 45*(1), 115-135.

Carkovic, M., & Levine, R. (2005). Does foreign direct investment accelerate economic growth. *Does foreign direct investment promote development, 195*(220), 2.

Chang, H. J. (2002). Breaking the mould: an institutionalist political economy alternative to the neo-liberal theory of the market and the state. *Cambridge journal of economics, 26*(5), 539-559.

Chenery, H. B. (1967). Foreign assistance and economic development *Capital movements and economic development* (pp. 268-292): Springer.

Cizakca, M. (2024). Understanding the Determinants of Foreign Trade Volume in Turkiye: An Empirical Analysis. *Journal of Business and Economic Options*, *7*(1), 19-28.

de Mello, J. C., Wittmann, H. F., & Friend, R. H. (1997). An improved experimental determination of external photoluminescence quantum efficiency. *Advanced materials, 9*(3), 230-232.

Ditta, K. Ali, A., & Audi, M. (2025). Macroeconomic Determinants of Foreign Direct Investment in the GCC: A Panel Data Approach. *Policy Journal of Social Science Review,* 3(2), 391–412.

Dollar, D., & Kraay, A. (2004). Trade, growth, and poverty. *The economic journal, 114*(493), F22-F49.

Dreher, A. (2006). Does globalization affect growth? Evidence from a new index of globalization. *Applied economics, 38*(10), 1091-1110.

ISSN Online: 3006-2047
ISSN Print: 3006-2039

Volume. 5, Issue No. 2 (2026)

Dutt, A. K., & Sen, A. (1997). Union bargaining power, employment, and output in a model of monopolistic competition with wage bargaining. *Journal of Economics, 65*(1), 1-17.

Easterly, W., & Rebelo, S. (1993). Fiscal policy and economic growth. *Journal of monetary economics, 32*(3), 417-458.

Evans, P., & Rauch, J. E. (1999). Bureaucracy and growth: A cross-national analysis of the effects of "Weberian" state structures on economic growth. *American sociological review, 64*(5), 748-765.

Farhadi, M., & Zhao, L. (2024). Exploring the Impact of Iran-China Trade on Environmental Sustainability. *Journal of Energy and Environmental Policy Options, 7*(1), 1-8.

Findlay, R. (1978). Relative backwardness, direct foreign investment, and the transfer of technology: a simple dynamic model. *The quarterly journal of economics, 92*(1), 1-16.

Fischer, S. (1993). The role of macroeconomic factors in growth. *Journal of monetary economics, 32*(3), 485-512.

Forbes, K. J. (2000). A reassessment of the relationship between inequality and growth. *American economic review, 90*(4), 869-887.

Grossman, G. M., & Helpman, E. (1991). Trade, knowledge spillovers, and growth. *European economic review, 35*(2-3), 517-526.

Gurgul, H., & Lach, Ł. (2014). Globalization and economic growth: Evidence from two decades of transition in CEE. *Economic Modelling, 36*, 99-107.

Hamza, R. M. & Ahmed, J. Ali, A. (2025). GSP+ Concessions, Export Diversification, and Trade Balance Dynamics: Evidence from Pakistan–EU Trade Relations *Annual Methodological Archive Research Review*, 3 (7), 519-542.

Hansen, H., & Rand, J. (2006). On the causal links between FDI and growth in developing countries. *World Economy, 29*(1), 21-41.

Hanushek, E., & Woessmann, L. (2020). The economic impacts of learning losses: OECD Publishing.

Hanvoravongchai, P., & Paweenawat, J. (2025). Economic and Environmental Dynamics in Southeast Asia: The Impact of Tourism, Gross Domestic Product, Foreign Direct Investment, and Trade Openness on Carbon Dioxide Emissions. *Journal of Energy and Environmental Policy Options*, *8*(1), 51-65.

Headey, D. D., & Hodge, A. (2009). The effect of population growth on economic growth:

ISSN Online: 3006-2047
ISSN Print: 3006-2039

Volume. 5, Issue No. 2 (2026)

A meta-regression analysis of the macroeconomic literature. *Population and development review, 35*(2), 221-248.

Hussain, M., & Khan, A. R. (2022). The impact of economic growth, energy consumption, and trade openness on carbon emissions in Pakistan. *Journal of Energy and Environmental Policy Options*, *5*(3), 1-6.

Hwang, J., & Lee, Y. (2019). Exploring the impact of trade openness on unemployment: A cross-country analysis. *Journal of Business and Economic Options*, *2*(3), 123-131.

Ibrahim, J., & Simian, R. (2023). Investigating CO2 emissions drivers: Energy use, economic growth, urbanization, and trade openness. *Journal of Energy and Environmental Policy Options*, *6*(1), 1-7.

Iqbal, M. A., Ali, A., & Audi, M. (2025). Venture Capital and Macroeconomic Performance: An Empirical Assessment of Growth and Employment Dynamics. *Contemporary Journal of Social Science Review*, *3*(3), 785-807.

Irfan, M., & Sohail, F. (2021). Exploring import-export dynamics: A time series analysis of Pakistan's trade trends. *Journal of Business and Economic Options*, *4*(2), 24-29.

Jadoon, t. K., Rashid, H. A., & Azeem, A. (2015). Trade liberalization, human capital and economic growth: Empirical evidence from selected Asian countries. *Pakistan Economic and Social Review*, 113-132.

Karul, H., & Nawaz, K. (2025). Financial Literacy and Investment Decisions in Türkiye: The Mediating Role of Peer Influence and the Moderating Effect of Financial Status. *Journal of Policy Options*, *8*(3), 56-69.

Khalid, U., Ali, A., & Audi, M. (2025). Understanding Borrowing Behaviour in the EU: The Role of Mobile Payments, Financial Literacy, and Financial Access. *Annual Methodological Archive Research Review*, *3*(5), 41-66.

Khan, M. S., Audi, M., & Ali, A. (2025). Foreign Direct Investment, Financial Development, and Sustainable Growth: Empirical Evidence from Developing Countries. *Journal of Social Signs Review*, 3(8), 189–211.

Khan, M. S., Senhadji, A. S., & Smith, B. D. (2006). Inflation and financial depth. *Macroeconomic Dynamics, 10*(2), 165-182.

Krugman, P. (1991). Increasing returns and economic geography. *Journal of political economy, 99*(3), 483-499.

Kumar, P., & Wu, H. (2025). Evaluating the dual impact of

ISSN Online: 3006-2047
ISSN Print: 3006-2039

Volume. 5, Issue No. 2 (2026)

economic drivers on environmental degradation in developing countries: a study of technology innovation, foreign direct investment, and trade openness. *Journal of Energy and Environmental Policy Options*, *8*(1), 24-36.

Kumar, S., Ali, A., & Alam, M. (2025). Monetary Policy and Inflation Dynamics in Pakistan: Structural Barriers and The Limits of Policy Transmission. *Pakistan Journal of Social Science Review*, 4(4), 270–292.

Lall, S. (2000). The Technological structure and performance of developing country manufactured exports, 1985-98. *Oxford development studies, 28*(3), 337-369.

Liu, J., & Cai, Y. (2025). Hedging versus Speculation in Emerging Commodity Markets: Evidence from China and India. *Journal of Business and Economic Options*, *8*(4), 23-36.

Lucas Jr, R. E. (1988). On the mechanics of economic development. *Journal of monetary economics, 22*(1), 3-42.

Mahmood, M., Chowdhury, P., Yeassin, R., Hasan, M., Ahmad, T., & Chowdhury, N.-U.-R. (2024). Impacts of digitalization on smart grids, renewable energy, and demand response: An updated review of current applications. *Energy Conversion and Management: X, 24*, 100790.

Marc, A. (2024). *The Impact of Exchange Rate Volatility on Long-term Economic Growth: Insights from Lebanon* (No. 121634). University Library of Munich, Germany.

Marc, A., & Ali, A. (2018). Gender Gap and Trade Liberalization: An Analysis of some selected SAARC countries. *Advances in Social Sciences Research Journal*, *5*(11).

Marc, A., & Ali, A. (2023). Public Policy and Economic Misery Nexus: A Comparative Analysis of Developed and Developing World. *International Journal of Economics and Financial Issues*, *13*(3), 56-73.

Marc, A., Ali, A., & Al-Masri, R. (2022). Determinants of Advancement in Information Communication Technologies and its Prospect under the role of Aggregate and Disaggregate Globalization. *Scientific Annals of Economics and Business*, *69*(2), 191-215.

Mealli, F. (2021). Currency Integration and Bilateral Trade: Evidence from the Eurozone. *Journal of Business and Economic Options*, *4*(2), 30-34.

Mehlum, H., Moene, K., & Torvik, R. (2006). Institutions and the resource curse. *The economic journal, 116*(508), 1-20.

ISSN Online: 3006-2047
ISSN Print: 3006-2039

Volume. 5, Issue No. 2 (2026)

Mordecai, U., & Akinsola, A. (2021). Navigating economic dynamics: Trade liberalization and demographic trends in Nigeria. *Journal of Business and Economic Options*, *4*(4), 30-36.

Mubarak, A. (2005). Nutritional composition and antinutritional factors of mung bean seeds (Phaseolus aureus) as affected by some home traditional processes. *Food chemistry, 89*(4), 489-495.

Naik, P. K. (2020). Exploring factors shaping India's trade patterns: Evidence from major trading partners. *Journal of Business and Economic Options*, *3*(4), 150-157.

Newbery, D. M., & Stiglitz, J. E. (1984). Pareto inferior trade. *The Review of Economic Studies, 51*(1), 1-12.

North, D. C. (1990). *Institutions, institutional change and economic performance*: Cambridge university press.

Perera, D., Ryan, M., Morgan, H. P., Greenwood, J. P., Petrie, M. C., Dodd, M., . . . Nazir, M. S. (2023). Viability and outcomes with revascularization or medical therapy in ischemic ventricular dysfunction: a prespecified secondary analysis of the Revived-BCIS2 trial. *Jama Cardiology, 8*(12), 1154-1161.

Perveez, T. (2019). The impact of domestic interest rates on foreign direct investment: Evidence from Pakistan. *Journal of Policy Options*, *2*(1), 1-21.

Pesaran, M. H. (2021). General diagnostic tests for cross-sectional dependence in panels. *Empirical economics, 60*(1), 13-50.

Pesaran, M., Shin, Y., & Smith, R. (1997). Pooled Estimation of Long-run Relationships in Dynamic Heterogeneous Panels: Faculty of Economics, University of Cambridge.

Porro, L., & Gia, N. (2021). Assessing transport system efficiency and sustainable development in trade and manufacturing sector. *Journal of Energy and Environmental Policy Options*, *4*(2), 9-16.

Psacharopoulos, G. (1994). Returns to investment in education: A global update. *World development, 22*(9), 1325-1343.

Riaz, M. F., Shah, A. R., Jadoon, A. K., & Iqbal, M. (2024). Empirical Evidence of Export-Led Growth Hypothesis for South Asia. *IUB Journal of Social Sciences, 6*(1), 15-25.

Romer, P. M. (1986). Increasing returns and long-run growth. *Journal of political economy, 94*(5), 1002-1037.

Romer, P. M. (1990). Capital, labor, and productivity. *Brookings*

ISSN Online: 3006-2047
ISSN Print: 3006-2039

Volume. 5, Issue No. 2 (2026)

papers on economic activity. Microeconomics, 1990, 337-367.

Rossi, S. (2023). Exploring the relationship between economic growth, energy consumption, trade openness, and carbon dioxide emissions: A case study of Italy. *Journal of Energy and Environmental Policy Options*, *6*(3), 19-24.

Sachs, J. D., & Warner, A. (1995). Natural Resource Abundance and Economic Growth: National Bureau of Economic Research, Inc.

Saim, R. M., Senturk, I., & Ali, A. (2025). Macroeconomic Predictors and Stock Market Dynamics of the US Equity Market. *Annual Methodological Archive Research Review*, *3*(7), 91-110.

Savrul, M., & Incekara, A. (2015). The effect of R&D intensity on innovation performance: A country level evaluation. *Procedia-Social and Behavioral Sciences, 210*, 388-396.

Seti, T. M., Mazwane, S., & Christian, M. (2025). Financial openness, trade openness, and economic growth nexus: A dynamic panel analysis for emerging and developing economies. *Journal of Risk and Financial Management, 18*(2), 78.

Shahabuddin, Q., & Ali, M. (2024). Investment decisions and satisfaction of individual investors at the Dhaka Stock Exchange: A behavioral perspective. *Journal of Policy Options*, *7*(2), 43-54.

Siddiqi, M. W., Ali, A., & Chani, M. I. (2014). Import demand, economic development and trade liberalization in Pakistan: an empirical analysis. *Bulletin of Business and Economics (BBE)*, *3*(2), 131-141.

Singer, H. W. (1975). The distribution of gains from trade and investment-revisited. *The Journal of Development Studies, 11*(4), 376-382.

Skhirtladze, S., & Nurboja, B. (2019). Exploring the environmental Kuznets curve hypothesis: Deforestation, trade, and economic growth in Pakistan. *Journal of Energy and Environmental Policy Options*, *2*(2), 48-56.

Soliman, Z. (2025). Determinants of Global Trade Barriers: An Empirical Analysis of Cross-Country Variations Using a Comprehensive Trade Index. *Journal of Business and Economic Options*, *8*(4), 37-46.

Solow, R. M. (1956). A contribution to the theory of economic growth. *The quarterly journal of economics, 70*(1), 65-94.

Stiglitz, J. E. (2002). Information and the Change in the Paradigm in Economics. *American economic review, 92*(3), 460-501.

Sun, Y., & Chang, Y. (2020). Trade and Poverty in Developing

ISSN Online: 3006-2047
ISSN Print: 3006-2039

Volume. 5, Issue No. 2 (2026)

Countries: Beyond Assumptions to Nuanced Understanding. *Journal of Business and Economic Options*, *3*(4), 167-175.

Ullah, M., Umair, M., Sohag, K., Mariev, O., Khan, M. A., & Sohail, H. M. (2024). The connection between disaggregate energy use and export sophistication: new insights from OECD with robust panel estimations. *Energy*, *306*, 132282.

Wacziarg, R., & Welch, K. H. (2008). Trade liberalization and growth: New evidence. *The World Bank Economic Review*, *22*(2), 187-231.

Wang, Y. (2023). Geopolitical considerations in Sino-US trade relations. *Journal of Business and Economic Options*, *6*(3), 17-25.

Weber, M. (2022). Analyzing carbon emissions and trade-related impacts on global emission levels. *Journal of Energy and Environmental Policy Options*, *5*(3), 7-12.

Williamson, O. E. (1975). Markets and hierarchies: analysis and antitrust implications: a study in the economics of internal organization. *University of Illinois at Urbana-Champaign's Academy for Entrepreneurial Leadership Historical Research Reference in Entrepreneurship*.

Wim, C., & Wendy, S. (2025). Business Law, Foreign Direct Investment, and Economic Growth: A Panel Analysis of European Union Member States. *Journal of Business and Economic Options*, *8*(4), 1-11.

Yanikkaya, H. (2003). Trade openness and economic growth: a cross-country empirical investigation. *Journal of Development economics*, *72*(1), 57-89.

Young, A. (1995). The tyranny of numbers: confronting the statistical realities of the East Asian growth experience. *The quarterly journal of economics*, *110*(3), 641-680.

Zahid, M. (2018). Economic misery, exchange rate, interest rate, and foreign direct investment: Empirical evidence from Pakistan. *Journal of Policy Options*, *1*(2), 81-95.