FDI, Trade Intensity and Credit Accessibility Nexus: Evidence from Selected South Asian Countries

Tahmina Anwar¹, Momna Asif², Munazza Akhtar³ and Umer Javeid⁴

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Abstract

This study investigates the impact of Foreign Direct Investment (FDI) and trade intensity on credit accessibility in South Asian countries from 1976 to 2022. Addressing a critical research gap, it explores how economic variables influence financial inclusion in regions where access to credit is a significant barrier to growth. Using a panel-data model, the research examines the relationships between FDI, trade openness, and credit access, with a focus on national and sectoral variations. The findings reveal a positive correlation between FDI, trade intensity, and credit access in South Asia, though their effects vary across different countries and sectors. This study highlights the importance of adopting context-specific policies to enhance FDI and trade, thereby promoting financial inclusion in South Asia. These insights can assist policymakers in understanding the region's economic dynamics and provide actionable guidance for improving credit access while fostering sustainable economic development.

Keywords: Foreign Direct Investment, Trade Intensity, Credit Accessibility, Economic Growth, Financial Inclusion.

Introduction

Foreign Direct Investment (FDI) has played a pivotal role in global economic development, with its influence evolving substantially since the mid-20th century. Initially, FDI was concentrated in regions like Southeast England, gradually expanding throughout Britain during the 1960s (Jones & Wren, 2016). In recent decades, China has emerged as both a significant recipient and investor in FDI, particularly following its market reforms and the "Go Out, Bring In" strategy introduced in the 1980s. By 2014, China had attracted over \$100 billion in FDI, becoming the world's second-largest FDI investor (Jones & Wren, 2016). These shifts underscore the critical role of FDI in shaping economic landscapes, particularly in countries with favorable regulatory and macroeconomic policies, which tend to attract increased FDI flows (UNCTAD, 2016; World Bank Group, 2016).

FDI is notably influenced by factors such as market size and growth potential, with larger, rapidly growing economies drawing more foreign investment due to the potential for higher returns (Ang,

⁴Department of Economics, University of the Punjab, Gujranwala Campus, Pakistan. Email: <u>umer.javeid@pugc.edu.pk</u>





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¹Department of Commerce, University of the Punjab, Gujranwala Campus, Pakistan. Email: <u>tahminaanwar31@gmail.com</u>

²Department of Commerce, University of the Punjab, Gujranwala Campus, Pakistan. Email: <u>momnaasif216@gmail.com</u>

³Department of Economics, Government College Women University Sialkot, Pakistan. Email: <u>munazza.akhtar@gcwus.edu.pk</u>

2008). Macroeconomic theories, institutional frameworks, and regulatory environments offer valuable insights into why some countries attract more FDI than others. However, understanding FDI dynamics also requires considering additional factors such as technological innovation and environmental influences (Contractor et al., 2020).

The environmental impact of FDI has sparked considerable debate. While FDI may contribute to pollution, particularly when industries relocate to countries with lax environmental standards (Wang & Jiayu, 2019), it can also bring advanced technologies and cleaner production methods that improve environmental standards over time (Wang & Jiayu, 2019). The relationship between FDI and environmental sustainability is especially relevant in regions like Sub-Saharan Africa, where FDI helps bridge capital gaps in economies with low savings rates and underdeveloped capital markets (Iddrisu et al., 2015; Rasche, 2020). Policymakers must therefore balance both the economic and environmental impacts of FDI to promote sustainable growth (Ahmad et al., 2020). Trade, closely linked to FDI, is another essential driver of economic development. By reducing tariffs, improving market access, and enhancing the international movement of goods, trade contributes to economic growth (Trade in Intermediate Goods and Services, 2009; Hill, 2008). Effective trade policies should align with a country's economic strengths to maximize development outcomes (Sagar et al., 2018). Financial openness and trade liberalization have benefited rapidly developing nations, such as the BRICS countries, by fostering economic growth (Law, 2009).

However, the environmental effects of trade are complex. The "scale effect" suggests that increased trade leads to higher energy consumption and pollution levels (Aydin & Turan, 2020), while the "composition effect" implies that trade encourages countries to specialize in industries with a comparative advantage, which may be more polluting (Aung et al., 2017). Conversely, the "technique effect" suggests that trade liberalization and FDI can introduce cleaner technologies, which may help reduce pollution (Aung et al., 2017). This duality highlights the need for balanced trade and environmental policies that promote economic development without compromising ecological sustainability (Davis et al., 2019; Khan et al., 2020).

Financial inclusion (FI) plays a crucial role in fostering economic participation and reducing poverty. By providing access to financial services such as savings accounts, credit, insurance, and payment systems, FI helps individuals and businesses manage their finances effectively, thereby supporting broader macroeconomic growth (Kumari & Sharma, 2017). This study contributes to existing literature by examining the effects of FDI and trade intensity on credit access in South Asia, an area that has received limited attention. While previous research has focused on macroeconomic outcomes such as growth and employment, this study focuses on the microeconomic implications, specifically how FDI and trade intensity influence credit access for small and medium-sized enterprises (SMEs). The study also addresses the significant barriers posed by underdeveloped credit markets and restrictive regulations, highlighting sector-specific and enterprise-level differences. The findings offer valuable insights for policymakers and financial institutions, guiding efforts to improve credit accessibility and foster economic development across South Asia.

Research Questions and Hypotheses

The following research questions and hypotheses about the relationship between trade intensity, credit accessibility, and foreign direct investment in South Asian countries will be examined: *RQ1*: How are FDI funds impacting credit accessibility in South Asian nations?

H01: Foreign Direct Investment (FDI) is not strongly correlated with credit access within South Asian nations.

Hal: Foreign Direct Investment (FDI) and the accessibility of credit across South Asian nations show a positive connection.

RQ2: What impact does trade intensity have on credit accessibility in South Asia?

H02: There is no significant relationship between trade intensity and credit availability in South Asia Nations.

Ha2: A positive correlation exists between trade intensity and credit access among South Asian nations.

RQ3: How do FDI and trade intensity effects differ across various sectors regarding credit accessibility?

H03: Foreign Direct Investment (FDI) and trading intensity do not negatively impact the accessibility of credit within South Asian nations.

Ha3: Foreign Direct Investment (FDI) and the intensity of trade all positively impact the accessibility of credit within South Asian nations.

Literature Review

Foreign Direct Investment (FDI) has long been a key driver of global economic integration, influencing trade patterns, growth, and wealth distribution. FDI, particularly from multinational corporations (MNEs), has been studied extensively due to its substantial impact on the economies of host countries (Paul and Feliciano, 2021). As globalization accelerates, driven by the reduction of trade barriers, trade has evolved from final goods to intermediate goods, fostering regional production networks that enhance efficiency and strengthen economic ties (Elms & Low, 2013).

Foreign Direct Investment and Credit Access/Capital Inflow

The relationship between FDI and credit access has been extensively analyzed, revealing mixed outcomes depending on the host country's institutional environment. Research by TA et al. (2020) shows that trade liberalization positively impacted FDI inflows into Vietnam, suggesting that more open economies attract greater foreign investment. Similarly, Le and Kim (2020) found that the removal of trade barriers in Vietnam facilitated increased FDI, which contributed to economic growth. The impact of FDI on economic growth is also highlighted in studies of countries like Thailand, Korea, and China, where trade openness and FDI have proven beneficial (Sakyi et al., 2015).

However, the mere presence of financial inclusion does not guarantee a boost in FDI, particularly in lower-income nations in East Asia and the Pacific (EAP). Institutional performance plays a critical role in attracting investment, suggesting that the quality of governance and the regulatory environment are key factors in maximizing FDI inflows (Chen et al., 2023). Furthermore, while FDI and foreign aid have been crucial for growth in countries like Vietnam, they must be leveraged effectively to realize their full potential (Nguyen et al., 2021). In agricultural sectors, for example, FDI can improve productivity through technology transfer, but access to financial services must be complemented by the effective utilization of funds for optimal results (Soni & Ri, 2024).

Foreign Direct Investment and Trade Openness

Trade liberalization and Free Trade Agreements (FTAs) have been shown to play a pivotal role in attracting FDI. In Vietnam, trade openness facilitated by FTAs led to a surge in FDI inflows (Lien, 2021). Trade openness enhances FDI by providing market access, reducing trade barriers, and fostering a more competitive environment. However, excessive trade openness may expose economies to the volatility of global markets and increase competition, which could undermine

long-term economic stability (Soomro et al., 2022). The relationship between FDI and income inequality is also complex. While FDI can potentially reduce inequality through job creation and skills development, factors like trade openness, education, political stability, and the rule of law must all align effectively to address inequality (Xu et al., 2021).

In emerging markets, FDI, trade openness, and moderate inflation have been linked to improved economic growth and productivity. However, the effects of trade openness are not always linear. For instance, while trade openness generally benefits low-income nations by facilitating market access and capital inflows, it can sometimes hinder middle-income countries, as seen in Romania (Rathnayaka et al., 2021). Moreover, the environmental effects of trade and FDI are significant. Research from Africa suggests a bidirectional relationship between emissions and trade/FDI activities, indicating that improving economic practices through FDI can reduce pollution over time (Rakshit, 2022). While FDI typically supports long-term economic development, its full benefits may require years of sustained investment and policy consistency (Rakshit, 2022).

Trade Openness and Credit Accessibility

Trade liberalization is integral to economic growth, but its relationship with credit accessibility is complex. Access to credit, combined with capital accumulation and labor force participation, is essential for sustained growth. However, studies show that trade openness can have varying effects on economic activity. For example, Mulungula and Nimubona (2022) found a surprising negative correlation between trade openness and GDP, suggesting that higher GDP may not necessarily result in greater trade openness. The number of ATMs and financial institutions is also inversely related to trade openness, possibly due to structural changes in financial systems.

Financial institutions are central to fostering economic growth by facilitating investments in education, entrepreneurship, and consumption. Efficient financial systems enhance risk management and overall financial stability, contributing to higher productivity and economic output (Huang et al., 2021). However, trade openness, inflation, and financial inclusion need to be carefully managed to ensure that they support rather than hinder sustainable economic growth. Increased trust in financial institutions through greater financial transparency can enhance credit access and strengthen banking systems, creating a more favorable environment for investment (Adzido et al., 2016). Additionally, the role of financial openness in fostering global market access is critical, though its effects vary by region and income level. While trade openness benefits low-income countries by developing financial markets, it can pose challenges for middle-income countries (Ho & Iyke, 2021).

This literature highlights the nuanced relationships between FDI, trade openness, and credit accessibility. While each factor plays a crucial role in economic development, their effects are shaped by institutional quality, trade policies, and financial systems. Future research should continue to explore these complex interactions to provide deeper insights into how developing economies can leverage FDI and trade to enhance credit access and foster inclusive growth.

Data and Methodology

To accurately examine the relationship between Foreign Direct Investment, Trade Intensities, and Credit Access within South Asian nations from 1976-2022, this research uses a comprehensive panel model. Foreign Direct Investment is measured as net flows as a percentage of GDP as an indicator of international investment; trade intensity measures exports/imports relative to GDP as an indication of globalisation involvement; while credit access represents private debt as a percentage of GDP, which indicates financial resources for economic activities in a nation's

national economic outputs; this research focused on Bangladesh, India, Pakistan, Sri Lanka, and Nepal because these nations represent significant economic significance as well as differing degrees of financial development. Covering a substantial period allows the study to capture longterm trends and the effects of economic changes, including policy shifts and financial crises. Tables 2 and 3 provide detailed variable descriptions and descriptive statistics.

Table 1: Varia	able Descriptions	
Variables	Description	Source
TRADE	(Export + import)/GDP (All three variables' data are in	World Development
INTENSITY	current US dollars.	Indicators (WDI)
DCTPS	Domestic credit to the private sector refers to financial	database World Bank
	resources provided to the private sector by financial	https://databank.worldban
	corporations, such as through loans, purchases of no	k.org/source/world-
	equity securities, trade credits and other accounts	development-indicators
	receivable that establish a claim for repayment.	_
FDI	Foreign direct investment refers to direct investment	-
	equity flows in the reporting economy. It is the sum of	
	equity capital, reinvestment of earnings, and other	
	capital. Ownership of 10 per cent or more of the ordinary	
	shares of voting stock is the criterion for determining the	
	existence of a direct investment relationship. Data are in	
	current US dollars.	

TRADEINTENSITY quantifies a nation's global trade involvement relative to its economic size, calculated by summing imports and exports and dividing by GDP in US dollars. Higher TRADEINTENSITY values indicate greater global trade dependence, suggesting an economy more open to international commerce. DCTPS (Domestic Credit to the Private Sector) measures financial assets available to businesses via various financial institutions, such as credit, loans, and securities in US dollars. Foreign Direct Investment (FDI) measures direct investments made directly by foreigners into an economy's equity capital and reinvested profits, including equity capital and reinvested profits, with higher FDI values reflecting greater foreign confidence or interest that may spark economic expansion, job creation and technology transfer.

Table 2: Descriptive Statistics								
Domestic Cree	dit to Private	Sector						
Country	Mean	Max	Min	SD	Skewness	Kurtosis		
Bangladesh	23.99	44.41	2.97	13.11	0.09	1.65		
India	33.77	54.57	17.89	12.73	0.45	1.46		
Iran	30.59	60.30	15.18	13.12	0.77	2.16		
Nepal	33.17	103.65	3.63	26.63	0.98	3.00		
Pakistan	21.18	29.79	13.88	4.49	-0.27	1.76		
Sri Lanka	26.54	47.01	8.82	9.77	0.12	2.49		
Capital Inflow	vs (FDI) (In bi	llions of US Do	ollars)					
Bangladesh	10.67	12.83	9.99	0.89	1.07	2.75		
India	24.93	74.36	9.96	19.25	0.93	2.37		
Iran	11.26	15.02	9.64	1.54	0.80	2.40		
Nepal	10.04	10.20	9.99	0.06	1.71	5.01		

Pakistan	11.13	15.59	10.01	1.33	1.79	6.17	
Sri Lanka	10.36	11.61	10.00	0.40	1.26	3.96	
Trade Intensit	ty						
Bangladesh	28.37	48.11	16.69	9.07	0.64	2.38	
India	29.44	55.79	12.22	14.86	0.35	1.60	
Iran	41.65	65.44	14.14	10.63	-0.47	3.42	
Nepal	41.87	64.04	24.95	9.81	0.13	2.24	
Pakistan	31.24	38.50	21.46	4.30	-0.43	2.31	
Sri Lanka	66.96	88.64	37.03	13.27	-0.55	2.31	

Credit availability to the private sector varies notably among South Asian countries, with India (33.77%) and Nepal (33.17%) having high rates of company-specific lending, suggesting advanced financial infrastructures. With the lowest average (21.18%), Pakistan faces restricted credit access but saw a notable increase to 103.65% due to reforms. Pakistan also has the lowest maximum value (29.79%) and less variability, indicating stable yet limited credit access. Nepal and Iran exhibit more significant fluctuations in credit availability, with Nepal showing more extreme levels of kurtosis. Most countries have positive skewness in credit distribution, but Pakistan has a negative skewness (-0.27) and kurtosis near 3, indicating a near-normal distribution, while Nepal's kurtosis value suggests more extreme variations. This summary highlights the diverse credit environments across these countries.

Methodology

This research utilises secondary information from World Development Indicators' World Development Indicators from 1976-2022 using panel data regression methods. Accessibility was considered the dependent variable; Foreign Direct Investment and trade intensity served as independent variables; panel data regression techniques were then applied to analyse any relationship between access to credit determined by indicator variables trade intensity/FDI ratio and access itself. The model used for this study can be described as follows:

 $LCA_{it} = \alpha + \beta_1 LFDIit + \beta_2 LTradeit + \epsilon it$

Where t is an index to time series (1976-2022), here: "i" stands for cross-sectional units from South Asian countries.

LCAit represents the natural logarithm of credit accessibility for country i at time t,

LFDIit denotes the natural logarithm of Foreign Direct Investment for country i at time t,

LTradeit signifies the natural logarithm of trade intensity for country i at time t,

 ϵ it indicates any unobservable factors contributing to error terms in our calculations.

The β_1 and β_2 in this model have coefficients that assess the impact of foreign direct investments (FDI) and trade intensities on the accessibility of credit, and positive signals indicate that increased investment or intensity could result in improved accessibility. Panel data regression helps handle heterogeneity that cannot be seen throughout time and between nations.

Results and Discussion	Ç
Table 3. Residual Cross-Sect	ion Dependence Test

Table 5: Residual Cross-Section Dependence Test		
Test	Statistic	Prob.
Breusch-Pagan LM	290.5***	0.000
Pesaran scaled LM	049.2***	0.000
Pesaran CD	06.09***	0.000

Notes: *** represents a rejection of the null hypothesis at a 1% level of significance;

Table 3 examines whether there is a correlation between cross-sections in panel data models. The null hypothesis posits no cross-sectional dependence in residuals, but results from several tests reject this. The Breusch-Pagan LMT Test, with a statistic of 290.48 and a P-value of 0.000, indicates significant cross-sectional dependence. The Pesaran Scaled LM Test, showing a statistic of 49.201 with 1% significance, also confirms this dependence. Similarly, the Pesaran CD Test verifies substantial cross-sectional dependency with a statistic of 6.091 and a P-value of 0.0000. These findings suggest that residuals are not independent across countries in the panel, implying the need for advanced econometric techniques that account for such dependencies.

Table 4: Testing for Slope Heterogeneity				
Delta	p-value			
21.6***	0.000			
22.7***	0.000			
	0:000			

Notes: H0 - slope coefficients are homogenous;

*** Represents a rejection of the null hypothesis at a 1% significance level; variables partialled out: constant.

Sources: Author's calculations; Pesaran and Yamagata (2008).

Table 4 denotes variations in the relationship between dependent and independent variables across different segments, such as countries. Unlike the null hypothesis (H0), which assumes consistent slope coefficients across all cross-sections, test reveal significant differences in these relationships. Pesaran and Yamagata's, with highly significant results (delta statistics of 21.6 and 10.7, respectively, with p-values of 0.000), indicate that slope coefficients vary between countries. This variability suggests that the effects of explanatory variables on dependent variables differ across nations due to factors like economic conditions and policies.

Method	Statistic	Prob.	Obs	Statistic	Prob.	Obs	Order
Series: DCTPS	Level			1st Differen	ce		
Im, Pesaran and Shin W-stat	0.00	0.499	262	-11.43***	0.000	256	I (1)
ADF - Fisher Chi-square	16.42	0.173	262	127.18***	0.000	256	-
PP - Fisher Chi-square	21.30	0.046	264	146.68***	0.000	257	-
Series: TradeIntensity	Level			1st Differen	ce		
Im, Pesaran and Shin W-stat	-0.06	0.475	267	-10.8***	0.000	259	I (1)
ADF - Fisher Chi-square	11.07	0.523	267	119.6***	0.000	259	-
PP - Fisher Chi-square	12.74	0.388	267	117.4***	0.000	259	_
Series: CapitalInflows	Level			1st Differen	ce		
Im, Pesaran and Shin W-stat	1.36	0.914	247	-10.81***	0.000	252	I (1)
ADF - Fisher Chi-square	11.11	0.519	247	121.86***	0.000	252	_
PP - Fisher Chi-square	10.26	0.593	271	190.31***	0.000	264	_

Table 5: Uni root analysis

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality. *** represents the null hypothesis rejection at a 1% significance level.

Table 5 summarises unit root test results for three economic indicators: Domestic Credit to Private Sector (DCTPS), Trade Intensity, and Capital Inflows. Initially, all three series—DCTPS, Trade

Intensity, and Capital Inflows—were nonstationary, as confirmed by various unit root tests. Im, Pesaran, and Shin's W-statistic and other tests indicated non-stationarity at the initial level for DCTPS; however, stationarity after differencing showed significant p-values of 0.0000 for these experiments. Trade Intensity and Capital Inflows also displayed non-stationarity, leading to significant results following the first differencing. Im, Pesaran and Shin's W-statistic for Trade Intensity and Capital Inflows demonstrated significant p-values of 0.0000 after the first differentiation. Our results indicate that these series are integrated of order 1 (1), meaning they become stationary after just one differentiation. This finding highlights the significance of ascertaining stationarity before conducting more complex economic analyses, such as cointegration tests or regression models, to avoid reaching inaccurate or misleading conclusions.

Table 6: Kao Residual Co-integration Test						
Variable	Coefficient	Std. Error	t-Statistic	Prob.		
Augmented Dickey-Fuller Test Equation						
RESID(-1)	-0.182***	0.03	-5.43	0.000		
D(RESID(-1))	-0.22***	0.07	3.32	0.001		
Newey-West Automatic Bandwidth Selection	and Bartlett Kerr	iel				
ADF			-3.06***	0.001		
Residual variance			0.011**			
HAC variance			0.012**			
R-squared	0.12	Mean depend	lent var	-0.004		
Adjusted R-squared	0.12	S.D. depende	ent var	0.108		
S.E. of regression	0.10	Akaike info	criterion	-1.736		
Sum squared resid	2.43	Schwarz crite	erion	-1.707		
Log-likelihood	210.35	Hannan-Quir	nn criteria	-1.725		
Durbin-Watson stat	1.91					

Notes: Null hypothesis - no co-integration; trend assumption - no deterministic trend; *** represents a rejection of the null hypothesis at a 1% significance level.

The Kao Residual Test for Cointegration assesses long-term equilibrium relationships among variables in a panel data model. In Table 6, the results strongly contradict the null hypothesis of no cointegration, with an ADF T-statistic of -3.06 and a highly significant P value (0.0011), which confirm that residuals are stationary. This suggests that, despite short-term fluctuations, variables tend to settle into an equilibrium relationship over time and adjust as necessary to correct deviations. Additional support comes from low residual variance and an impressive coefficient of lagged residual terms with a minimal p-value (-0.182), suggesting correction of deviations over time. Analysis shows that this model can explain 13% of the variation in differential residuals with no autocorrelation; AIC and SC are used as information criteria to assess model fit; lower values indicate better performance. Overall, the Kao test confirms cointegration despite short-term variations; this long-term linkage makes accurate prediction easier via error correction models (ECMs) that accurately reflect this long-term equilibrium point more achievable.

Table 7: Pairwise Dumitrescu-Hurlin Panel Causality Tests					
Null Hypothesis	W-Stat	Zbar-Stat	Prob.		
DLFDIPOS does not homogeneously cause DLDCTPS	0.58	-0.75	0.454		
DLDCTPS does not homogeneously cause DLFDIPOS	0.80	-0.41	0.684		
DLTRADEINTENSITY does not homogeneously cause	0.26	-1.25	0.212		
DLDCTPS					
DLDCTPS does not homogeneously cause	0.42	-0.99	0.320		
DLTRADEINTENSITY					
DLTRADEINTENSITY does not homogeneously cause	0.82	-0.37	0.714		
DLFDIPOS					
DLFDIPOS does not homogeneously cause	2.03	1.54	0.124		
DLTRADEINTENSITY					

Note: ***, **, & * represent a rejection of the Null Hypothesis at a 1%, 5%, and 10% significance level.

The Dumitrescu-Hurlin Panel Causality test was used to investigate causal relationships between Domestic Credit to the Private Sector, International Direct Investment (FDI), and Trade Intensity within a panel of countries. Test results did not detect any significant causal ties among these variables. Specifically, Domestic Credit to the Private Sector does not significantly cause changes in FDI (W-Statistic = 0.58, Zbar-Statistic = -0.75, p-value = 0.454) and vice versa (W-Statistic = 0.80, Zbar-Statistic = -0.41, p-value = 0.454). Similarly, Trade Intensity does not cause changes in Domestic Credit (W-Statistic = 0.26, Zbar-Statistic = -1.25, p-value = 0.212), and Domestic Credit does not affect Trade Intensity (W-Statistic = 0.42, Zbar-Statistic = -0.99, p-value = 0.320). Additionally, no evidence was found that Trade Intensity influences FDI (W-Statistic = 0.82, Zbar-Statistic = -0.37, p-value = 0.714), nor does FDI impact Trade Intensity (W-Statistic = 2.03, Zbar-Statistic = 1.54, p-value = 0.124). These results indicate an absence of causality among economic variables across the countries studied; changes to one variable do not predict changes to others, and other influences could impact these relationships.

Table 8: Panel Autoregressive Distributed Lag Model							
Dependent Variable: D(LDCTPS)							
Included observations: 250							
Model selection method: Akaike info criterion (AIC)							
Variable	Coefficient	Std. Error	t-Statistic	p-value			
Long Run Equation							
LFDIPOS	0.07***	0.02	4.02	0.000			
LTRADEINTENSITY	0.61***	0.12	4.90	0.000			
Short Run Equation							
COINTEQ01	-0.056***	0.018	-3.035	0.003			
D(LFDIPOS)	0.488	0.563	0.868	0.386			
D(LTRADEINTENSITY)	0.234**	0.111	2.111	0.036			
Note: **, *** represents the null hypothesis rejection at 5%, 1% significance level.							
Note: p-values and any subseq	uent tests do not	account for m	odel selection	•			

Table 8 displays the results from an Autoregressive Distributed Lag (ARDL) model, which examined relationships among Domestic Credit to the Private Sector (LDCTPS), Foreign Direct Investment (LFDIPOS), and Trade Intensity (LTRADEINTENSITY) using over 250 data points. The model distinguishes between the short- and long-term impacts of these variables. Long-term studies demonstrate that an increase of one unit in foreign direct investment leads to an incremental 0.07 unit rise in domestic credit; similarly, an increase of trade intensity by one unit corresponds with an increment of 0.61 in domestic credit growth - both findings being statistically significant. Short-term adjustments demonstrate that deviations from long-term equilibrium correct themselves over time; COINTEO01's coefficient value at 1% significance indicates this process is indeed happening. Changes in trade intensity positively influence domestic credit in the short run, with an effect size of 0.2344, which is significant at 5%; on the contrary, changes in foreign direct investment show no immediate measurable effect. Overall, the ARDL model shows that foreign direct investment has significant long-term ramifications on domestic credit; its short-term impacts are minimal compared with trade intensity's more immediate influence. Furthermore, its robustness can be further confirmed through an overall log-likelihood value of 239.41, confirming reliability.

Conclusion

This study examined the impact of foreign direct investment (FDI) and trade intensity on credit access in South Asian countries from 1976 to 2022. The results indicate that both FDI and trade intensity significantly influence credit access, with their effects varying according to the financial and economic context of each country. FDI enhances credit access by introducing advanced technologies and improving financial market capacity, benefiting nations with more developed financial systems like India and Sri Lanka. However, in countries with underdeveloped financial sectors, the impact of FDI is smaller, emphasizing the need for targeted reforms. Additionally, FDI fosters innovation within financial markets. Similarly, higher trade intensity improves the efficiency of financial services in countries with strong trade and institutional frameworks. The study suggests that combining liberalization with sound economic policies can further enhance credit access, as noted by Levine (2001).

This research highlights the need for comprehensive financial sector reforms across South Asia to fully leverage the benefits of FDI and trade intensity in improving credit access. Reforms should focus on strengthening infrastructure, regulatory frameworks, and financial literacy, particularly in weaker markets, before attracting more FDI. Trade policies should also support local industries in gaining easier credit access. Regional cooperation can further enhance these efforts, promoting financial development across the region. However, political stability and domestic financial policies must also be considered, as they play a crucial role in improving credit access.

Given the cross-sectional nature of the study, future research should adopt more advanced analytical methods to address potential endogeneity issues. Further studies should explore the role of technological advancements, human capital, and political stability in the relationship between FDI, trade intensity, and credit access, offering deeper insights for policymakers.

References

 Adzido, R. Y. N., Ahiave, E. K., Kamasah, V. Y., Akoto, V., & Dorkpah, O. K. (2016). Assessing Financial Openness and Access to Credit Facilities: The Case of Banks in Ho, Ghana. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 6(3). https://doi.org/10.6007/ijarafms/v6-i3/2160

- Ahmad, M., Khattak, S. I., Khan, A., & Rahman, Z. U. (2020). Innovation, foreign direct investment (FDI), and the energy–pollution–growth nexus in OECD region: A simultaneous equation modelling approach. *Environmental and Ecological Statistics*, 27(2), 203–232. https://doi.org/10.1007/s10651-020-00442-8
- Ang, J. B. (2008). A survey of recent developments in the literature of finance and growth. *Journal of Economic Surveys*, 22(3), 536–576. https://doi.org/10.1111/j.1467-6419.2007.00542.x
- Aung, T. S., Saboori, B., & Rasoulinezhad, E. (2017). Economic growth and environmental pollution in Myanmar: An analysis of environmental Kuznets curve. *Environmental Science and Pollution Research*, *24*(25), 20487–20501. https://doi.org/10.1007/s11356-017-9567-3
- Aydin, M., & Turan, Y. E. (2020). The influence of financial openness, trade openness, and energy intensity on ecological footprint: Revisiting the environmental Kuznets curve hypothesis for BRICS countries. *Environmental Science and Pollution Research*, 27(34), 43233–43245. https://doi.org/10.1007/s11356-020-10238-9
- Chen, S., Wang, Z., Zhang, M., Shi, X., Wang, L., An, W., Li, Z., Pan, F., & Yang, L. (2023). Practical evaluation of pre-lithiation strategies for next-generation lithium-ion batteries. *Carbon Energy*, 5(8), e323. https://doi.org/10.1002/cey2.323
- Contractor, F. J., Dangol, R., Nuruzzaman, N., & Raghunath, S. (2020). How do country regulations and business environment impact foreign direct investment (FDI) inflows? *International Business Review*, 29(2), 101640. https://doi.org/10.1016/j.ibusrev.2019.101640
- Davis, J.-M., Akese, G., & Garb, Y. (2019). Beyond the pollution haven hypothesis: Where and why do e-waste hubs emerge, and what does this mean for policies and interventions? *Geoforum*, *98*, 36–45. https://doi.org/10.1016/j.geoforum.2018.09.020
- Elms, D. K., & Low, P. (Eds.). (2013). How have production networks changed development strategies in East Asia? In World Trade Organization & Temasek Foundation Centre for Trade & Negotiations (TFCTN), *Global Value Chains in a Changing World* (pp. 361–383). WTO. https://doi.org/10.30875/ef5b3a26-en
- Hill, C. (2008). International Business: Competing in the Global Market Place. *Strategic Direction*, 24(9). https://doi.org/10.1108/sd.2008.05624iae.001
- Ho, S.-Y., & Iyke, B. N. (2021). Short and long-term impact of trade openness on financial development in Sub-Saharan Africa. *The Journal of Developing Areas*, 55(1). https://doi.org/10.1353/jda.2021.0009
- Huang, R., Kale, S., Paramati, S. R., & Taghizadeh-Hesary, F. (2021). The nexus between financial inclusion and economic development: Comparison of old and new EU member countries. *Economic Analysis and Policy*, *69*, 1–15. https://doi.org/10.1016/j.eap.2020.10.007
- Iddrisu, A.-A., Immurana, M., & Halidu, B. O. (2015). The Impact of Foreign Direct Investment (FDI) on the Performance of the Agricultural Sector in Ghana. *International Journal of Academic Research in Business and Social Sciences*, 5(7), Pages 240-259. https://doi.org/10.6007/IJARBSS/v5-i7/1734
- Jones, J., & Wren, C. (2016). *Foreign Direct Investment and the Regional Economy* (0 ed.). Routledge. https://doi.org/10.4324/9781315582764
- Khan, Z., Ali, M., Jinyu, L., Shahbaz, M., & Siqun, Y. (2020). Consumption-based carbon emissions and trade nexus: Evidence from nine oil exporting countries. *Energy Economics*, 89, 104806. https://doi.org/10.1016/j.eneco.2020.104806
- Kumari, R., & Sharma, A. K. (2017). Determinants of foreign direct investment in developing countries: A panel data study. *International Journal of Emerging Markets*, 12(4), 658–682. https://doi.org/10.1108/IJoEM-10-2014-0169
- Law, S. H. (2009). Trade Openness, Capital Flows and Financial Development in Developing Economies. *International Economic Journal*, 23(3), 409–426. https://doi.org/10.1080/10168730903268398
- Le, A. H., & Kim, T. (2020). The Effects of Economic Freedom on Firm Investment in Vietnam. *The Journal of Asian Finance, Economics and Business*, 7(3), 9–15. https://doi.org/10.13106/JAFEB.2020.VOL7.NO3.9

- Lien, N. T. K. (2021). The Effect of Trade Openness on Foreign Direct Investment in Vietnam. *The Journal of Asian Finance, Economics and Business*, 8(3), 111–118.
- Nguyen, C. H., Pham, T. T. Q., Tran, T. H., & Nguyen, T. H. (2021). The Relationship between Foreign Capital Inflows and Economic Growth: Empirical Evidence from Vietnam. *The Journal of Asian Finance, Economics and Business,* 8(11), 325–332. https://doi.org/10.13106/JAFEB.2021.VOL8.NO11.0325
- Paul, J., & Feliciano-Cestero, M. M. (2021). Five decades of research on foreign direct investment by MNEs: An overview and research agenda. *Journal of Business Research*, 124, 800–812. https://doi.org/10.1016/j.jbusres.2020.04.017
- Rakshit, B. (2022). Dynamics between trade openness, FDI and economic growth: Evidence from an emerging economy. *Journal of International Trade Law and Policy*, 21(1), 16–41. https://doi.org/10.1108/JITLP-01-2021-0004
- Rasche, A. (2020). The United Nations Global Compact and the Sustainable Development Goals. In O. Laasch, R. Suddaby, R. E. Freeman, & D. Jamali (Eds.), *Research Handbook of Responsible Management*. Edward Elgar Publishing. https://doi.org/10.4337/9781788971966.00023
- Rathnayaka Mudiyanselage, M. M., Epuran, G., & Tescașiu, B. (2021). Causal Links between Trade Openness and Foreign Direct Investment in Romania. *Journal of Risk and Financial Management*, 14(3), 90. https://doi.org/10.3390/jrfm14030090
- Sagar, N. A., Pareek, S., Sharma, S., Yahia, E. M., & Lobo, M. G. (2018). Fruit and Vegetable Waste: Bioactive Compounds, Their Extraction, and Possible Utilisation. *Comprehensive Reviews in Food Science and Food Safety*, *17*(3), 512–531. https://doi.org/10.1111/1541-4337.12330
- Sakyi, D., Commodore, R., & Opoku, E. E. O. (2015). Foreign Direct Investment, Trade Openness and Economic Growth in Ghana: An Empirical Investigation. *Journal of African Business*, *16*(1–2), pp. 1–15. https://doi.org/10.1080/15228916.2015.1061283
- Soni, S., & Rl, M. (2024). The dynamic nexus between agricultural productivity and renewable energy consumption in BRICS: The role of financial inclusion and foreign direct investment. *International Journal of Energy Sector Management*. https://doi.org/10.1108/IJESM-08-2023-0028
- Soomor, A. N., Kumar, J., & Kumari, J. (2022). The Dynamic Relationship between FDI, ICT, Trade Openness, and Economic Growth: Evidence from BRICS Countries. *The Journal of Asian Finance, Economics and Business*, 9(2), 295–303.
- Ta, V. L., Le, Q. H., Nguyen, T. L. H., Phan, T. T., & Do, A. D. (2020). Investigating Foreign Direct Investment Attractive Factors of Korean Direct Investment into Vietnam. *The Journal of Asian Finance, Economics and Business*, 7(6), 117–125.
- *Trade in Intermediate Goods and Services* (OECD Trade Policy Papers 93; OECD Trade Policy Papers, Vol. 93). (2009). https://doi.org/10.1787/5kmlcxtdlk8r-en
- United Nations Conference on Trade and Development. (2016). *World Investment Report 2016: Investor Nationality - Policy Challenges*. United Nations. https://doi.org/10.18356/9d7da2eb-en
- Wang, C., & Jiayu, C. (2019). Analysing on the Impact Mechanism of Foreign Direct Investment (FDI) to Energy Consumption. *Energy Procedia*, 159, 515–520. https://doi.org/10.1016/j.egypro.2018.12.006
- World Bank Group. (2016). *Doing Business 2016: Measuring Regulatory Quality and Efficiency*. Washington, DC: World Bank. https://doi.org/10.1596/978-1-4648-0667-4
- Xu, C., Han, M., Dossou, T. A. M., & Bekun, F. V. (2021). Trade openness, FDI, and income inequality: Evidence from sub-Saharan Africa. *African Development Review*, 33(1), 193–203. https://doi.org/10.1111/1467-8268.12511