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The Impact of Foreign Direct Investment and Openness on GDP Growth in Central and Southern Asian Countries

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Abstract: ***This paper investigates the impact of Foreign Direct Investment (FDI) and Openness on GDP growth in 12 Central and Southern Asian countries. The panel data for the research is spread over yearly observations from 2005 to 2022, for total of 18 years. We employ Granger causality test and Panel Cross-section random effects method to find the factors influencing GDP growth. The results based on the panel regression data analysis show that FDI caused GDP growth in Central and Southern Asian countries and FDI inflow and openness are important to growth in these countries. Therefore, it has been suggested that focus should be on policies to improve foreign direct investment and international trade in the region.***

Key Words: : Foreign Direct Investment, GDP Growth, Panel Cross-section random effects,Granger causality.

The economies of Central and Southern Asian countries exhibit a complex interplay of historical ties, resource potential, and current challenges. While Central Asia is rich in natural resources, its landlocked status hampers economic prosperity. Conversely, South Asia, despite its geographical advantages, faces economic slowdowns and uneven recovery post-pandemic. To the point of view of economic ties and trade relations, Central and South Asia share deep cultural and economic connections, yet trade remains low, constituting only 0.2 to 4% of total trade. Opportunities for regional trade exist, particularly through value chains that could enhance exports and employment (Lord, 2015).

While we see the current economic challenges, South Asia's growth has slowed, with GDP growth forecasts revised downward due to global uncertainties (Beyer 2019). The economic growth in South Asian countries varies, with some achieving rapid growth. However, challenges persist in translating this growth into substantial employment opportunities, highlighting the need for improvement. South Asian nations face post-pandemic economic challenges with uneven recovery. Asia's GDP growth is projected at 5.9% in 2022, hindered by restrictive fiscal policies impacting sustained economic activity and employment. Inflation and restrictive fiscal policies hinder recovery, although remittances provide some support (Kavitha 2024). Central Asian economies evolved post-Soviet dissolution, transitioning to market-based systems. Challenges include diversification from primary exports, infrastructure improvements, and resistance to reforms from entrenched elites.

In perspective of resource potentialities and economic integration, Central Asian countries possess significant natural resources but struggle economically due to their geographic isolation. Enhanced cooperation between the regions could leverage their respective strengths, fostering economic growth and stability (Bano & Sohail 2014). Despite these challenges, the potential for economic integration and collaboration remains significant, suggesting a pathway for mutual growth and development.

1. Review of Literature- There has been conducted a number of empirical studies in developed and developing countries by research scholar using panel or cross sectional data and country specific on finding the relationship between economic growth and FDI as well as Openness. Results are varying in studies. There are some causality based studies here. Balasubramanyam et al (1996) used cross-section data relating to a sample of 46 countries and supported the hypothesis of Bhagwati: the growth-enhancing effect of FDI is stronger in countries which pursue an outward oriented trade policy than it is in those countries following an inward oriented policy.

Hejazi and Safarian (1999) examined panel data collection from 1986 to 1996 of 24 Chinese provinces. The empirical findings indicate that the foreign capital inflow has a substantial direct effect on economic development growth, that is, on economic development. De Mello (1999) found that FDI had a direct impact on economic development in a sample of 24 developing countries around the world. Wang (2002) explores the kind of FDI inflows most likely contribute significantly to economic growth. Using data from 12 Asian economies over the period of 1987-1997, and found that only FDI in the manufacturing sector has a significant and positive impact on economic growth.

Chowdhury and Duasa (2007) examined the causality between FDI and output growth in Malaysia. The study found no strong evidence of causal relationship between FDI and economic Growth. Hsiao and Hsiao (2006) looked at data from a number of East and Southeast Asian nations and found that FDI inflows have a one-way, direct, and indirect impact on GDP through exports. Frimpong and Abayie (2006) found FDI caused GDP growth in Ghana. Prabirjit (2007) found

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positive relationship exists between the two irrespective of income levels, openness and FDI-dependence. Nair-Reichet and Weinhold (2001) apply mixed fixed and random estimation to examine the relationship between FDI and growth in 66 developing countries and find that there is a causal link between FDI and growth.

Pilat and Lee (2001) examined the economy of the OECD and non- OECD countries from 1970 to 1990. Using techniques such as panel data regression and time series regression. The empirical findings revealed that the impact of capital inflows on indirect investment in GDP growth is dependent on the interchangeability or complementarity of domestic and foreign capital in the panel of the selected region. Alfaro (2003) stated that an increase in FDI inflow does not guarantee an increase in a country's GDP. The empirical data, in particular, showed that there were both positive and negative effects on primary and manufacturing sector production. Karimi (2009) examined the causal relationship between FDI and economic growth in Malaysia and concluded a positive and significance relationship between the two variables.

We have used 'Granger causality test' method and Panel Cross-Section Random Effects method to find the impact of Foreign Direct Investment and Openness influencing GDP growth in Central and Southern Asian Countries.

2. Data and Model- The panel data for the research is spread over yearly observations from 2005-2022, for total of 18 years. Twelve central and Southern Asian Countries out of fourteen is dictated by data availability. Used FDI inflows and GDP measured in current U.S. dollars sourced from World Development Indicators while Data pertain to FDI Growth has been sourced from UNCTAD Database.GDP Growth rate is dependent variable. The independent variables comprise FDI inflows as percentage of GDP as well as data for openness of economies is the sum of exports and imports as a percentage of GDP.

Comparison of these data in Table 1 highlights that measure of average GDP growth, average Openness and FDI in Central and Southern Asian countries.

Table1.Average of Variables in Selected Central and Southern Asian Countries(2005-2022)

Country	Average FDI Inflows(US$ millions)	Average GDP(US$ millions)	Average FDI (%of GDP)	Average GDP (Growth rate %)	Average Openness
Bangladesh	1665.62	210677.1	0.9	6.38	37.48
Bhutan	17.11	1795.997	0.51	5.85	98.90
Iran, Islamic Rep.	2622.10	407401.4	0.59	2.32	46.14
India	36770.99	2029761	1.87	6.18	46.42
Kyrgyz Republic	345.44	6506.442	5.15	3.84	117.97
Kazakhstan	8003.80	163152.6	5.31	4.64	71.53
Nepal	75.63	22967.47	0.35	4.39	44.39
Pakistan	2367.94	248016.8	1.22	4.08	30.65
Sri Lanka	762.56	67920.04	1.18	4.16	53.12
Tajikistan	242.91	6821.769	4.62	6.98	80.93
Turkmenistan	2220.63	30045.3	7.1	8.73	74.91
Uzbekistan	1171.94	55914.58	2.11	6.77	57.25

Note: Lack of data, Afghanistan and Maldives have been excluded from Central and Southern Asian Countries for analysis.

Source: World Development Indicators, Database

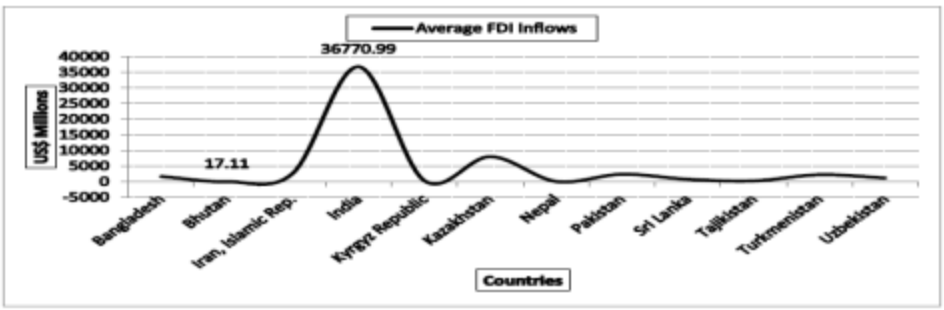

Figure1: Average FDI inflows in Selected Central and Southern Asian Countries-2005-2022(Million US$)

Source: Data sourced from World Development Indicators, database and figure drown by author.

Figure 1 shows that the average FDI inflows in India is highest and Bhutan is lowest in relation to other Selected Central and Southern Asian Countries.

We conduct the pair-wise Granger Causality Stacked tests (Common coefficients). Finally, we employ a Panel

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Cross-section random effects method to find the factors influencing Foreign Direct Investment in Central and Southern Asian countries.

Table 2. Pair-wise Granger Causality Stacked tests (Common coefficients) for GDP Growth, FDII and Openness in Central and Southern Asian Countries(2005-2022)

Null Hypothesis:	Obs.	F-Statistic	Prob.	Granger Causality
D(FDII) does not Granger Cause D(GDPG)	180	2.45135	0.0891	No causality
D(GDPG) does not Granger Cause D(FDII)		1.42788	0.2426	No causality
D(OPEN) does not Granger Cause D(GDPG)	180	1.20558	0.3020	No causality
D(GDPG) does not Granger Cause D(OPEN)		4.21800	0.0163	Unidirectional
D(OPEN) does not Granger Cause D(FDII)	180	7.64815	0.0007	Unidirectional
D(FDII) does not Granger Cause D(OPEN)		1.17621	0.3109	No causality

Source: Author fs computation via EViews 10

Table 2 reports the results of Pair-wise Granger Causality Test. The null hypothesis that D(FDII) does not Granger Cause D(GDPG). The p-value(0.0891) is greater than 0.05.Therefore, we fail to reject the null hypothesis which means that heterogeneous causality exists across the panel.

The null hypothesis that D(OPEN) does not Granger Cause D(FDI) has been rejected. In this case F-Statistic is very high and p-value(0.0007) is less than 0.05, which means that homogeneous causality 17.11 exists across the panel. In other words, openness leads to FDI as well as growth of GDP does Granger Cause to OPEN as p-value(0.016) < 0.05.

In this pair, p-value is less than 0.05. The null hypothesis that D(GDPG) does not Granger Cause D (OPEN) has been rejected. It means D(GDPG) does Granger Cause D(OPEN).

The Econometric Model- The study attempts to define the relationship between economic growth and FDI as well as Cross border trade(proxied by OPEN). Model equation for the study is as follows:

GDPGi,t =..0 FDIIi,t + ..1 OPENi,t +.i,t

Whereas, GDPG is the annual growth rate of GDP

FDII is Foreign Direct Investment, Net inflows as percentage of GDP

OPEN is sum of exports plus imports as a share of GDP

. is error term, i and t are indices for individuals and time.

The estimation results are shown in table (3). It is clear that Foreign Direct Investment (FDI) has positive and significance impact on GDP growth.

Table 3. Estimation of Random Effects Model Using Panel Cross-section random effects (2005-2022)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	C	-0.040211	0.298875	-0.134543
D(FDII)	D(FDII)	0.001187	0.114233	0.010391
D(OPEN)	D(OPEN)	0.152808	0.035187	4.342750

Source: Author's computation via EViews 10

Conclusion- In this paper we investigated the impact of FDI and Openness on GDP growth in 12 Central and Southern Asian Countries for the period 2005 to 2022. We found that FDI caused GDP growth in these countries and the results based on the panel regression data analysis show FDI inflow and Openness are important to GDP growth in countries concerned. Therefore, it has been suggested that focus should be on policies to improve FDI and international trade in the region.

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