GOOD GOVERNANCE, PANDEMIC AND FOREIGN DIRECT INVESTMENT MANAGEMENT IN SOUTH ASIAN COUNTRIES: A DYNAMIC PANEL DATA ANALYSIS

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Abstract

The study focuses on FDI inflows to South Asian countries between pre-COVID-19 and COVID-19 periods and the relationship between FDI inflows and good governance in South Asian countries over the period of 1990 to 2021. T test, panel co-integration test and dynamic panel data analysis are employed to accomplish the objectives of the study. The impact of COVID-19 on South Asia's FDI inflows is found to be significant and particularly inflow of FDIs has experienced a significant drop in all other South Asian countries, except India during the pandemic period. Additionally, the study confirms a positive relationship between good governance and inflow of FDIs in South Asian countries. Hence, the present study strongly recommends improving infrastructure facilities while ensuring a higher level of good governance to attract more FDI to the countries in South Asian region.

Keywords: Co-integration, Dynamic Panel Data Analysis, Foreign Direct Investment, Good Governance, South Asia

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1. Introduction

1.1. Background of the Study

Foreign Direct Investment (FDI) has been acknowledged as a significant source of private external financing for countries to support their economic development, driven by global economic activity and capital flows. According to Towah (2019), FDI refers to the transferring of assets by foreign investors into another nation, where they have control over asset management and profit. It plays a vital role in economic development through various channels such as capital raising, production expansion, employment opportunities, and macroeconomic stability (Towah, 2019). Athukorala (2009) emphasizes that FDI is multidimensional and impacts economies in multiple ways.

South Asian countries, being classified as developing countries, have liberalized their economies since the 1990s and early 2000s. Although FDI inflows to developing countries generally remain low, most South Asian countries have experienced significant increases in FDI inflows prior to COVID-19. However, the inflow of FDI to these countries has been volatile, emphasizing the need to identify factors influencing FDI inflows (Figure 01).

Athukorala (2009) categorizes FDI determinants into two groups, i.e., overall economic policy variables and national policy variables. Scholars such as Janick and Wunnava (2004), and Khachoo and Khan (2012) investigate the impact of tax incentives, political stability, good governance, market expansion rate, labor cost, infrastructure level, labor productivity, and good governance on FDI. However, the link between good governance and FDI inflows lacks consensus. Similarly, Sahoo (2006), Khachoo and Khan (2012), and Fang, Collins, and Yao (2021) stress the importance of examining novel factors like good governance, political stability, and the COVID-19 pandemic's impact on FDI inflows, rather than relying solely on conventional factors.

Brewer (1993) asserts that government policies have both direct and indirect effects on FDI, while UNCTAD (1996) confirms that government incentives, such as tax holidays, attract FDI regardless of development status. However, Contractor (1991), Caves (1996), and Villela and Barreix (2002) argue that government policy impact on FDI inflows is minimal when considering key macroeconomic variables. The findings of Nunnenkamp (2002) align with Contractor (1991), Caves (1996), and Villela and Barreix (2002), indicating contradictory views on the effect of state policies. Additionally, Globerman and Shapiro (1999) and Banga (2003) recognize that bilateral and regional investment agreements significantly influence FDI inflows. The COVID-19 pandemic has significantly negatively impacted FDI in the South Asian region (Smith, 2020). This global health crisis caused both challenges and opportunities for the economies of this area (Jones, 2021). On one hand, the pandemic led to a decrease in FDI due to global economic uncertainties, disruptions in supply chains, and reduced investor confidence (Johnson, 2020). Governments had to divert their attention and resources towards managing the public health crisis, which made it difficult to promote and facilitate foreign investment (Lee, 2020). On the other hand, some South Asian countries, particularly those with strong pharmaceutical and technology sectors, saw an uptick in FDI in response to the growing demand for medical supplies and digital solutions during the pandemic (Wang et al., 2021). As

the region gradually recovers, there is an opportunity for South Asian nations to attract more FDI by focusing on healthcare infrastructure, digital transformation, and sustainable development, which could help them build more resilient economies in the post-COVID-19 world (Chen & Patel, 2022).

Governance, as highlighted by Khushnood and Erii (2020), is an age-old concept often associated with government. However, it has recently been defined as new processes, methods, or ways of governing society (Jolly, 2002; Stoker, 1998; Rhodes, 1996). Good governance encompasses the norms and foundations guiding experts in a nation. It is universally accepted as a contributor to the development process and is closely linked to administrative reforms, irrespective of a country's level of development. The components of good governance include accountability, transparency, and participation. World leaders, at the 2005 United Nations World Summit, agreed to prioritize good governance for sustainable development and poverty eradication (UNDP, 2006). However, the practice of good governance varies across countries, and its level remains low, particularly in developing countries within the South Asian region. The region, known for its cultural richness, has also faced criticism for its deficient levels of good governance and institutional quality, primarily due to a politicized and corrupt administrative system (Jadeen, 2007). Despite the commonly held belief in the positive impact of good governance on FDI inflows, no systematic study has examined this relationship within the context of the South Asian region.

1.2. Objectives and Contribution of the Study

Specifically, the study aims to achieve two primary objectives.

01. To analyse the FDI inflows to South Asian countries before and during the COVID-19 period, and
02. To examine the long run relationship between good governance and the inflow of FDIs to South Asian countries from 1990 to 2020.

Existing studies by Addison & Heshmati (2003), Kobrin (2004), Athukorala (2009), Zheng (2009), and Jadhab (2012) have explored FDI determinants in Asian countries and the effect of FDI on economic growth and development. However, the influence of good governance on FDI inflows has not been thoroughly investigated. Moreover, most of these studies have employed cross-country or time-series analyses, which have certain limitations. Cross-country analyses assume homogeneity among selected countries, disregarding country-specific institutional conditions. They also fail to establish causal directions among variables. On the other hand, time series analyses often focus on individual countries, limiting generalizability, and do not address simultaneity issues.

To address these methodological weaknesses, this study employs a dynamic panel data analysis using the Generalized Method of Moments (GMM), deviating from conventional cross-country and time series analyses. This approach allows for the observation of country-specific conditions and potential causal directions. Additionally, the study incorporates a composite index for good governance, known as the Good Governance Index, which is from the World Bank's Worldwide

Governance Indicators. This composite index provides a comprehensive measure of good governance for analysis.

2. Literature Review

2.1. COVID-19 and FDI Inflows

The COVID-19 pandemic has introduced significant uncertainty, leading Nawo and Njangang (2022) to argue that understanding the impact of the outbreak on FDI requires considering FDI theories under uncertainty. These theories can be categorized into macro and micro-level theories, both of which play a crucial role in explaining the effects of COVID-19 on FDI inflows. However, empirical studies examining the impact of COVID-19 on FDI inflows are limited. Camino-Mogro and Armijos (2020) investigate the effect of COVID-19 restrictions on FDI inflows to Ecuador using weekly data. They find that COVID-19 has an adverse impact on FDI flows, particularly from North and South American countries. Similarly, Fang et al. (2021) analyze quarterly data from 43 countries from the first quarter in 2009 to the third quarter in 2020 and observe a significantly negative impact of COVID-19 confirmed cases on net FDI inflows. They also highlight that North and South America, followed by Europe, experience the most severe effects of COVID-19 on FDI. Alleyne et al. (2021) explore adverse impacts of COVID-19 on FDI in host countries using FDI data over the period from January 2019 to June 2020.

UNCTAD (2021) emphasizes that flow of FDIs are more responsive to crises compared to trade and GDP, and recovery from crises requires time and appropriate policies. This indicates a certain disconnect between trade and FDI flows, where FDI acts as a substitute for trade. Kalotay and Sass (2021) propose hypotheses to explain the sensitivity of FDI to the effects of the pandemic. They argue that COVID-19 exacerbated pre-existing patterns that negatively impacted FDI expansion. However, the magnitude of the drop in global commerce compared to FDI suggests additional factors at play. They suggest that while trade can halt and lead to an economic shutdown, FDI involves productive assets that continue to generate output even if FDI stops. The immediate negative impact of lockdown measures and border closures on FDI is also highlighted. Hayakawa and Mukunoki (2021) find varied effects of COVID-19 on different FDI industries. Focusing on China's FDI, Fang et al. (2021) discover that FDI is significantly affected by the number of new confirmed COVID-19 cases, new deaths, and cumulative confirmed cases. Fu et al. (2021), using monthly data on bilateral FDI, find that the pandemic has reduced FDI's extensive and intensive margins, and the mortality rate has further dampened FDI's margins. They also note that FDI is more sensitive to the pandemic situation in host countries for both OECD and emerging countries, with the service sector experiencing a more negative impact than other sectors. Overall, it is evident that COVID-19 has had an impact on FDI, although the exact effects are not yet conclusive. Furthermore, the specific impact of COVID-19 on inflow of FDIs to South Asian countries has not been systematically addressed.

2.2. Determinants of Foreign Direct Investment

The determinants of FDI have been the focus of extensive research, particularly in developing countries. Ownership, Location, and Internalization (OLI) framework, introduced by Dunning (1981), have been widely acknowledged as one of the key studies in this area. According to the OLI framework, FDI is influenced by three key factors such as ownership advantages, location advantages, and internalization advantages. Ownership advantages encompass the unique benefits that Multinational Corporations (MNCs) possess over domestic firms, such as capital access, technological expertise, and managerial skills. Location advantages refer to the benefits offered by a country, including a large market size, low labor costs, and favorable investment policies. Internalization advantages pertain to the advantages MNCs gain from direct ownership, such as control over production and distribution. Similarly, studies conducted by Liu and Wang (2012) and Nair-Reichert and Weinhold (2001) have emphasized the significant impact of labor costs on FDI flows. Recent research has delved further into the determinants of FDI. For instance, Li and Resnick (2003) utilized a panel dataset covering 96 countries to observe the link between FDI and economic development. Their findings suggested a positive correlation between FDI and economic development, with countries at higher levels of development proving more attractive to foreign investors. Similarly, Li and Liu (2005) investigated the influence of market size, using GDP as a proxy, on FDI inflows. Their study revealed that large and growing markets are appealing to foreign investors due to the vast customer base they provide. These findings align with research conducted by Chakrabarti (2001) and Blomström and Kokko (2003).

Infrastructure is also recognized as a significant determinant of FDI. Countries boasting well-developed infrastructure, encompassing transportation networks, communication systems, and power supply, are deemed more attractive to foreign investors. Studies by Wang and Swain (1997) and Asiedu (2002) have demonstrated the positive impact of infrastructure on FDI flows. However, an investigation by Blomström and Kokko (2003) using data from 72 countries concluded that the relationship between FDI and infrastructure is less straightforward. Additionally, the level of openness and the ease of conducting business play crucial roles in attracting FDI. Countries fostering open economies and offering favorable business environments are considered more appealing to foreign investors. Research by Borensztein et al. (1998), and Globerman and Shapiro (2002) has confirmed the positive impact of openness and ease of doing business on FDI flows.

2.3. Good Governance as a Determinant of Foreign Direct Investment

Political stability as a proxy for good governance has been examined in studies such as Habib and Zurawicki (2002) and Busse and Hefeker (2007), which found that countries with stable political environments are perceived as more attractive to foreign investors due to the predictable business environment they offer. These studies highlight the significant impact of political stability on FDI flows. Additionally, good governance has been found to positively influence the quality of FDI inflows. Habib and Zurawicki (2002) discovered that countries with better governance experience greater technology transfer, higher productivity gains, and more favorable employment outcomes in relation to FDI inflows. Similarly, Busse

and Hefeker (2007) identified a positive association between better governance and a higher likelihood of FDI inflows in technology-intensive sectors. Conversely, poor governance acts as a significant barrier to FDI. For example, Asiedu (2002) found that higher levels of corruption, as measured by the CPI, significantly reduce FDI inflows in 41 African countries. Similarly, Globerman and Shapiro (2003) found a negative relationship between weaker governance, as measured by the WGI, and FDI inflows in a dataset of 64 countries.

Furthermore, studies by Wei and Zhang (2011), Asiedu (2002), Wei and Wang (2012), and Boubakri et al. (2018) demonstrate direct correlation between good governance and FDI flows in developing countries. These studies utilize indicators such as control of corruption, rule of law, effectiveness of government, and the Corruption Perceptions Index (CPI) to measure good governance. However, there are contradictory findings regarding the relationship between good governance and FDI inflows. For instance, Busse and Hefeker (2007) found no significant relationship between good governance and FDI, arguing that key determinants of good governance, such as voice and accountability, are not directly related to FDI. Similarly, Adenikinju and Olaniyan (2009) concluded that although governance indicators are important in determining the level of FDI inflows, they do not significantly explain the direction of FDI flows. Some studies even suggest that good governance may have a negative impact on FDI. Habib and Zurawicki (2002) and Tavares (2004) found that high levels of government effectiveness and control of corruption can discourage FDI inflows due to perceptions of excessive bureaucracy and red tape. Another study by Busse and Hefeker (2007) reported no significant relationship between governance and FDI, suggesting that while good governance may be important, factors such as market size, infrastructure, and labor costs may play a more significant role in attracting FDI. Moreover, Cuervo-Cazurra and Genc (2008) found that the relationship between governance and FDI is complex and depends on the specific governance indicators used. They identified a positive impact of political stability and regulatory quality on FDI, but a negative impact of controling corruption and rule of law.

Given these conflicting views on the relationship between good governance and FDI, it is important to reassess the nexus between them. Moreover, none of the previous studies have specifically addressed the situation in South Asian countries, highlighting the significance of conducting a study in this region to provide valuable insights for policymaking and contribute to the existing body of knowledge.

3. Methodology

3.1. Data

The study mainly applies a quantitative research design based on rigorous econometric framework. The current study is entirely based on secondary data (Annual) collected related to the South Asia countries (Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka) over the period from 1990 to 2021. Mainly, the data were collected from the World Development Indicators of the World Bank along with few other sources highlighted in the operationalization.

3.2. Data Analysis

To achieve the first objective of the study, which aims to determine whether there is a significant difference in FDI inflows to South Asian countries before and during COVID-19, the researchers employed the Paired Sample t-Test. This statistical technique compares the means of two measurements taken from the same individual, object, or related units at two different time periods. By utilizing the Paired Sample t-Test, the researchers were able to assess whether there was a statistically significant disparity in FDI inflows between the pre-COVID-19 and COVID-19 periods in South Asian countries.

The test statistic for the Paired Samples *t* Test, denoted *t*, can be expressed as follows.

$$t = \frac{\overline{X}diff - 0}{s_{\overline{x}}} \qquad (1)$$

Where;

$$s_{\overline{x}} = \frac{s_{diff}}{\sqrt{n}} \qquad (2)$$

Where;

$\overline{X}diff$ – Sample mean of the difference
n – Number of observation
s_{diff} –Sample standard deviation of the difference
$s_{\overline{x}}$ – Estimated standard error of the mean

The related hypothesis can be expressed as follows.

H_0: The difference between the paired samples is equal to zero
H_1: The difference between the paired samples is not equal to zero

If there is evidence to rejects the H0, then it can be confirmed that there is a statistically significant difference in FDI inflows between before and during COVID-19 periods. Apart from that, the present study employs dynamic panel data analysis to accomplish the second objective of the research. In particular, the following model will be empirically estimated to evaluate the relationship between good governance and FDI.

$$lnFDI_{i,t} = \beta_1 lnGG_{i,t} + \beta_2 x_{i,t} + \delta_{i,t} + U_{i,t} \qquad (3)$$

Where;

i and ***t*** represents considered country and time period respectively. ***ln*** is used for natural logarithm while $\boldsymbol{lnFDI_{i,t}}$ is the dependent variable which indicates FDI while $GG_{i,t}$ indicates the Good Governance. Moreover, $\boldsymbol{x_{i,t}}$ is the vector of control variables. Similarly, $\boldsymbol{\delta}$ is the unobserved country specific effect and ***U*** describes the error term of models.

Table 1 depicts the operationalization of the research, which explains the details of the dependent and independent variables related to the model indicated in equation 3.

Table 1: Operationalization of variables

Variable Name	Description	Source
lnFDI	Natural logarithm of FDI	World Bank
lnGG	Natural logarithm of Good Governance Index This index was extracted from the Worldwide Governance Indicators published by the World Bank. which has six indicators, namely voice and accountability, political stability and absence of violence, government effectiveness and regulatory quality, rule of law, and control of corruption.	World Bank
lnMS	Natural logarithm of market size Market size is measured using Gross Domestic Product (GDP)	World Bank
lnCOB	Natural logarithm of cost of borrowings The cost of borrowings is measured using real interest rate	World Bank
lnVOC	Natural logarithm of value of currency Value of currency and it is measured by official exchange rate	World Bank
lnINF	Natural logarithm of Global Infrastructure Index	S&P Dow Jones Indices

Source: Created by authors

3.3. Estimation Techniques

Panel Unit Root Test

The current study utilized panel unit root tests, which offer higher accuracy and consistency compared to individual time series-based unit root tests. Scholars such as Hadri (2000), Breitung (2000), Levin, Lin and Chu (2002), and Im, Pesaran and Shin (2003) have introduced various panel unit root tests. In this study, the Im, Pesaran and Shin (IPS) unit root test and Fisher Chi-square Augmented Dickey-Fuller (ADF) Test were employed.

Panel Cointegration Test

The existence of long run linkage between FDI and Good Governance was tested using three panel cointegration tests such as Pedroni, Kao and Fisher-Johansen panel cointegration tests.

Pedroni Panel Cointegration Test

Pedroni (2004) has extended the Engle-Granger (1987) cointegration for the panel analysis.According to the Engle-Granger (1987), there series are conintegrated; if the residuals of the spurious regression are stationary at levels - *I(0).*

Kao Panel Cointegration Test

Kao (1999) also extended the Engle-Granger (1987) method quite similar to Pedroni (1999,2004). However, Kao (1999) has introduced cross-section specific intercepts and homogenouscoefficient on the first-stage regressors.

Fisher-Johansen panel cointegration tests

Maddala and Wu (1999) have introduced a novel approach to test the panel

cointegration. According to them, if π_i is the p-value from an individual cointegrtion test for cross –section *I*,then under the null hypothesis for the panel,

$$-2\sum_{i=1}^{N}(\pi_i) \rightarrow \chi^2 2N \quad (4)$$

GMM Dynamic Estimation

The study employs GMM dynamic panel data analysis introduced by Arellano and Bond (1991) as the GMM dynamic panel data analysis can be used to control econometric issues such as unobserved country specific issues and endogeneity problem. GMM dynamic panel data analysis has been widely used in financial literature by Beck and Levine (2004) and Yuncu (2007) and however, GMM dynamic panel data analyses have not been used to model the FDI-Good Governance nexuses. Hence, the current study applies the GMM technique to model the FDI-Good Governance nexuses by overcoming the econometric issues related to conventional fixed effect and random effect panel analysis.

The empirical model expressed in equation (3) can be expanded and re-written as below after introducing the dynamic nature to the models.

$$lnFDI_{i,t} - lnFDI_{i,t-1} = (\propto_1 - 1)lnFDI_{i,t-1} + \beta_1 \Delta lnGG_{i,t} + \beta_2 \Delta lnCOB_{i,t} + \beta_3 \Delta lnVOC_{i,t} + \beta_4 \Delta lnINF_{i,t} + \beta_5 \Delta lnMS_{i,t} + \delta_{i,t} + U_{i,t} \quad (5)$$

Moreover, instruments were used when estimating the GMM dynamic panel data model to avoid the endogeneity problem. The lag values of respective independent variables were used as the instruments of the model. Apart from that, Sargan Test and Serial Correlation Test were used to overall validity of the moment condition and the existence of serial correlation respectively.

4. Results and Discussion

4.1. Difference of FDI Inflows before and during the COVID-19 Pandemic

The global outbreak of the COVID-19 in December 2019, initially identified in Wuhan, China, had a rapid and widespread impact across the globe. The World Health Organization (WHO) declared it a global emergency due to its severe health consequences. However, the effects of COVID-19 were not limited to public health but also had a significant impact on the world economy. The International Monetary Fund (2021) reported that COVID-19 caused a reduction of 3.2% in global GDP in 2020, along with an 8.3% contraction in global trade. The United Nations (2021) further emphasized that the impact of COVID-19 on FDI is significant, exceeding its effects on global GDP and trade.

Table 2: Impact of COVID-19 on FDI at global and regional levels

	2019	2020	Growth Rate of FDI (%)
World	1480626	963138.5	-35.0
Asia	552384.1	562644	1.9
Central Asia	8498.581	6275.562	-26.2
Eastern Asia	255728.8	304193.8	19.0
South-eastern Asia	174976.5	122109.7	-30.2
South Asia	59085.78	70957.31	20.1
Western Asia	54094.49	59107.56	9.3

Source: Created by authors based on the World Bank data

In accordance with Table 2, global FDI inflows experienced a significant decline of 35% in 2020 compared to the previous year. However, there was a slight increase of 1.9% in FDI inflows to the Asian region, primarily driven by higher FDI inflows to South Asia (20.1%) and Eastern Asia (19%) despite the ongoing pandemic. Although the overall FDI inflows to the South Asian region showed an increase, this growth was not observed at the individual country level. Among the South Asian countries, India was the only country that experienced a significant increase in FDI inflows during the pandemic. Table 3 illustrates the growth rates of FDI inflows to South Asian countries, with India reporting a substantial 27.2% increase in FDI inflows in 2020 compared to 2019.

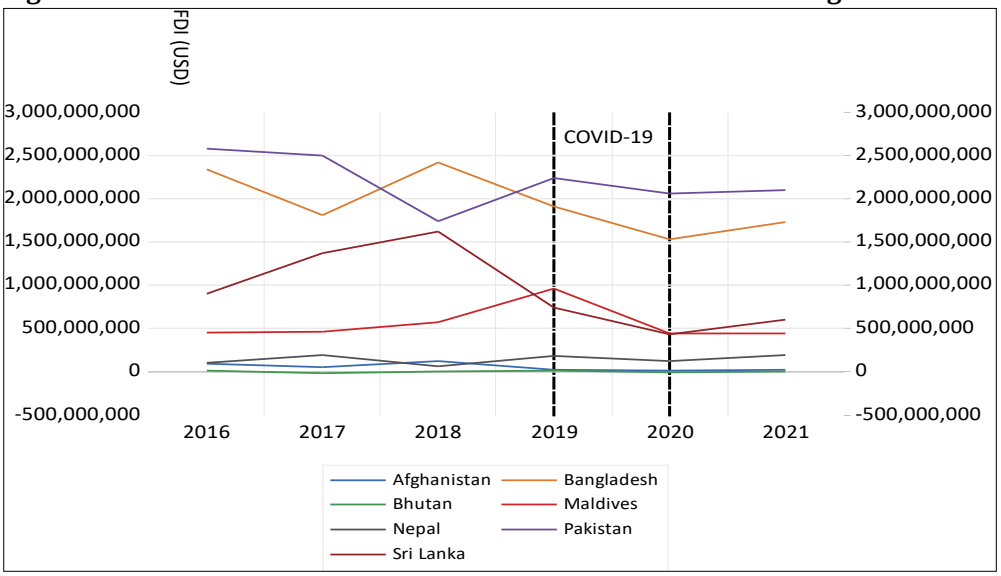
Table 3: Effect of COVID-19 on FDI in South Asian countries

Country	2019	2020	Growth Rate of FDI
Afghanistan	23404553.65	12970148	-44.6
Bangladesh	1908045387	1525312160	-20.1
Bhutan	13011377.29	-2786961	-121.4
India	50610647354	64362364994	27.2
Maldives	961037565.7	440711709	-54.1
Nepal	185563265.6	126626337	-31.8
Pakistan	2234000000	2057000000	-7.9
Sri Lanka	743466231.5	433869416	-41.6

Source: Created by authors based on the World Bank data

However, FDI inflows to the remaining countries in the South Asian region experienced a significant decline. The decrease was particularly substantial in countries such as Bhutan (-121.4%), Maldives (-54.1%), Afghanistan (-44.6%), and Sri Lanka (-41.6%). Consequently, the overall surge in FDI inflows to the South Asian region is primarily attributed to the significant FDI inflows to India. Additionally, India stands out as an outlier in the region in terms of FDI inflows, attracting a considerably higher level of FDI compared to other South Asian countries.

Figure 1: Trends in FDI inflows to South Asian countries excluding India



Source: Created by authors based on World Bank data

Figure 1 does not include India as it is considered an outlier in terms of FDI inflows in the South Asian region. The figure illustrates the significant decline in inflow of FDIs to all countries in the region during the COVID-19 period (2019-2020). The implementation of health measures such as lockdowns and social distancing during the pandemic resulted in increased costs related to pre-investment investigations, location searches, and workforce, thereby restricting FDI inflows (Hayakawa et al., 2022). Furthermore, COVID-19 had a negative impact on FDI inflows through the disruption of global trade and global value chains (Lee & Park, 2020).

However, these descriptive findings alone do not provide a statistically rigorous analysis of the impact of COVID-19 on FDI inflows in South Asian countries. Therefore, as described in the methodology section, a paired samples t-test was conducted to determine whether there is a statistically significant difference in FDI inflows between the pre-pandemic and pandemic periods. The results of the paired samples t-test can be seen in Table 4.

Table 4: Results of the t-Test on dynamics of FDI flows before and during the COVID-19 pandemic

Region/ Country	P-value on t	Remarks
World	0.0244	World's FDI flows between pre-pandemic and pandemic period is statistically different.
South Asia	0.2912	South Asia's FDI flows between before the pandemic and during the pandemic is not statistically different.
Sri Lanka	0.0212	Sri Lanka's FDI flows between before the pandemic and during the pandemic is statistically different.
India	0.2387	India's FDI flows between before the pandemic and during the pandemic is not statistically different.

Nepal	0.0428	Nepal's FDI flows between before the pandemic and during the pandemic is statistically different.
Pakistan	0.2416	Pakistan's FDI flows between before the pandemic and during the pandemic is not statistically different.
Afghanistan	0.0270	Afghanistan's FDI flows between before the pandemic and during the pandemic is statistically different.
Bangladesh	0.3312	Bangladesh's FDI flows between before the pandemic and during the pandemic is not statistically different.
Maldives	0.0254	Maldives's FDI flows between before the pandemic and during the pandemic is statistically different.
Bhutan	0.0002	Bhutan's FDI flows between before the pandemic and during the pandemic is statistically different.

Source: Created by authors based on data analysis

The results of the t-test support the findings of the descriptive analysis, indicating that there is a significant difference in global FDI flows between the pre-pandemic and pandemic periods. However, the t-test results show that there is no statistically significant difference in FDI inflows to the South Asian region as a whole between the same periods. Nevertheless, the t-test analysis highlights that there is a significant difference in FDI inflows to all South Asian countries except India, Pakistan, and Bangladesh when comparing the pre-pandemic and pandemic periods. This suggests that the COVID-19 pandemic has had a restrictive effect on inflow of FDIs to most South Asian countries, with the exception of India, Pakistan, and Bangladesh. It is noteworthy that inflow of FDIs to the South Asian region as a whole has increased during the pandemic, indicating the dominant role of India in driving the overall FDI trend in the region. Moreover, analyzing the impact of COVID-19 on FDI in South Asian countries as a region reveals a mixed picture.

While it is true that the pandemic posed significant challenges to global economies, some South Asian nations managed to maintain FDI levels by leveraging diverse economic structures, resilient sectors like information technology, and supportive government policies (UNCTAD, 2021). Additionally, regional economic interdependence and participation in trade and investment agreements played a role in stabilizing FDI flows (World Bank, 2020). The region's attractiveness for investment was bolstered by its youthful labor force, ongoing infrastructure development, and potential for post-pandemic recovery (World Economic Forum, 2021). However, it is essential to note that individual country experiences varied, with some countries being more resilient than others due to their specific economic conditions and policy responses.

4.2. Relationship between FDI and Good Governance

4.2.1. Results of the Panel Unit Root Test

Both Im, Pesaran and Shin (IPS) and ADF unit root tests were applied to check the stationarity of the varaibles and the results are indicated in table 5.

Table 5: Unit Root test results for the South Asian countries

Series	Level		First Difference	
	IPS	**ADF**	**IPS**	**ADF**
LnFDI	0.2045	0.4321	0.0030***	0.0041***
LnMS	0.5423	0.3240	0.0010***	0.0037***
LnCB	0.2128	0.9913	0.0053***	0.0065***
LnVOC	0.0231**	0.0503**	0.0216**	0.0342**
LnIF	0.7032	0.8201	0.0233**	0.0321**
LnGG	0.3240	0.5402	0.0028***	0.0031***

Source: Author's calculation based on the World Bank data
Note: *** - Significant at 1% ** - Significant at 5%

Both unit root tests indicate that all the variables, except Ln VOC, are non-stationary. However, when taking the first difference of the variables, they become stationary. Therefore, all the variables can be considered as integrated of order 1 - *I(1)* at their level. Since the variables are *I(1)*, there is a potential for a long-run relationship between them. Consequently, co-integration tests were conducted in the subsequent section to investigate the presence of a long-run relationship among the variables.

4.2.2. Results of the Panel Co-integration Tests

The study utilized three different panel cointegration tests, namely Pedroni, Kao, and Fisher-Johansen tests, to investigate the presence of a long-term relationship between FDI and good governance in South Asian countries. While numerous empirical studies have examined the long-term relationship between FDI and macroeconomic variables using time series cointegration tests at the individual country level, the application of panel cointegration tests for a group of countries over a specific time period, particularly in the context of FDI and good governance, is relatively rare. Hence, the current study sought to fill this research gap by employing these panel cointegration tests to analyze the long-term relationship between FDI and good governance in South Asian countries.

Table 6: Panel Cointegration Tests Results for the South Asian Countries

Variables	Cointegration Test	Statistics	Probability
LnFDI- LnGG	Pedroni	ADF Statistics 1.9321	0.0605*
LnFDI- LnGG	Kao	ADF Statistics -4.4013	0.0001***
LnFDI- LnGG	Johansen –Fisher	Fisher Stat (Trace Test) 39.45 (None)	0.0052***
		41.03 (At Most 1)	0.0031***
		Fisher Stat (Max Eigen Test) 33.43 (None)	0.0028***
		29.32 (At Most 1)	0.0054***

Notes: *** - Significant at 1% ** - Significant at 5% * - Significant at 10%
Source: Author's calculation based on the World Bank data

Table 6 provides evidence supporting the existence of a long-term relationship between FDI inflows and good governance in South Asian countries, as indicated by all three cointegration tests. In each test, the null hypothesis assumes no cointegration between FDI inflows and good governance. However, the results displayed in column four of Table 6 show that the probabilities associated with the null hypothesis are below the significance level, allowing us to reject the null hypothesis. Therefore, it is confirmed that there is indeed a long-term relationship between FDI inflows and good governance in the context of South Asian countries. Numerous empirical studies have consistently demonstrated a strong and enduring relationship between FDI and good governance. Countries with better governance practices, characterized by factors such as the rule of law, political stability, and low corruption, tend to attract higher levels of FDI (Kaufmann et al., 2005; Wei, 2000; Djankov et al., 2002). This relationship is underpinned by the enhanced investor confidence, reduced political risk, and efficient regulatory environments that good governance fosters. For instance, a one-point improvement in the corruption index has been found to correlate with a 5% increase in FDI inflows (Mauro, 1995). These findings emphasize the critical role that good governance plays in attracting and sustaining FDI over the long term.

4.2.3. Results of the GMM Dynamic Panel Data Analysis

After recognizing that there is a long run relationship between FDI inflows and good governance, the dynamic panel data analysis based on GMM method was applied to quantify the impact of good governance on FDI in South Asian countries.

Table 7: GMM Dynamic Panel Analysis – Impact of Determinants of FDI on FDI Inflows in South Asian Countries (Dependent Variable – LNFDI)

	Dependent Variable: Ln FDI			
	Coefficient	Std. Error	t-Statistic	Prob.
ΔLnFDI(-1)	4.3970	1.3010	3.3797	0.0000***
ΔLnMS	0.2802	0.1206	2.3233	0.0121**
ΔLnCB	- 0.0065	0.0028	- 2.3214	0.0135**
ΔLnVOC	0.5294	0.4328	1.2231	0.1116
ΔLnIF	0.0854	0.0354	2.4124	0.0198**
ΔLnGG	0.0132	0.0058	2.2758	0.0342**
Instrument rank	37.0000			
J-statistic	31.3021			
Sargan Test (p-value)[1]	0.3291			
Serial Correlation (p-value)[2]	0.4021			
Observations	248			

Source: Calculated by author based on World Bank data

Notes:

[1] Sargan Test has the null hypothesis that the over-identifying restrictions are valid.

[2] Serial Correlation Test has the null hypothesis of error terms are not serially correlated.

*** - Significant at 1% ** - Significant at 5%

According to the results, the lag variable of FDI inflows has a strong positive impact on the current FDI inflows, and this relationship is statistically significant at the 1% level. In fact, a higher level of FDI inflows in the previous year increases foreign investors' confidence, thereby increasing the present FDI stock. Market size, which is measured by GDP, has a positive relationship with FDI inflows in South Asian countries. In contrast, the cost of borrowing (interest rate) has a negative and statistically significant relationship with FDI inflows. A higher level of interest rate upturns the cost of borrowing, demotivating investors, and thereby adversely affecting FDI inflows. Apart from that, the results confirm that infrastructure facilities also attract more FDI, as the availability of infrastructure is crucial for foreign investors to establish their operations. The key variable of the analysis, good governance, is positively related to FDI inflows in South Asian countries, and this relationship is statistically significant at the 1% level. Indicators such as good governance develop the confidence of investors while confirming the future returns of their investments. The Good Governance Index used by the study includes six indicators, such as voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, and control of corruption, covering all aspects that an investor should investigate prior to making an investment decision. Thus, good governance can be expressed as one of the crucial determinants of FDI inflows to South Asian countries. The results of this study are also consistent with the findings of World Bank (1992), Gindle (2004), Quibria (2006), Wei and Zhang (2011), Khan and Rahman (2015), and Boubakri et al. (2018).

According to model specification, the null hypothesis of the Sargen Test indicates that over-identifying restrictions are accurate. The null hypothesis cannot be rejected based on the p-value (0.3291) related to the Sargen Test and therefore instruments are valid. Moreover, the null hypothesis of the Serial Correlation Test assumes that the error terms are not serially correlated and according to the p-value (0.4021), it is observed that error terms are not serially correlated. Therefore, the overall model is statistically good enough to model link between FDI inflows and good governance.

5. Conclusions and Recommendations

The COVID-19 pandemic has had a significant impact on the economies of South Asian countries, including trade and FDI flows. Despite this, the region has experienced a moderate increase in FDI inflows, primarily driven by India. However, most of other South Asian countries have seen a significant decrease in FDI inflows during the pandemic.

FDI plays a crucial role in driving economic growth, particularly in developing countries. In South Asian countries, FDI has the potential to transform their economies and promote development. However, these countries often face challenges related to governance issues such as politicized economic policies, lack of rule of law, and corruption. Hence, ensuring good governance has become a priority in the region (Habib and Zurawicki, 2002 and Busse and Hefeker 2007). Accordingly, this study analyse the FDI inflows to South Asian countries before and during the COVID-19 period while examining the relationship between FDI inflows and good governance in South Asian countries from 1990 to 2021. The findings confirm that

FDI inflows at the South Asian level have been greatly affected by the COVID-19 pandemic. The study establishes a long-term positive relationship between good governance and FDI inflows in South Asian countries. Factors such as the lag of FDI inflows, market size, cost of borrowings, and infrastructure facilities are also found to influence FDI inflows in the region. Based on these findings, the study recommends a focus on enhancing good governance practices in all South Asian countries to attract foreign investors and enable them to make informed investment decisions. It also emphasizes the importance of improving infrastructure facilities in host countries to further stimulate FDI inflows. For future studies, the study recommends inclusion of more appropriate determinants of FDI and also suggests to conduct a region-wise analysis considering rest of the world regions as well.

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