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A PANEL DYNAMIC ANALYSIS ON INWARD FDI AND INSTITUTIONAL QUALITY IN SOUTH ASIA AND SOUTH EAST ASIA



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ABSTRACT

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Through the global financial crisis, South Asia and South East Asia ratified their economic prospect and by increasing integration with the world economy, a demand boom by the Asian middle-class and most importantly foreign direct investment. In this study, we focused on the FDI inflows. This study examined the impact of institutional quality on FDI inflows in South Asia and South East Asia from 1986 to 2016 using a panel-based approach. The result of Unit roots suggested using Panel ARDL. The Panel ARDL results revealed that institutional quality strongly influences FDI inflows in South East Asia and weakly in South Asia. Our findings also revealed that economic factors are strongly significant in South Asia and institutional variables are strongly significant to attract FDI inflows in South East Asia. The weak regulatory system hampers South Asian countries as there is lack of transparency, accountability in public work. Therefore, this study suggests South Asia learn a lesson from South East Asia and make an improvement to their institutional quality.

Contribution/ Originality: This study helps the policy makers to understand the loopholes of institutional quality such as political instability, inefficiency bureaucracy and corruption which may deter the smooth FDI inflows in the regions and take corrective actions against corruption. It will also allow for future analysis about the FDI inflows in a country.

1. INTRODUCTION

Over the span of the most recent 60 years, globalization has become critical in making overall exchange and record, forming their place in another overall economic structure. In addition, globalization has supported the

mixing up a portion of the world's developing and rising nations under the overall economic system (Shah, 2013). Foreign direct investment is one of the establishments that globalization has developed. Spilling pervasively from significant pay developed nations, throughout the last two decades FDI has become an important wellspring of progress in the economy and contributes generously to the financial development of various economies. The Asian economy explicitly has profited more from FDI streams into the region.

As showed by a progressing UN meeting on world-trade and improvement, Asia received a greater amount of FDI than any other region in the world. The United Nations Conference on Trade and Development (2018) stated that developing Asia received \$476 billion in 2017, and this region has the most FDI recipients in the world and South Asia's GDP growth rate was 6.5 percent in 2016 and 6.7 percent in 2017. Regardless, responsiveness to FDI has not uniform transversely over Asia. While China and ASEAN have gotten a handle on FDI, various economies have been also unwelcoming. Common powerhouses, for instance, Japan, South Korea and India have not agreed to open themselves totally to FDI, rather they are understanding that an increasingly vital capacity to get a handle on inflows might drive further economic development and efficiency.

Occupation of associations includes amplexness of property rights, economic system and nature of organization matter in explaining economic development, there is developing enthusiasm with respect to the association among foundations and FDI inflows. There are important channels through which establishments may impact FDI inflows. The proximity of good establishments will improve factor profitability and vivifies investments, paying little regard to whether they are nearby or outside. Second, extraordinary associations will realize a decrease in investment related exchange costs. And finally, by definition, FDI all around incorporates many sunk costs. These, with extraordinary foundations (for instance authentic property rights approval and proper legitimate systems) will help to provide more prominent security to global organizations.

Busse and Groizard (2008) have found that countries with high rule estimates will benefit less from the inflow of FDI. Right now, recommend that organizations have; regardless, to improve the regulatory quality in the country of birthplace before the preferred position from responsiveness to foreign capital (for instance as FDI) can be surmised.

Asia is the biggest continent in the world. Its physical scenes, political culture, and ethnic gatherings are both wide-running and multiplex. South Asia extends from the mainland to the south Indian sea. The largest borders of South Asia are the Indian Ocean, Afghanistan and the Himalayas. South Asia has three of the ten most crowded nations on the planet. India is the second biggest crowded nation on the planet, and Pakistan and Bangladesh are numbers five and six, individually. Enormous populations are a result of huge family estimates and a high fruitfulness rate. The provincial populace of South Asia has customarily had huge families. Strict conventions don't really bolster something besides a high fertility rate (Andaya, 2016).

The economic viewpoint for South Asia is exceptionally different across nations. There are a few economies, including Bangladesh, India and Bhutan, where economic conditions are to a great extent positive, with GDP growth rate anticipated to stay hearty in the short term. Conversely, the viewpoint of Iran and Pakistan has unmistakably crumbled. Therefore, regional GDP eased back down particularly in 2018. Regional GDP is relied upon to extend by 5.4 percent 2019 and 5.9 percent in 2020, after an expected development of 5.6 percent in 2018. Economic development is relied upon to be bolstered by private utilization and, at times, investment request, even as money related policy positions fix in certain economies (Lefeber & Datta-Chaudhuri, 2019).

Eleven nationals shame in South East Asia come from east India to china and they usually live on the mainland and in the island region. Muslims can be found in all territory nations, yet the most critical populaces are in southern Thailand and western Burma. The Cham individuals of Vietnam and Cambodia are likewise Muslim. A particular element of Southeast Asia is its social decent variety. In early occasions inborn gatherings from southern China moved into the inside zones of the terrain by means of the long waterway frameworks. Social changes started

to influence Southeast Asia around 2,000 years back with impacts originating from two directions. Chinese extension south of the Yangtze River in the long run prompted the colonization of Vietnam (Andaya, 2016).

Table-1. Macroeconomics performance in South Asia and South East Asia in 2018.

Indicators	South Asia	South East Asia
GDP (current US\$)	3.442 (trillion)	2.95 (trillion)
Population	1.814 (billion)	6.500 (billion)
Gross Savings (% of GDP)	29.9137 %	32.93 %
GDP % of annual growth	6.663 %	5.25 %
Trade (% of GDP)	42.11 %	108.17 %
FDI inflows (% of GDP)	1.441 %	6.01 %
Inflation rate	3.672 %	2.563 %

Source: World Bank (2019).

The macroeconomics performance is the indication of how a country or an economy or a region effectively executes their policies to reach the goals. The above Table 1 presents the current macroeconomic scenario of South Asia and South East Asia. 6,500 billion people live in South East Asia and it is one of the fastest growing regions in the world. Now it faces several hindrances to the growth in 2018. The Asian Development Bank (ADB) report proposes that Southeast Asia could not imagine descending correction will bring slight improvement in its success, the estimates which will remain at 4.8 percent in 2019 and 4.9 percent in 2020. Although Southeast Asian economies have stayed flexible despite facing economic difficulties, the region needs to remain cautious on the off chance that needs to work effectively with the association of trade and value circle. In all, fortifying residential interest will offset more vulnerable fare development and solid utilization prodded by rising salaries, repressed expansion, and hearty settlements should help economic movement in Southeast Asia (The ASEAN, 2019).

2. OBJECTIVES OF THE STUDY

The main objective of the study was to find out the impact of institutional quality on FDI inflows in South Asia and South East Asia.

The specific objectives of the study were:

- i. To reveal whether institutional quality varies or not in the regions (South Asia and South East Asia).
- ii. To explore the main determinatives of FDI inflows.
- iii. To examine relationship between FDI inflows and institutional quality.
- iv. To find out the present scenario of FDI inflows and institutional quality in the two regions.
- v. To know whether the institutional quality or economic factors affect FDI inflows most.

3. LITERATURE REVIEW

Over the past two decades increased globalization has driven and increased the worldwide business activity and foreign direct investment. FDI hypotheses are principally founded on business policy point of view. Expressive investigation was popular until the 1960s; after that in the 1970s econometric examination took over. The FDI speculations clarify why FDI happens and what draws in FDI most. The hypotheses have for the most part powers market defect.

Direct investment flows from nations where profitability is low to nations where profitability is high. It implies along these lines that capital is portable both broadly and globally. There is a suggestion that nations with bottomless capital should fare and nations with less capital should import. If there was a connection between the long term loan fee and profit for capital, portfolio investment and FDI ought to be moving in a similar direction.

Foreign direct investment flows from nations where profitability is low to nations where profitability is high. It implies along these lines that capital is portable both broadly and globally. In any case, here and there suggestion is that nations with bottomless capital should fare and nations with less capital should import.

Gastanaga, Nugent, and Pashamova (1998) and Busse and Groizard (2008) they tried to examine the impacts of different institution variables on FDI utilizing panel information of 83 developing nations, and 49 less-developed nations. There was no significant relationship were found among corruption and FDI. Wei (2000) used information from 12 FDI source nations and 45 beneficiary nations and discovered the negative impact of corruption on FD. Zhao, Kim, and Du (2003) likewise discovered proof that corruption negatively affects inward FDI, utilizing information from 40 nations. Liargovas and Skandalis (2012) uncovered that trade receptiveness contributes to attract inward FDI in developing economies. In their study they used panel information for 36 developing countries, over a time range from 1990 to 2008.

Egger and Winner (2006) conducted a comparative investigation of two-sided FDI panel information from 21 Organization for Economic Co-activity and 59 beneficiaries; they likewise discovered the proof of the negative association between corruption and FDI inflows FDI. Sabir, Rafique, and Abbas (2019) revealed results for India, Iran, and Pakistan over the period from 1982-2012. The Fixed Effect and Pooled OLS methods were utilized to examine the panel information for estimating individual country impacts. They indicated that higher openness of trade has a significant positive impact on FDI inflows. The outcomes likewise examined that FDI inflows appear to be influenced significantly by traditional determinants like as Exchange rate, Inflation and GDP per capita and so forth.

Kakar and Khilji (2011) said that trade openness and foreign direct investment are strongly related to each other, according to economic development for Pakistan and Malaysia for the period from 1980-2010 and Majumder (2019) found the same result for Bangladesh. They used the Johansen co-joining test to evaluate the idea of relationship and the Granger causality test to decide the direction of causality in the model. Seyoum, Wu, and Lin (2014) reached the conclusion that there is a connection between trade openness and FDI inflows in 25 Sub-Saharan African countries. They used the Granger causality test on data from 1977 to 2009. They found a bidirectional causal relationship between trade openness and FDI inflows in these African nations. Canare (2017) revealed that corruption harmed inward FDI in 46 Asia and Pacific countries from 2006 to 2013. Ohlsson (2007) showed that corruption negatively and significantly affects FDI inflows in 46 developing countries from 1997 to 2004.

4. HYPOTHESIS

Various speculations were tried. Hypotheses with respect to the impact of GDP growth, political stability, investment profile, infrastructure, corruption, law and order, democratic accountability and socio-economic condition on FDI inflow were tried to increase the comprehension of their effect on the FDI.

The hypotheses are listed below:

H1: Corruption negatively affects FDI inflows.

H2: GDP growth has positive impact on FDI inflows.

H3: Government Stability emphatically impact the FDI inflows.

H4: There is a positive association between Trade openness and FDI inflows.

H5: Infrastructure development has positive effect on FDI inflows.

H6: The connection between investment profile and FDI inflows is positive.

H7: Law and order situation positively influence FDI inflows.

H8: There is positive association between Democratic Accountability and FDI inflows.

H9: Socio-economic condition positively influence the FDI inflows.

5. METHODS OF THE STUDY

5.1. Sample and Measures

This study was based on secondary data, from the period between 1986 to 2016, as many institutional changes have occurred in these decades. The sample population of the research, consisted of the two regions: South Asia and

South East Asia. South Asia consists of eight countries, namely Bangladesh, Sri Lanka, India, Bhutan, Pakistan, Nepal, Maldives and Afghanistan. South East Asia is composed of the eleven countries of Brunei, Myanmar, Thailand, Timor-Leste, Indonesia, Laos, Malaysia, the Philippines, Singapore, Cambodia and Vietnam. Due to limitations in the availability of data, four countries namely Bangladesh, India, Sri Lanka and Pakistan from South Asia and six countries namely Malaysia, Philippines, Singapore, Thailand, Vietnam, and Indonesia from South East Asia were covered.

5.2. Variables

In this study, the dependent variable was FDI inflows (% of GDP). The independent variables consisted of some economic factors and some institutional factors. The economic factors were GDP growth, infrastructure, and trade openness (% of GDP), and the fixed telephone subscription was used as a proxy to measure infrastructure development. Corruption, investment profile, government stability were used to measure the institutional quality. The information about our selected variables is given in the following Table 2.

Table-2. Variables Profile

Variables	Proxies	Notation	Expected sign	Source
Gross Domestic Product % of Annual Growth	-----	L(GDP)	(+)	World Bank
Corruption	-----	L(COR)	(-)	International Country Risk Guide (ICRG)
Government Stability	Political stability	L(PS)	(+)	International Country Risk Guide (ICRG)
Investment Profile	-----	L(IVP)	(+)	International Country Risk Guide (ICRG)
Trade % of GDP	Trade Openness	L(OP)	(+)	World Bank
Infrastructure	-----	L(INF)	(+)	World Bank
Law and Order	-----	L(LOR)	(+)	International Country Risk Guide (ICRG)
Democratic Accountability	-----	L(DMA)	(+)	International Country Risk Guide (ICRG)

5.3. Econometric Model Specification

Panel data is an appropriate methodology for time series and cross-section specification analysis. The goal of this study was to model the impact of institutional quality on FDI inflows. There were three main models in this study. The first model was the combination of ten countries from South Asia and South East Asia. The second model was for South Asia and the third model was for South East Asia.

So the following model was proposed:

$FDI = f(\text{Institutional quality, Economic factors})$

In econometrics form:

$$FDI_{it} = \beta_0 + \beta_1 MS_{it} + \beta_2 OP_{it} + \beta_3 COR_{it} + \beta_4 PS_{it} + \beta_5 IVP_{it} + \beta_6 INF_{it} + \beta_7 SOC_{it} + \beta_8 DMA_{it} + u_{it} \quad (1)$$

Equation 1 represents the multiple regression model, β_0 is intercept term and β_1 to β_8 exhibits the relationship of explanatory variables with FDI inflows.

By using natural logarithm form,

Econometric model is given below

$$LFDI_{it} = \beta_0 + \beta_1 LGDP_{it} + \beta_2 LOP_{it} + \beta_3 LCOR_{it} + \beta_4 LPS_{it} + \beta_5 LIVP_{it} + \beta_6 LINF_{it} + \beta_7 LSOC_{it} + \beta_8 LDMA_{it} + u_{it} \quad (2)$$

$i = 1, \dots, N$ where $N = 10$ countries (4 countries of South Asia, 6 countries of South East Asia)

$t = 1, \dots, T$ where $T = 1984$ to 2016

β_1 to β_8 to be estimated to find out the result and u_{it} is error term that is normally distributed

This is the general econometrics model, in this study there are three main models. All the three models are not consists of same variables. But these three models use variables from mentioned variables in Equation 2.

5.4. Stationarity Test (Panel)

In panel data analysis, the non-stationary of data is a problem. When mean, variance, covariance are not constant over time then a non-stationarity problem arises which leads to a spurious regression (Gujarati, 2005). The popular Augmented Dickey-Fuller (ADF) unit root test passes through the low power problem in rejecting the null hypothesis of stationarity, especially when time span is short.

Levin, Lin, and Chu (2002) and Im, Pesaran, and Shin (2003) suggested that the panel based unit root test overcomes the problem of low power in rejecting the null hypothesis. Taylor and Sarno (1998) stated that the panel unit root test is more powerful than time series unit root test because in panel data there is variation across the country and combining information with time variation results in more reliable parameter estimates.

Different unit root tests have been used in literature for the checking of data stationary for panel data. In the present study there was a time span of 31 years for each selected country. The Panel Unit root test was done using E-views and there were five unit root tests: Levin, Lin & Chu t^* , Breitung t -stat, Im, Pesaran and Sin W -stat, ADF-Fisher Chi-square and PP-Fisher Chi-square tests. The Levin, Lin & Chu t^* and Im, Pesaran and Sin W -stat tests were used in this study.

5.5. Levin, Lin and Chu Unit Root Test

The LLC test is one of the most important tests in panel unit root test. This test takes homogeneity into account when checking stationarity of the data. The LLC test can be defined as in Equation 3;

$$\Delta X_{i,t} = \Omega_i + \gamma_i X_{i,t-1} + \sum_{p=1}^{p_i} \gamma_{ip} \Delta X_{i,t-p} + \varepsilon_{i,t} \quad (3)$$

Hypotheses for this test are given below:

H_0 : Data is non-stationary

$$H_0: \gamma_1 = \gamma_2 = \dots \gamma_n = \gamma = 0$$

H_1 : Data is stationary $H_1: \gamma_1 = \gamma_2 = \dots \gamma_n = \gamma \neq 0, \quad \gamma < 0$

5.6. Im, Pesaran and Shin Unit Root Test

The test is based on the assumption that the cross sections are independent, but when data span is large it is not (Pesaran & Shin, 1998). Banerjee, Marcellino, and Osbat (2000) argued that if the assumption is not valid it will reject the null of stationarity. The Equation 4 of the test is given below:

$$\Delta X_{i,t} = \delta_i X_{i,t-1} + \sum_{j=1}^{p_i} \delta_{ij} \Delta X_{i,t-1} + \gamma_{it} \quad (4)$$

H_0 : Data is non-stationary

$$\beta_i = 0$$

H_1 : Data is stationary

$$\beta_i < 0$$

5.7. Panel ARDL

The autoregressive distributed lag model is best known out of the co-integration approaches because of its number of advantages in single approach. This approach was based on single co-integration and was first introduced by Pesaran. and Shin (1999) and after some time expanded on by Pesaran, Shin, and Smith (2001).

The main advantage of this procedure was that if all the variables were of I(0) or as well as stationary at first difference I(1) or also there is mixture of I(1) and I (0), then we only had to apply this approach, we do and not use any other approach. Another advantage of this approach was that it deals with both long term and short term relationships. When there is mixture of raw data, first difference and second difference data ARDL is not applicable.

This is the Llong term and short term FDI inflow model for South East Asia:

$$\begin{aligned} \Delta LFDI_{it} = & \beta_{1it} + \beta_{2it}LFDI_{i(t-1)} + \beta_{3it}LGDP_{i(t-1)} + \beta_{4it}LCOR_{i(t-1)} + \beta_{5it}LPS_{i(t-1)} + \\ & \beta_{6it}LIVP_{i(t-1)} + \beta_{7it}LDMA_{i(t-1)} + \beta_{8it}LSOC_{i(t-1)} + \beta_{9it}LLOP_{i(t-1)} + \\ & \sum_{j=0}^p \gamma_2 LFDI_{i(t-j)} + \sum_{j=0}^p \gamma_3 LGDP_{i(t-j)} + \sum_{j=0}^p \gamma_4 LCOR_{i(t-j)} + \\ & \sum_{j=0}^p \gamma_5 LPS_{i(t-j)} + \sum_{j=0}^p \gamma_6 LIVP_{i(t-j)} + \sum_{j=0}^p \gamma_7 LDMA_{i(t-j)} + \\ & \sum_{j=0}^p \gamma_8 LSOC_{i(t-j)} + \sum_{j=0}^p \gamma_9 LOP_{i(t-j)} + \psi ECT_{i(t-1)} \\ & + \varepsilon_{1it} \end{aligned} \quad (5)$$

Long term and short term FDI inflow model South Asia:

$$\begin{aligned} \Delta LFDI_{it} = & \beta_{1it} + \beta_{2it}LFDI_{i(t-1)} + \beta_{3it}LGDP_{i(t-1)} + \beta_{4it}LCOR_{i(t-1)} + \beta_{5it}LOP_{i(t-1)} + \\ & \beta_{6it}LIVP_{i(t-1)} + \beta_{7it}LLOR_{i(t-1)} + \sum_{j=0}^p \gamma_2 LFDI_{i(t-j)} + \sum_{j=0}^p \gamma_3 LGDP_{i(t-j)} + \\ & \sum_{j=0}^p \gamma_4 LCOR_{i(t-j)} + \sum_{j=0}^p \gamma_5 LOP_{i(t-j)} + \sum_{j=0}^p \gamma_6 LIVP_{i(t-j)} + \\ & \sum_{j=0}^p \gamma_7 LLOR_{i(t-j)} + \psi ECT_{i(t-1)} \\ & + \varepsilon_{1it} \end{aligned} \quad (6)$$

Long term and short term FDI inflow model for South East Asia+ South Asia

$$\begin{aligned} \Delta LFDI_{it} = & \beta_{1it} + \beta_{2it}LFDI_{i(t-1)} + \beta_{3it}LGDP_{i(t-1)} + \beta_{4it}LCOR_{i(t-1)} + \beta_{5it}LOP_{i(t-1)} + \\ & \beta_{6it}LIVP_{i(t-1)} + \beta_{7it}LINF_{i(t-1)} + \beta_{8it}LPS_{i(t-1)} + \sum_{j=0}^p \gamma_2 LFDI_{i(t-j)} + \\ & \sum_{j=0}^p \gamma_3 LGDP_{i(t-j)} + \sum_{j=0}^p \gamma_4 LCOR_{i(t-j)} + \sum_{j=0}^p \gamma_5 LOP_{i(t-j)} + \\ & \sum_{j=0}^p \gamma_6 LIVP_{i(t-j)} + \sum_{j=0}^p \gamma_7 LINF_{i(t-j)} + \sum_{j=0}^p \gamma_8 LPS_{i(t-j)} + \psi ECT_{i(t-1)} \\ & + \varepsilon_{1it} \end{aligned} \quad (7)$$

Where, in Equation 5,6 and 7 ε_{1it} is the white noise error term, Δ is the first difference operator and ψ is the coefficient of error correction term referred as ECT, it shows the adjustment speed indicating how quickly variables

parameters converge to equilibrium at long run. It is ideal if it lies between 0 and -1. The negative sign indicates the degree of adjustment of disequilibrium to equilibrium in a year it is consistent with expected behavior of error correction term.

6. RESULTS AND DISCUSSION

6.1. Results for South East Asia

To reach the study goal, different statistical and econometric tools were used in this study. These statistical and econometric tools obtained different results. The results are given below.

6.1.1. Descriptive Statistics

The descriptive statistics cover 31 years and 6 countries with 186 observations. The results in the table show that mean value of FDI was almost 5, its standard deviation was 5.6, and maximum value and minimum value respectively 26 and 0.00015. This means that a country or some countries in the panel have higher FDI inflows and the rest have very low FDI inflows in the present time. Skewness of the data showed that the distribution was moderately skewed and kurtosis of the data showed that it has a higher peak which means that FDI was leptokurtic.

Descriptive statistics are given in the following Table 3.

Table-3. Results of Descriptive Statistics (South East Asia).

Variables	FDI	GDP	OP	COR	IVP	DMA	PS	SOC
Mean	4.985646	5.820161	145.0817	3.148803	7.678539	3.196685	7.941980	7.063172
Median	2.929595	5.860459	111.9378	3.0000	7.645833	3.0000	7.916667	7.0000
Max. Value	26.38040	14.52565	437.3267	6.0000	12.0000	6.0000	11.0000	10.66667
Min. Value	0.000152	0.069106	18.95049	0.333333	3.25000	0.0000	1.0000	2.0000
S.D	5.609375	2.764250	104.2744	1.173810	2.029350	1.331676	2.101681	2.133584
Skew.	1.944291	0.016863	1.231135	-0.097310	0.296822	0.046338	-0.499821	-0.098885
Kurt.	6.273142	3.219749	3.387221	2.574222	2.832545	2.030146	3.264017	1.939959
Obs.	186	186	186	186	186	186	186	186

6.1.2. Correlation Matrix

The correlation coefficient assesses the degree to which a pair of variables move together or avoid each other. The correlation matrix results for South East Asia are shown in Table 4.

Table-4. South East Asia Correlation Matrix.

Variables	L(FDI)	L(COR)	L(DMA)	L(GDP)	L(PS)	L(IVP)	L(OP)
L(FDI)	1.000						
L(COR)	0.468459	1.000					
L(DMA)	-0.366551	-0.212980	1.000				
L(GDP)	0.233401	0.155080	-0.012864	1.000			
L(PS)	0.457604	0.187137	-0.406871	0.010857	1.000		
L(IVP)	0.564457	0.293992	-0.090794	-0.013514	0.540019	1.000	
L(OP)	0.834650	0.514059	-0.356600	0.123310	0.513492	0.609009	1.000

6.1.3. Panel Unit Root Tests Result

The following table shows the unit root tests result of FDI inflows, GDP growth (annual), corruption, political stability, investment profile, democratic accountability, socio economic condition and trade openness.

From Table 5, it can be seen that FDI inflows, corruption, and GDP growth were stationary at level and democratic accountability, political stability, investment profile, and socio-economic conditions were stationary at first difference. The results concluded that three variables were stationary at I (0) and four variables were stationary at I (1). The panel unit root results, suggested using the Panel ARDL approach.

Table-5. Panel unit root results (South East Asia).

Variables	Levin, Lin & Chu t^*				Im, Peseran and Shin W-stat				Result
	Level		1 st difference		Level		1 st difference		
	T-stat.	P-value	T-stat.	P-value	T-stat	P-value	T-stat	P-value	
L(FDI)	-0.9104	0.0181	-3.5360	0.0002	-3.0148	0.0013	-8.4248	0.0000	I(0)
L(COR)	-10.7486	0.0000	-6.9029	0.0000	-7.82234	0.0000	-5.4073	0.0000	I(0)
L(DMA)	-0.6306	0.2641	-6.6538	0.0000	-0.1200	0.4522	-5.6137	0.0000	I(1)
L(GDP)	-3.2424	0.0000	-7.0314	0.0000	-4.6099	0.0000	-10.4566	0.0000	I(0)
L(PS)	-0.0259	0.4896	-7.8493	0.0000	-0.9405	0.9420	-7.9246	0.0000	I(1)
L(IVP)	-1.45639	0.0726	-7.7176	0.0000	-0.63466	0.2628	-6.5068	0.0000	I(1)
L(SOC)	-0.8862	0.1877	-5.8348	0.0000	-2.68337	0.0036	-5.5441	0.0000	I(1)
L(OP)	-0.7602	0.2236	-5.8069	0.0000	0.91767	0.8206	-7.7914	0.0000	I(1)

6.1.4. Optimal Lag Selection

Table-6. Results of the tests for lags length selection.

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-3118.225	NA	7979260	38.59537	38.774785	38.65728
1	-2043.877	2029.325	30.56430	26.12193	27.49420*	26.67909*
2	-1984.939	105.5052	32.70807	26.18443	28.77649	27.23685
3	-1904.467	135.8020*	27.11728*	25.98330*	29.79515	27.53097

There are many criteria to select optimal lags and AIC is a popular one. It is clear from Table 6 that the optimal lags were three lags.

6.1.5. Estimates Model

Panel ARDL is auspicious to traditional approaches such as the fixed effect model and random effect model. The fixed-effect model commences too many variables and estimates are inefficient. The random effect model sometimes excludes important variables and estimates are inconsistent. Panel ARDL simultaneously estimates short term and long term parameters.

It can be seen from the Table 7 that in the long term term L(COR) are negatively co-integrated with L(FDI) in South East Asia at the 5% significance level. It implied that with a 1% increase in corruption FDI inflows decreases by 47%. L(DMA) has a positive impact on L(FDI) in the long term; a 1% increase of democratic accountability in South East Asia, makes FDI inflows increase at a very high rate (153%) and results confirmed that it was statistically significant at the 1% significant level. L(GDP) has a positive impact on L(FDI). L(IVP) has positive impact on L(FDI) in South East Asia in the long term and it was statistically highly significant as its probability value was less than 5%.

L(SOC) has a positive and significant impact on the FDI inflows in South East Asia; an improvement in L(SOC) will attract more FDI inflows in this region. A 1% increase in L(OP) leads to an increase in L(FDI) in South East Asia in the long term term and the statistical significance was high (prob.0.0001).

The ECT value indicates the speed of adjustment of the correction of disequilibrium. The coefficient of ECT was negative and statistically significant implying that there was no bias regarding omitting important variables and that there exists a long term relationship between dependent and independent variables. From the table, we can see that ECT was -0.44107 and it was statistically significant implying that the speed of adjustment to the correction of last year's disequilibrium to reaching long term equilibrium was 44%. All the coefficients of the short term term were statistically insignificant.

Table-7. Long term and short term dynamics through panel ARDL.

Variables		Coefficients	T - Statistics	Prob.
Long -Run	L(COR)	-0.468006	-2.134259	0.0348
	L(DMA)	1.534481	6.135123	0.0000
	L(GDP)	0.147696	1.755090	0.0817
	L(PS)	0.180580	1.959365	0.0523
	L(IVP)	0.479002	-3.025034	0.0030
	L(SOC)	1.018709	6.778694	0.0000
	L(OP)	0.041019	3.952366	0.0001
Short term	ECT	-0.441079	0.693650	0.0023
	Δ L(COR)	0.219156	0.752663	0.4531
	Δ L(GDP)	0.084934	0.693650	0.4892
	Δ L(PS)	-0.055958	-0.479992	0.6321
	Δ L(IVP)	0.093252	0.558581	0.5774
	Δ L(SOC)	-0.180082	-9.8451	0.3269
	Δ L(OP)	0.005212	0.345217	0.7305
	Δ L(DMA)	0.058356	0.328967	0.8595
	Cons.	-4.45244	-2.68559	0.0082

6.2. Results of South Asia

The results of different econometric tools are given below:

6.2.1. Descriptive Statistics

The descriptive statistics cover 31 years and four countries from South Asia for 124 observations. From Table 8 we can see that the mean, maximum and minimum values of FDI were respectively 0.94, 3.66 and 0.0008. That meant that the average FDI inflows in these four countries were not significant but some countries included in this panel attracted more FDI from others on this panel. The skewness was more than 0 which means it has a long right tail. Kurtosis was 5.16 more than 3 and it was leptokurtic.

Table-8. Results of descriptive statistics (South Asia).

Variables	FDI	GDP	OP	COR	IVP	LOR
Mean	0.9430	5.2378	40.9298	2.3197	6.3907	2.6868
Median	0.8425	5.0992	35.6559	2.5000	6.6250	3.0000
Max. Value	3.6683	9.6277	88.6364	4.0000	9.3333	4.5000
Min. Value	0.0008	0.5454	12.2192	0.0200	2.4166	0.0000
S.D	0.7550	1.8792	18.7432	0.7811	1.5381	1.0693
Skew.	1.2899	-0.1067	0.7635	-0.6743	-0.2655	-0.5530
Kurt.	5.1622	2.7035	2.7195	4.3117	2.2467	2.5638
Obs.	124	124	124	124	124	124

6.2.2. Correlation Matrix

Table-9. South Asia correlation matrix.

Variables	L(FDI)	L(GDP)	L(LOR)	L(COR)	L(IVP)	L(OP)
L(FDI)	1.000					
L(GDP)	0.195996	1.000				
L(LOR)	0.417923	0.232071	1.000			
L(COR)	0.265453	0.131787	0.283440	1.000		
L(IVP)	0.552966	0.289145	0.560885	0.362121	1.000	
L(OP)	0.446806	0.062927	0.069368	0.594686	0.364797	1.000

Source: Author's Calculation from E-views Result.

Table 9 shows the correlation matrix result for South Asia.

6.2.3. Panel Unit Root Test (South Asia)

Table-10. Panel unit root results.

Variables	Levin, Lin & Chu t^*				Im, Peseran and Shin W-stat				Order of Integration
	Level		1 st difference		Level		1 st difference		
	T-stat.	P-value	T-stat.	P-value	T-stat	P-value	T-stat	P-value	
L(FDI)	-1.07208	0.0418	-3.5639	0.0002	-2.4190	0.0078	-5.17790	0.0000	I(0)
L(GDP)	-3.9771	0.0000	-6.35089	0.0000	-3.49607	0.0002	-7.63194	0.0000	I(0)
L(LOR)	-0.5693	0.2848	-0.9310	0.0175	-0.6090	0.2713	-2.6562	0.0040	I(1)
L(COR)	-0.7209	0.2355	-2.78988	0.0026	-0.9949	0.1599	-2.6097	0.0045	I(1)
L(IVP)	-30923	0.0010	-5.7038	0.0000	-1.8552	0.0318	-4.9441	0.0000	I(0)
L(OP)	1.3715	0.9149	-1.0005	0.1585	0.8643	0.8063	-3.51267	0.0002	I(1)

It is necessary that all variables must be stationary to overcome spurious results in the regression. The unit root test result for South Asia is given in the following Table 10.

The above result reveals that law and order, corruption and trade openness were found non-stationary at level. After taking the first difference the calculated statistics significantly rejected the null hypothesis. FDI inflows, GDP growth and investment profile were found stationery at level. This result also supported the Panel ARDL approach.

6.2.4. Optimal Lag Selection

Table-11. Results of the tests for lags length selection.

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-1125.971	NA	114.5962	21.76867	21.92123	21.83048
1	-709.4335	777.0027	0.076124	14.45064	15.51857*	14.88329*
2	-665.9221	76.14500*	0.066325*	14.30619*	16.28949	15.10968
3	-648.9848	27.68601	0.097336	14.67278	17.57144	15.84712

It is clear from Table 11 that the optimal lags were two lags.

6.2.5. Estimates of PMG ARDL (South Asia)

Panel ARDL gives the long term and short term results for the panel countries and the short term result for individual countries.

Table 12 shows the estimation of long term term and short term term coefficients between dependent and independent variables for South Asia. The analysis confirmed that LGDP was statistically significant with an estimated coefficient of 0.01371 and p value is 0.000 which shows that it was significant at the 1% significance level.

So it can be said that if there is a 1% increase in L(GDP) in South Asia, FDI inflows will be increased by 13.71%. L(LOR) was significant at the 10% significance level and the coefficient value was 0.10. Corruption has a positive impact on the FDI inflows in South Asia as L(COR) with a positive coefficient indicated a 1% increase in corruption would increase FDI inflows by 0.0493% significance level (p value 0.09). L(IVP) was statistically significant with a probability value of 0.005 which was less than 0.05 and its coefficient value was 0.0114, implying that the investment profile positively influences the FDI inflows in South Asia. LOP was statically significant with a positive sign. The probability value was less than 5% (0.002). Trade openness has positive impact on FDI inflows but the impact was not so high; a 1% increase in trade openness, increases FDI inflows in the study area by only 1.72%.

The value of error correction term was -0.73 and it was significant. It implied that the system would correct the previous disequilibrium at a speed of 73%. This result showed that there exists a long term relationship between dependent and independent variables. The short term estimated coefficients of this model were not significant except for L(LOR). In the short term, if there was a 1% increase in L(LOR), FDI inflows would increase by 16% in South

Asian countries. That means in the short term, improvement in law and order would positively influence FDI inflows. The following Table 12 shows the short term coefficients of each country.

Table-12. Long term and Short term coefficients estimate through Panel ARDL.

Variables		Coefficients	T - Statistics	Prob.
Long -Run	L(GDP)	0.1371	4.3592	0.000
	L(LOR)	0.1033	1.7929	0.077
	L(COR)	0.0493	0.0723	0.090
	L(IVP)	0.0114	3.6487	0.0005
	L(OP)	0.1172	3.9256	0.0002
Short term	ECT	-0.7314	-2.6755	0.009
	Δ LGDP	-0.0635	-2.1588	0.034
	Δ LLOR	0.1635	2.3600	0.021
	Δ LCOR	-0.0159	-0.0619	0.951
	Δ LIVP	-0.0437	-0.4841	0.629
	Δ LOP	2.39E-05	0.0015	0.999
	Cons.	-1.2044	-2.1014	0.039

6.3. Combined Results for South East Asia and South Asia

6.3.1. Estimates Model

Table 13 shows the short term and long term results for South East Asia and South Asia. The results reveal that there is a positive and highly significant long term cointegration between L(COR) and L(FDI). L(GDP) highly accelerates L(FDI) in these regions and it was statistically significant. LPS also positively influences L(FDI) in the long term. An improvement in the L(INF) significantly attracts L(FDI). 1% improvement in L(IVP) significantly decreases L(FDI) BY 8%. The speed of adjustment is negative and significant implies that the system corrects the disequilibrium of the previous year at a speed of 69%. But the short term results of this model are not significant.

Table-13. Long term and Short term coefficients estimation through ARDL.

Variables		Coefficients	T - Statistics	Prob.
Long Run	L(COR)	0.3773	0.0646	0.0000
	L(GDP)	0.1541	5.1513	0.0000
	L(PS)	0.0519	1.9309	0.0552
	L(INF)	3.47E-08	4.6525	0.0000
	L(IVP)	-0.0863	-1.9969	0.0405
	L(OP)	0.00002	5.1513	0.9261
	ECT	-0.69845	-4.4072	0.0000
Short term	Δ L(COR)	-0.18881	-1.5341	0.1269
	Δ L(GDP)	-0.004676	-0.039496	0.9685
	Δ L(PS)	0.246932	1,283972	0.2010
	Δ L(INF)	1.97E-07	0.441203	0.1268
	Δ L(IVP)	-0.013054	-0.095548	0.9240
	Δ L(OP)	0.014131	1.287567	0.1997
	Cons.	0.642126	0.980606	0.3282

Source: E-views Result.

7. FINDINGS AND DISCUSSION

It can be seen from the Table 14 that, GDP growth positively influences FDI inflows in South East Asia, South Asia and also in South East Asia+ South Asia. But in South East Asia, GDP growth was weakly significant. This

finding was similar with previous studies such as Peres, Ameer, and Xu (2018), Talat and Zeshan (2013), Quazi, Vemuri, and Soliman (2014), Minier and Unel (2009), and Houweling (2013).

Trade openness positively and significantly attracts FDI inflows in South East Asia and South Asia. Talat and Zeshan (2013), Minier and Unel (2009), Esey and Yaroson (2014) have also found a positive impact on FDI inflows. When we combine South East Asia and South Asia trade openness was not significant.

Table-14. Comparative Analysis Regarding FDI inflows in South East Asia and South Asia (Long term results).

Variables	Impacts on FDI inflows		
	South East Asia	South Asia	(South East Asia + South Asia)
L(GDP)	Positive***	Positive*	Positive*
L(OP)	Positive*	Positive*	Positive (insignificant)
L(COR)	Negative**	Positive***	Positive*
L(IVP)	Positive*	Positive*	Negative**
L(PS)	Positive***	-	Positive*
L(DMA)	Positive*	-	-
L(SOC)	Positive*		-
L(LOR)	-	Positive***	-
L(INF)	-	-	Positive*

Note: Here * indicate variables are significant at 1% significant level, ** indicate variables are significant at 5% significant level and *** indicate that variables are significant at 10% significant level.

We find corruption positively influences FDI inflows in South Asia. Peres et al. (2018) have found a positive link between corruption and FDI in flows in developing countries. Quazi et al. (2014) also found positive relationships between these variables in Africa. In South East Asia there is a negative relationship between corruption and FDI inflows. This result was similar to Houweling (2013), Esey and Yaroson (2014). When we combine South East Asia and South Asia then we find a positive relationship.

Investment profile positively influences FDI inflows in South East Asia and South Asia meaning that the higher the investment profile is the greater the FDI inflows in these two regions. Ren, Karim, and Zaidi (2012) and Peres et al. (2018) also found a positive impact of investment profile on inward FDI. In (South East Asia and South Asia) investment profile, negatively and significantly influence FDI inflows.

Political stability positively influences FDI inflows in South East Asia. The result is same for both South East Asia and South Asia. Peres et al. (2018), Minier and Unel (2009), Houweling (2013), Esey and Yaroson (2014) and Karim, Zaidi, Ismail, and Karim (2012) have also found similar results. Democratic accountability is another significant variable in South East Asia that positively affects FDI inflows.

Socio-economic conditions positively attracts inward FDI in South East Asia. An improvement in socio-economic condition increases the FDI inflows in this region. This result was similar to Arslan and Ökten (2010). In South Asia law and order situation positively influence FDI inflows. Peres et al. (2018) have got the same result in developed countries. In the combination of South East Asia and South Asia infrastructure positively influences FDI inflows. Peres et al. (2018), Quazi et al. (2014) and Houweling (2013), also found a positive impact of infrastructure on FDI inflows.

The above findings open a new window as we can say institutional quality variables are strongly significant rather than economic variables in South East Asia. And in South Asia, economic variables are strongly significant rather than institutional quality variables; this may be due to weak administrative or institutional framework and exogeneity issues.

8. CONCLUSION AND RECOMMENDATIONS

The Asian economy explicitly has profited more from FDI streams into the region. Asia received the most amount of FDI than any other region in the world. The 'World Investment Report 2014' observes that West Asia, received \$382 billion in 2013, 4 percent higher from 2012. As per the World Bank in 2013, although South Asia's

yearly increase in real GDP was 6.7% in the course of the most recent decade, in 2010-11 FDI inflows as a portion of GDP in South Asia declined by 2% averagely. For development and to cope with advanced world, FDI inflows are a top priority.

This study was based on secondary data, ranging from the period between 1986 to 2016 as many institutional changes have occurred in these decades. The sample of the research, consist of the two regions; South Asia and South East Asia. For the limitations in availability of data, 4 countries namely Bangladesh, Sri-Lanka, Pakistan and India from South Asia and 6 countries namely Malaysia, Philippines, Singapore, Thailand, Vietnam, and Indonesia from South East Asia are covered.

Our findings reveal that economic factors are strongly significant in South Asia and institutional variables are strongly significant to attract FDI inflows in South East Asia. The weak regulatory system hampers South Asian countries as there is lack of transparency, accountability in public work. When foreign investors observe this scenario they think this region is not profitable for business returns. Before 1990s the trade policy in South Asia was more complex and strong rules and regulations discouraged foreign firms from investing in this region.

Before 1990 the FDI inflows in this region were not up to the mark. In the early 1990 South Asian region went through rapid change related to the FDI environment to attract more FDI inflows. All the FDI inflows have been increased; it is not at an appreciating level.

Political stability, democratic accountability, socio-economic conditions have been missed in the South Asia model. When we include these variables in regression analysis the estimated result is not fruitful. So some institutional variables have been dropped from the model as these are not significant for South Asia in the final estimation. Corruption shows positive impact in South Asia and this violate our hypothesis. From the previous work we came to know about the 'helping hand hypothesis' which states that in lower income countries corruption assists FDI by smoothing the hoop of commerce and trade as weak regulatory system exists there.

In South East Asia their financial policies are macroeconomic stability oriented which helps them to keep the inflation law and control the trade imbalances. Besides, they undertook the strategies which were market friendly. Government intervention was so impressive and their willingness's were also significant which played the vital roles in ensuring the political stability, accountability in public work and making an investment friendly environment. The economic structure of this region rapidly copes up with the changing economic environment of the world. This region has taken challenges and does their level best to give a strong macroeconomic foundation and this region does it effectively.

This can be stated from the starter that South Asia need to focus on the improvement of institutional quality now and then as their economic performance is already better than other regions. If they increase their focus on the institutional quality more than before the FDI inflows will also increase in a greater range. South Asia is the fastest growing religion and their growth rate is around 7%. But the problem is that their FDI policies are very complex and the business environment is not friendly enough to attract foreign investors.

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