

FDI INFLOWS, GROSS DOMESTIC PRODUCT AND DOMESTIC INVESTMENT IN INDIA: AN APPRAISAL IN THE SOUTH ASIAN CONTEXT WITH PANEL DATA ANALYSIS

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ABSTRACT

The pattern and magnitude of FDI inflows, Gross Domestic Product (GDP) as well as domestic investment have been totally different in various countries of South Asia. It is pertinent to have an analysis of these factors and the impact of FDI on domestic investment and GDP in South Asian countries in general and India in particular. FDI is expected to act as a catalyst in promoting growth by spurting domestic investment in the host country. Often it is observed that FDI in host countries deviate much from the expected role of promotion of domestic investment and instead it results in harmful effect of displacement of domestic investment. In order to verify it, a detailed analysis is performed with the help of methodology used by Agosin and Mayor (2000) to measure the impact of crowding in/out by making use of panel data ranging from 2003 to 2013 in the case of prominent South Asian countries. The World Bank data expressed in constant prices in US\$ of 2005 base year is put to use. Three variables such as FDI inflows to GDP ratio, Growth of Gross Domestic Product (GDP) and Domestic Investment (DINV) are considered for time series analysis for India and panel data analysis is performed to gauge the impact of FDI on South Asian countries in general. The results obtained highlight important findings with regard to FDI in bringing about compatibility/non-compatibility between domestic investment and Foreign Direct Investment in India and South Asia.

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1.1 INTRODUCTION

There has been great variance observed in FDI flows to Asia during the period followed by liberalisation. The FDI Inflows into developing Asia reached a record level of US\$143 billion in 2000, which was a 44 percent increase compared to 1999. (UNCTAD, 2001). The World Investment Report (2011) highlights bright prospects for Asia to attract more FDI in the forthcoming years. Apart from East Asia and South East Asia, other regions in Asia do not receive FDI commensurate with their potential.

Owing to the global financial crisis of (2008-09), which adversely affected the worldwide GDP, developing countries' increasing importance in global FDI flows has become more pronounced. Stress in global financial markets, risk aversion, and uncertain profits made it more difficult to finance Mergers and Acquisitions (M&A) across the globe. In such a scenario, FDI inflows drastically declined to a large extent in developed countries when compared to developing ones. While the developed countries' FDI inflows declined by 53.9 percent, the inflows to the developing countries fell by only 12.3 percent in 2007-09. (UNCTAD, 2012).

1.2 FDI AND GDP IN SOUTH ASIA: A COUNTRY-WISE SCENARIO

South Asia is one of the world's fastest growing regions, with an annual average of 6.7 percent increase in real GDP over the past decade (World Bank, 2013). The region now stands as the world's third largest in terms of GDP. However, South Asia's FDI inflows as a share of GDP is observed to be the lowest among all developing regions with less than 2 percent in 2000-11.

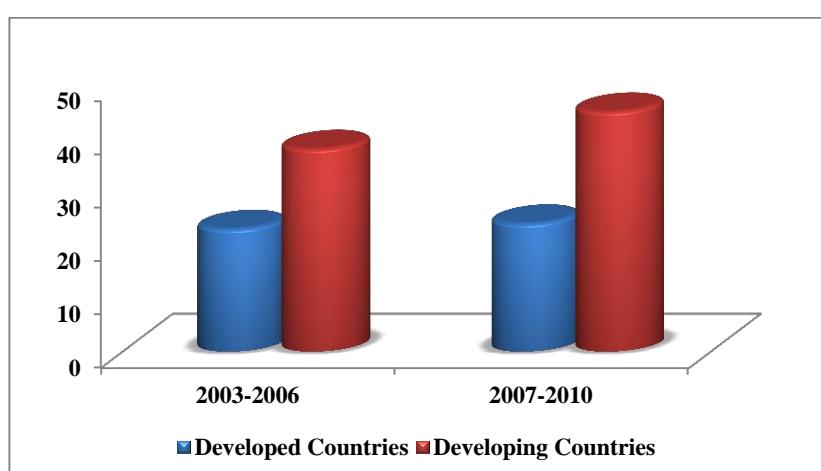
Owing to the predominance of south-south FDI flows, the number of developing countries investing in South Asia has increased in recent years. Growth in the number of countries investing in South Asia may suggest greater trade linkages and knowledge spillovers between developing countries and industries. As Table 1 shows, while the number of developed countries investing in South Asia grew by only one, the number of developing countries with FDI positions in South Asia increased from 38 to 45 between the early and late 2000s.

TABLE 1: FDI INTO SOUTH ASIA BY SOURCE

Year	Developed Countries	Developing Countries	Total
2003-2006	23	38	61
2007-2010	24	45	69

Source: World Bank (2013), Trends and Determinants of Foreign Direct Investment in South Asia, Washington, United States

**FIGURE 1: FDI INFLOWS INTO SOUTH ASIA:
THE SHARE OF DEVELOPING AND DEVELOPED COUNTRIES**



Source: Derived from Table 1

During the period from 2003 to 2011, almost 70 percent of South Asia's FDI inflows was from developed countries, including 32 percent from the EU, 17 percent from the United States and 20 percent from other advanced economies. While considering the investment of developing countries in South Asia, the largest shares of inflows were received from the Middle East and North Africa (MENA) and the East Asia and Pacific Regions (EAP). South Asia itself accounted for 5 percent of FDI within the region (UNCTAD, 2012). The United Arab Emirates contributed 8.5 percent where as China including Hong Kong, Macau, and Taiwan contributed 6 percent. As shown in Table 2, FDI flows to India originate primarily from developed economies, namely the EU, United States, Japan, and South Korea. In contrast, Pakistan's inflows are dominated by capital from the Middle East, while Bangladesh's and Sri Lanka's FDI originates from countries, such as EU, United States, India, and China. FDI inflows of Maldives are from countries, including Thailand, India, United States, the EU, and China. Bhutan and Nepal heavily depend on India for investment in their countries. China has invested heavily in extraction businesses, which account for a large portion of the FDI in Afghanistan. China's contribution cannot be ignored in Nepal's renewable energy sector. China also invests in Sri Lanka's transportation sector, building ports, in constructing hotels and in tourism sector. In short, India contributes 70 percent of intra-regional South Asian FDI. The total FDI within-region is estimated to be just 3.7 percent of all inward FDI in South Asia.

TABLE 2: FDI RECIPIENT AND SOURCE COUNTRIES IN SOUTH ASIA
(PERCENT OF RECIPIENT COUNTRIES' TOTAL FDI INFLOW, 2003-11)

Recipient Countries	European Union	US	India	SAR ¹	China ²	EAP ³	MENA ⁴	ECA ⁵	LAC ⁶	SSA ⁷	Other ⁸
Afghanistan	2.35	1.57	2.72	0.97	71.58	0.00	16.07	4.73	0.00	0.00	0.00
Bangladesh	38.33	11.95	23.88	0.49	3.79	10.02	8.62	0.00	0.00	0.40	2.52
Bhutan	0.00	16.91	48.75	0.00	0.00	24.67	0.00	0.00	0.00	0.00	9.6
India	36.40	19.87	0.00	1.3	4.10	21.26	5.09	1.77	0.56	0.31	9.31
Maldives	4.71	3.86	29.35	0.05	3.86	25.57	13.13	0.00	0.01	0.00	19.47
Nepal	22.05	0.00	53.63	0.61	11.20	1.72	10.68	0.00	0.00	0.00	0.12
Pakistan	19.60	9.92	0.83	0.30	6.11	7.15	45.04	1.52	0.47	0.00	9.06
Sri Lanka	18.09	2.95	37.41	0.22	9.19	8.10	2.71	0.00	0.15	8.36	12.82

Source: Estimates from UNCTAD statistics, FDI Markets and World Bank staff calculations

Note: (1) South Asian Region which excludes India; (2) China includes Hong Kong, Macau and Taiwan; (3) East Asia and Pacific which does not include China; (4) Middle East and North Africa; (5) Europe and Central Asia; (6) Latin America and Caribbean; (7) Sub-Saharan Africa; (8) Other includes all advanced economies other than US and European Union.

In absolute terms, both India and Pakistan was subjected to significant fall in FDI inflows after the crisis in 2008 (Table 3). India experienced a 44 percent decline in FDI between 2008 and 2010. Annual FDI to the Pakistan declined 63 percent during the same period and the trend continued in 2011. Pakistan's weakening macroeconomic environment, combined with security issues and political uncertainty may also be attributed as reasons for this. Unlike Pakistan, India's absolute inward FDI flows rebounded in 2011. The country's FDI growth was modest in 2012.

The FDI inflows recovered after the global crisis. In 2009, FDI of Maldives was 17 percent less than its 2008 level which recovered after the crisis. In Bangladesh, the financial crisis caused 20 percent decline in FDI inflows. It recovered in 2011 and 2012 respectively. Both Bhutan and Nepal heavily depend on public-sector investments from India and so they have relatively low FDI levels. Bhutan's FDI constituted an annual average of about US\$15 million since 2009. Nepal's FDI has progressively increased from US\$1 million in 2008 to over US\$95 million in 2011.

TABLE 3: FOREIGN DIRECT INVESTMENT INFLOWS IN SOUTH ASIA, 2000-11
(FDI IN MILLION USD)

Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Afghanistan	1.70	6.80	50.00	57.80	186.90	271.00	238.00	188.69	87.28	213.67	75.65	91.23
Bangladesh	578.6	354.5	335.5	350.3	460.4	845.3	792.5	666.4	1,086.3	700.2	913.3	1,136.4
Bhutan	0.0	0.0	2.1	2.5	3.5	9.1	72.2	3.0	7.2	18.3	16.3	13.9
India	3,588.0	5,477.6	5,629.7	4,321.1	5,777.8	7,621.8	20,327.8	25,505.6	43,406.3	35,595.9	24,159.2	31,554.0
Maldives	22.3	20.5	24.7	31.8	52.9	73.2	95.2	126.5	174.2	152.1	211.8	281.6
Nepal	-0.5	20.9	-6.0	14.8	-0.4	2.5	-6.6	5.9	1.0	38.6	86.7	95.5
Pakistan	309.0	383.0	823.0	534.0	1,118.0	2,201.0	4,273.0	5,590.0	5,438.0	2,338.0	2,022.0	1,327.0
Sri Lanka	173.0	171.8	196.5	228.7	233.0	272.0	480.0	603.4	752.2	404.0	477.6	300.0

Source: World Bank (2013), Trends and Determinants of Foreign Direct Investment in South Asia, Washington, United States

1.3 TRENDS IN FDI INFLOWS AND GDP INDIA

India represents 80 percent of South Asia's GDP and accounts for about 85 percent of its FDI inflows. Despite the high absolute FDI flows, India's inward FDI relative to the size of its economy is quite low. According to UNCTAD (2011), although India was the second largest developing economy in terms of total Purchasing Power Parity (PPP) GDP, it was the eighth largest FDI recipient among developing countries in 2010.

The service sector in India manifested a strong recovery after the financial crisis. As mentioned above, most of India's FDI inflows are centered on the service sector, including financial services, banking, insurance, non-financial and business services, outsourcing, research and development, courier services, technical testing and analysis.

A large quantum of foreign capital into India's financial industry occurred in the past decade is mainly attributed to the international financial corporations. Ultimately, India has emerged as the preferred outsourcing location for foreign companies setting up call and service centers. (Dolly Sunny, 2010). It provides significant and stable foreign-capital inflows. Though the financial crisis had an adverse impact on this sector, by declining FDI in 2009 and 2010, the years 2011 and 2012 are characterised by the recovery phase. Telecommunication is another sector which attracted maximum FDI inflows, where most investments are earmarked for telephone services. Since 2005, up to 74 percent foreign ownership has been permitted into the telecommunication and telecom sector. Inward FDI reached a peak in 2009 at 123.7 billion rupees. However, telecommunication sector was hampered by the crisis. The quantum of FDI inflows declined by nearly a half in 2010, but recovered quickly in 2011. (GOI, 2013). Computer software and hardware provided a significant share of FDI into India. Many international IT brand names have made investments in India during the last decade.

The pre-crisis years are characterised by strong growth of FDI into the real estate and construction sectors. However, post-crisis FDI has experienced a drastic fall in real estate while robust growth was observed in the infrastructure construction. In 2005, the Government of India permitted the entry of 100 percent foreign ownership in real estate and infrastructure projects. It promoted the investment of a large amount of foreign capital in these sectors. Due to the deterioration of India's housing market, the amount of foreign capital inflows into real estate declined more than 80 percent from 2009 to 2011. The infrastructure construction, also impacted by these macro factors, has been more resilient and reflected moderate growth after the crisis. The infrastructure FDI grew three folds from 2001 to 2012, by constituting a larger than FDI in telecommunications. (GOI, 2013).

The automobile industry is a significant contributor in India's total inward FDI, although inflows weakened in 2011. Each of the international car makers such as Nissan, Suzuki, Mercedes-Benz, Ford, Volkswagen, Hyundai, Honda and Toyota has invested more than US\$1 billion dollars in the country. (UNCTAD, 2012). The sector is characterised with immense prospects.

Owing to supportive FDI policy devised by the government, the industry is 100 percent open for FDI, and the government has been pursuing a plan to accelerate and sustain the growth of automotive industry from 2006 through 2016. (GOI, 2013). The major objective of the plan is to transform India into a global automotive hub, with exports of small cars and auto components. As the fourth biggest steel producer in the world, India is poised to attain these goals.

The pharmaceutical and chemical industries have great potential for attracting more FDI inflows as far as India is concerned. The pharmaceutical sector was opened to 100 percent FDI a decade ago, but inward FDI has taken off only recently. A series of foreign mergers and acquisitions occurred in Indian pharmaceutical companies since 2010. The entry of FDI into pharmaceutical sector was regulated by making mergers and acquisitions subject to government's approval in 2011. In the chemical industry, inward FDI flows have witnessed steady growth in the past few years. Now, 100 percent foreign ownership is permitted, and most chemical products no longer need licenses. The government set up port-based chemical parks in Special Economic Zones (SEZ) providing better infrastructure and granting tax concessions. (GOI, 2013). It enabled India's pharmaceutical and chemical industries to emerge as the role model for an international R&D hub for multinational corporations.

TABLE 4: INTRA-REGIONAL GREENFIELD FDI INFLOWS BY RECIPIENT COUNTRY AND SECTOR, 2003-11

(PERCENT OF RECIPIENT COUNTRY'S TOTAL INTRA-REGIONAL FDI)

Sectors	Bangladesh	Bhutan	India	Maldives	Nepal	Pakistan	Sri Lanka
Manufacturing	40.40	1.10	16.70	1.40	23.90	77.40	19.30
Food and Tobacco	1.60	0.00	1.80	0.00	0.60	4.80	1.10
Mining and Extraction	0.00	0.00	0.00	0.00	22.50	0.00	0.00
Business, Financial, IT and Health services	12.80	7.80	3.10	5.30	9.30	17.90	16.30
Hotels, Tourism and entertainment	1.30	0.00	0.00	13.10	0.00	0.00	7.50
Construction and Real Estate	4.10	0.00	71.50	80.10	0.00	0.00	23.40
Communications	0.00	0.00	0.00	0.00	0.00	0.00	5.60
Transportation	0.00	0.00	6.40	0.00	12.00	0.00	6.10
Energy	39.80	91.10	0.50	0.00	31.70	0.00	20.70

Source: World Bank (2013), Trends and Determinants of Foreign Direct Investment in South Asia, Washington, USA.

Intra-regional Greenfield FDI inflows of South Asia is predominantly focussed in three countries such as India, Sri Lanka and Bangladesh. Bangladesh attained the unique distinction of a major beneficiary of India's investment in the manufacturing sector. Over the past decade, India invested heavily in chemical manufacturing, building and construction materials, industrial machinery, and consumer products of Bangladesh. Large Indian manufacturing firms such as Arvind Mills and Tata Group have invested in the most competitive garment industry of Bangladesh. Regional banks have set up business in the services sector of Bangladesh. India's prominent health-care provider namely Apollo Hospitals, recently opened its first hospital in Dhaka. (GOI, 2013). India heavily invested into solving the problem of its energy deficits of Bangladesh.

Investment from Bangladesh to India is also worth mentioning here. The Pran Group, Bangladesh's largest food and nutrition firm, made significant investments in food-processing plants in India. The infrastructural investments to facilitate trade have boosted up cooperation between India and Bangladesh. (GOI, 2013), by promoting contributions in FDI.

2.1 IMPACT OF FDI IN THE ECONOMY

The impact of FDI in an economy is examined by using different parameters such as GDP, domestic investment capital formation, backward linkages, employment, technology transfer, market access and knowledge spill overs. The net effect of FDI in an economy may be attributed to the sum total of the individual effects on these factors.

The impact of FDI on factors including GDP, domestic investment and employment in Asian economies has been varied. In certain countries, FDI has crowded out domestic investment by displacing or reducing domestic investment. FDI generated domestic investment by way of crowding in impact only in few countries. FDI's potential to promote or displace domestic investment depends on many factors including the quality of FDI, domestic regulatory environment and the time period considered for the study. The impact of FDI in job creation also vary in different countries.

FDI has tremendous potential in employment creation. According to UNCTAD (1999), foreign affiliates of Trans National Corporations (TNCs) have generated direct employment for about 19 million people in developing countries in 1998. TNCs also generate indirect employment through enterprises, subcontractors or service providers. Indirect employment created by foreign affiliates is estimated to be larger than the number of direct employment created.

Levchenko and Mauro (2007) observe that FDI has significant role in enriching the economy due to its relative stability and its impact on transfers of knowledge and technology. Bitzer and Görg (2009) highlight FDI's productivity enhancing effects in advanced economies although the impact varies from country to country. Research in developing countries such as the Czech Republic, Russia by Sabirianova et al (2005), Indonesia by Blalock and Gertler (2004), Lithuania by Javorcik (2004) highlight the same findings. Blonigen and Wang (2005) find that FDI flows to developing countries, as opposed to developed countries, have a stronger effect on growth by crowding-in domestic investment. Kee (2011) states that direct and indirect spillovers can be quite strong as experienced in the case of Bangladesh.

2.2 DATA AND METHODOLOGY

The panel data analysis performed for this study is based on the cross-country data from seven South Asian countries namely Afghanistan, Bangladesh, Bhutan, India, Srilanka, Nepal and Pakistan between 2003 and 2013. The rest of the South Asian countries could not be considered for the analysis for want of uniform data during the stipulated time period. All variables such as, the level of FDI inflows to GDP, the Growth rate of GDP and Domestic Investment are taken from the World Bank data. For uniformity of values the base year is taken as 2005. The dependent variable considered for the analysis is Domestic Investment and the independent variables are growth rates of GDP and growth of FDI inflows to GDP ranging from the years 2003 to 2013.

As is discussed above, growth of FDI inflows as a share of GDP is taken as an independent variable owing to the fact that FDI to GDP ratios are frequently used to control for the size of the economies when performing comparisons of FDI. Studies done by Asiedu, 2002; Mohamed and Sidiropoulos, 2010; Noorbakhsh, Paloni and Youssef, 2001; Lall et al, 2003 and Walsh and Yu, 2010 rely on the variable FDI to GDP ratio for fitting the model. The decade of 2003-2013 is selected owing to the fact that though the stock of FDI remained highest in developed countries earlier, recently a shift in growth of FDI has been observed to be in developing countries.

2.3 THEORETICAL BACKGROUND OF THE MODEL

According to Agosin and Mayor (2000), the analysis of the effects of FDI on investment takes off from the identity stating that total investment is the sum of domestic investment and real investment undertaken by MNEs:

$$I_t \cong I_{d,t} + I_{f,t} \dots\dots\dots (1)$$

Investments by MNEs can be thought of as being a function of FDI (F). The resources that cross the exchanges as FDI are often not used at once to finance real investment. There is a lag between FDI and I_f . Therefore I_f will depend not only on contemporaneous FDI but also on its lagged values:

$$I_{f,t} = \Psi_0 F_t + \Psi_1 F_{t-1} + \Psi_2 F_{t-2} \dots\dots\dots (2)$$

From the point of view of the recipient country, FDI can be considered to be an exogenous variable (since it depends on variables that relate to conditions in the world economy as well as, MNE strategies).

The domestic investment is essentially a stock adjustment variable (Rama, 1993) responding to the difference between the desired and actual capital stock. Investment adjusts partially to this difference because firms face liquidity constraints to investment and because the adjustment takes time. The basic model can be stated as:

$$I_{d,t} = \lambda (k_{d,t}^* - k_{d,t}) \dots\dots\dots (3)$$

Where,

$k_{d,t}^*$ represents the capital stock desired by domestic firms, and $\lambda < 1$.

Here, the desired level of the capital stock depends positively on expected growth (G^e) on the difference (y) between actual output (Y) and full-capacity output (Yn). This model is obviously a version of the neoclassical investment model, best exemplified by Hall and Jorgensen (1967). The missing variable is the user cost of capital. Most empirically estimated models of investment in developing countries have not found that interest rates or other proxies for the user cost of capital are significant in explaining variations in investment rates. This may be because investment is liquidity constrained. Therefore, interest rates is not included as explanatory variables in this investment model, as stated below:

$$k_{d,t}^* = \phi_0 + \phi_1 G_t^e + \phi_2 y_t \dots\dots\dots (4)$$

Where, $\phi_1, \phi_2 > 0$

Consider next the law of motion of the capital stock:

$$K_{d,t} = (1-d)K_{d,t-1} + I_{d,t-1} \dots\dots\dots(5)$$

Where,

d is the annual depreciation rate.

Combining (3) through (5):

$$I_{d,t} = \phi'_0 + \phi'_0 G^e + \phi'_2 y + \lambda I_{d,t-1} + \lambda' I_{d,t-2} \dots\dots\dots (6)$$

Where,

$$\phi'_0 = \phi_0 + \lambda^2 (1-d)^2 K_{d,t-2}$$

$$\phi'_1 = \lambda \phi_1$$

$$\phi'_2 = \lambda \phi_2$$

$$\lambda' = \lambda^2 (1-d)$$

Replacing (6) and (2) into (1) and collecting terms:

$$I_t = \phi'_0 + \phi'_1 G^e_t + \phi'_2 y_t + \Psi_0 F_t + \Psi_1 F_{t-1} + \Psi_2 F_{t-2} + \lambda I_{t-1} + \lambda' I_{t-2} \dots\dots\dots (7)$$

Where,

$$\Psi'_1 = \Psi_1 - \lambda$$

$$\Psi'_2 = [\Psi_2 - \lambda^2 (1-d)]$$

For a model which specifies a process of expectations formation for the growth rate, if expectations are rational, expected growth should not deviate systematically from actual growth. In this case, $G^e_t = G_t$.

The alternative is adaptive expectations:

$$G^e_t = \eta_1 G_{t-1} + \eta_2 G_{t-2} \dots\dots\dots (8)$$

The investment equations for individual region and sector would be of the following form:

$$I_{i,t} = \alpha_i + \beta_1 F_{i,t} + \beta_2 F_{i,t-1} + \beta_3 F_{i,t-2} + \beta_4 I_{i,t-1} + \beta_5 I_{i,t-2} + \beta_6 G_{i,t-1} + \beta_7 G_{i,t-2} + \epsilon_{i,t} \dots\dots\dots (9)$$

3.1 ANALYSIS OF DATA

The variability in FDI inflows across South Asian countries arises due to a host of factors such as geographical features, levels of development, availability of basic infrastructure, the regulatory frameworks on FDI and the size of the economies. In fact the relatively larger FDI inflows would be found in smaller countries because of the paucity of domestic investment, allowing firm-level investment decisions to play a larger role in the economy. Indeed, Maldives, the region's smallest economy, ranks highest in FDI inflows as a share of GDP which is almost 5 percent. Afghanistan, Pakistan, and India follow in the ranking. (UNCTAD, 2012). Bangladesh, Bhutan, and Sri Lanka are below the South Asian average. Nepal received the least FDI as a share of GDP.

During the recent global crisis, it was observed that FDI declined in most of the South Asian countries. In relative terms, Pakistan was most affected by the global crisis. A decline of 83 percent in FDI inflows as a share of GDP was observed during 2007-11. Maldives received the largest share of FDI in GDP, not only due to the small size of the economy but also due to the flourishing tourism sector. (UNCTAD, 2012). However due to non availability of continuous data related to FDI or GDP as considered for the analysis over the stipulated time period and Maldives had to be avoided from the analysis.

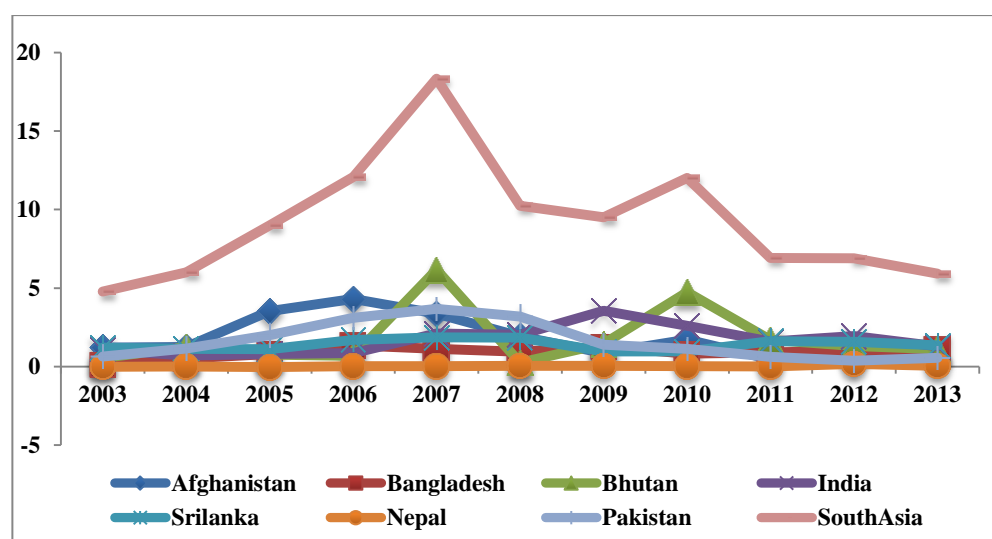
TABLE 5: FDI AS A RATIO OF GDP (2003-2013)

Year	Afghanistan	Bangladesh	Bhutan	India	Sri-lanka	Nepal	Pakistan	South Asia
2003	1.2110	0.1100	0.5418	1.0737	1.2113	-0.0101	0.6415	4.7793
2004	1.2610	0.5168	1.2609	0.6991	1.1267	-0.0012	1.1411	6.0042
2005	3.5361	0.7937	0.7585	0.7999	1.1161	-0.0245	2.0100	8.9897
2006	4.3187	1.3493	0.6821	0.8714	1.6970	0.0368	3.1130	12.0682
2007	3.3723	1.1263	6.1748	2.1102	1.8639	0.0248	3.6683	18.3407
2008	1.9168	0.9542	0.2499	2.0366	1.8475	0.0410	3.1974	10.2434
2009	0.8564	1.2691	1.4469	3.5460	0.9603	0.0470	1.3927	9.5185
2010	1.7111	0.8201	4.7479	2.6060	0.9634	0.0195	1.1390	12.0072
2011	0.4747	0.9149	1.6917	1.6036	1.6153	0.0119	0.6125	6.9246
2012	0.5105	1.0168	1.3099	1.9413	1.5846	0.1637	0.3819	6.9088
2013	0.4584	1.0845	1.1189	1.2909	1.3628	0.0566	0.5523	5.9246

Source: Compiled by the author from World Development Indicators, data.worldbank.org

Table 5 and figure 2 portray the share of FDI inflows to GDP of different countries of South Asia over the period ranging from 2003-2013. The upward and downward patterns displayed by different countries with regard to this ratio is not uniform over the periods for the different countries. However it may be noticed that after 2011, the South Asian countries in general have displayed somewhat steady pattern.

FIGURE 2: FDI AS A RATIO OF GDP (2003-2013)



Source: Derived by the author from Table 5

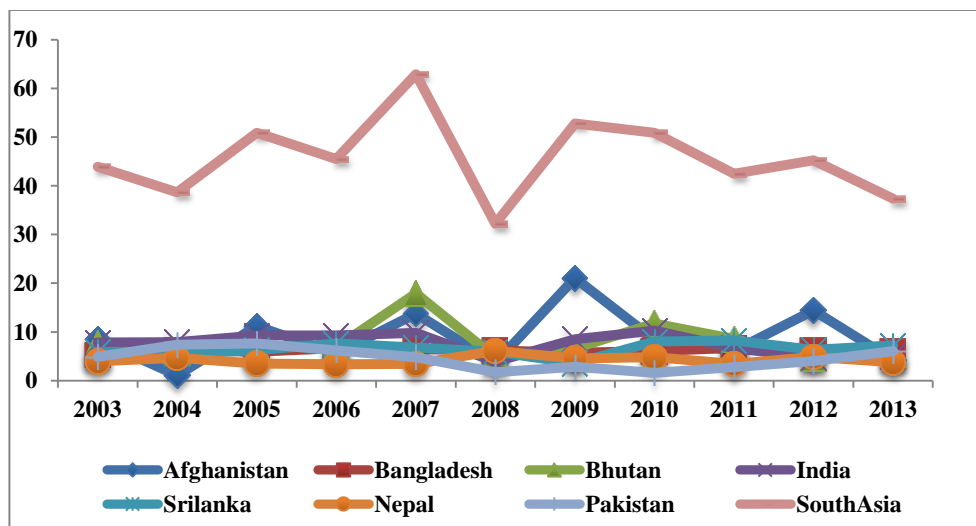
The next variable considered for the analysis is growth rate of GDP. As reflected in Table 6 and figure 3, the countries like Afghanistan and Bhutan are characterised by heavy upward and downward fluctuations in GDP pattern, whereas India and Pakistan have experienced comparatively mild fluctuations. Among South Asian countries, Bangladesh and Nepal have somewhat steady pattern in the growth of GDP over the decade.

TABLE 6: GROWTH RATE OF GDP

Year	Afghanistan	Bangladesh	Bhutan	India	Sri Lanka	Nepal	Pakistan	South Asia
2003	8.4442	5.2560	7.664	7.8604	5.9403	3.9450	4.8463	43.9565
2004	1.0556	6.2705	5.8964	7.9230	5.4451	4.6826	7.3686	38.6416
2005	11.1753	5.9555	7.1226	9.2848	6.2417	3.4792	7.6673	50.9263
2006	5.5541	6.6293	6.8494	9.2640	7.6683	3.3646	6.1775	45.5073
2007	13.7402	6.4278	17.9258	9.8014	6.7968	3.4116	4.8328	62.9364
2008	3.6114	6.1904	4.7683	3.8910	5.9501	6.1046	1.7014	32.2172
2009	21.0206	5.7412	6.6572	8.4798	3.5389	4.5331	2.8317	52.8025
2010	8.4333	6.0693	11.7309	10.260	8.0160	4.8164	1.6067	50.9325
2011	6.1137	6.7081	8.5545	6.6384	8.2459	3.4218	2.7859	42.4683
2012	14.4347	6.2337	4.6200	4.7363	6.3414	4.8525	4.0159	45.2345
2013	4.2338	6.0302	4.9819	5.0170	7.2509	3.7818	6.0695	37.3652

Source: Compiled by the author from World Development Indicators, data.worldbank.org

FIGURE 3: GROWTH RATE OF GDP (2003-2013)



Source: Derived by the author from Table 6

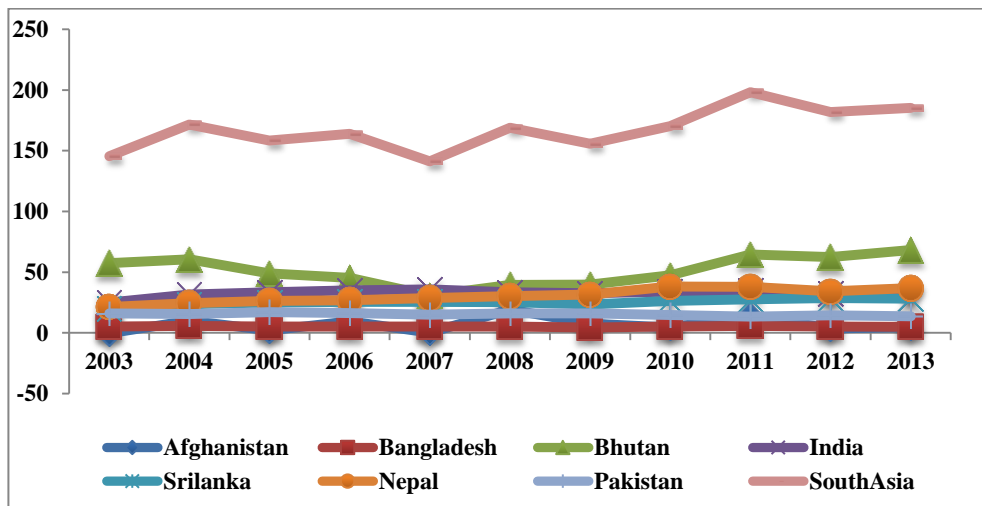
The dependent variable considered for the study is Domestic Investment. The values have been computed from the differentials of growth rate of GDP and FDI as a ratio of GDP from World Bank data. Table 7 and Figure 4 represent the trends in growth pattern of Domestic Investment in different South Asian countries considered for the analysis over the decade ranging from 2003 to 2013.

TABLE 7: DOMESTIC INVESTMENT

Year	Afghanistan	Bangladesh	Bhutan	India	Sri Lanka	Nepal	Pakistan	South Asia
2003	-0.1554	5.1460	57.4410	25.0644	20.4128	21.4195	16.1165	145.4447
2004	9.9143	5.7537	60.6485	31.7551	23.6039	24.5324	15.4369	171.6448
2005	2.0180	5.1618	49.1537	33.4798	25.0202	26.4757	17.0713	158.3805
2006	9.4215	5.2800	45.4484	35.0003	25.6613	26.8151	16.2190	163.8456
2007	0.2391	5.3015	30.7238	35.9239	25.4420	28.6604	15.1188	141.4096
2008	19.1038	5.2362	39.5494	33.4888	25.2518	30.2746	16.0085	168.9130
2009	7.5768	4.4721	39.7612	32.7509	23.3328	31.6274	16.1568	155.6781
2010	4.4025	5.2492	47.4933	33.9224	26.2809	38.2517	14.6655	170.2656
2011	13.9601	5.7932	64.4447	34.783	27.7680	37.9753	13.5024	198.2267
2012	3.7233	5.2169	62.5819	32.7577	28.7134	34.3333	14.5338	181.8603
2013	4.7975	4.9458	68.1494	28.7252	28.1480	36.8469	13.6713	185.2842

Source: Compiled by the author from World Development Indicators, data.worldbank.org

FIGURE 4: DOMESTIC INVESTMENT (2003-2013)



Source: Derived by the author from Table 7

3.2 RESULTS

The extent of the impact of FDI in terms of Crowding Out and Crowding In effects has been computed with the help of the coefficients derived from pooled one way Seemingly Unrelated Regression by following the methodology adopted by Agosin and Mayor (2000). World Bank Data of 2003 to 2013 has been used for panel data analysis of seven South Asian countries and after estimating Seemingly Unrelated Regression coefficients the value of β_{LT} coefficient has been computed. If the value of coefficient is greater than one, it indicates crowding in effect of FDI in the domestic economy while the coefficient which is less than one measures crowding out effect of FDI in the domestic economy. (Agosin and Mayor, 2000; Kumar and Pradhan, 2002). Since the South Asian Countries comprise of developing economies, it becomes crucial to measure the impact of FDI on domestic investment and GDP. The SUR results for the entire South Asian region indicate Crowding Out effect of FDI Inflows as it can be observed from the β_{LT} value which is -7.023, which is computed from Table 8. This means additional one dollar of FDI displaces roughly seven dollars of domestic investment from the South Asian countries. From the table it can be observed that all the coefficients are significantly affecting the domestic investment. However, it must be noted that current FDI negatively affects the domestic investment

while its lag positively affects the domestic investment. The current FDI might reduce the market share of existing industries and on the other hand the current FDI will create future demand of ancillary products provided by domestic companies which is reflected by positive value of FDI lag. Immediate remedial measures will have to be taken in this regard since displacement of domestic investment will have serious adverse repercussions on the GDP of the South Asian Economy.

**TABLE 8: SEEMINGLY UNRELATED REGRESSION FOR THE POOLED DATA
(SOUTH ASIA)**

Linear estimation after one-step weighting matrix				
	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	-1.396914	1.631929	-0.855989	0.3951
C(2)	-1.396365	0.524953	-2.659982	0.0098
C(3)	1.217222	0.564698	2.155528	0.0348
C(4)	0.974493	0.036674	26.57179	0.0000
C(5)	0.426553	0.185247	2.302624	0.0245
Determinant residual covariance		22.54645		
R-squared	0.910706	Mean dependent var		24.22155
Adjusted R-squared	0.905211	S.D. dependent var		16.00485
S.E. of regression	4.927555	Sum squared resid		1578.252
Durbin-Watson stat	2.292793			

Source: Computed by the author from Eviews

The first lag of domestic investment and GDP growth rate positively affect the domestic investment. However, the β_{LT} value shows negative coefficient indicating that over a period of ten years considered for the analysis here, the FDI has crowded out the domestic investment. In other words, it can be deduced that South Asian countries find it difficult to compete with MNC's technological strength. However the impact of FDI varies in individual countries of South Asia and it cannot be generalised in the context of South Asian Countries as a whole.

The SUR time series analysis performed individually for India indicates that India too shows mild crowding out impact of FDI in its economy. Though Indian economy is characterised with beneficial aspects such as the demographic dividend with cheap labour supply, a large market for investors and a positive climate created for foreign investors, the FDI in India started to displace domestic investment as revealed by the analysis. India has emerged as one of the leading exporters of software and business services in the recent times. The liberalisation has opened the new avenues for the ancillary industries and has generated a positive effect of FDI in Indian economy. These factors played a significant role in minimising the acute harmful effects of FDI to the mild crowding out in India when compared to the magnitude of crowding out for South Asia as a whole as revealed by Table 9.

TABLE 9: SEEMINGLY UNRELATED REGRESSION FOR INDIA

Linear estimation after one-step weighting matrix				
	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	25.54704	2.855878	8.945422	0.0003
C(2)	1.770927	0.432256	4.096942	0.0094
C(3)	-1.134487	0.337688	-3.359570	0.0201
C(4)	-0.020428	0.100533	-0.203194	0.8470
C(5)	0.927180	0.136334	6.800771	0.0010
Determinant residual covariance		0.536185		
R-squared	0.852389	Mean dependent var		33.25872
Adjusted R-squared	0.734299	S.D. dependent var		2.008983
S.E. of regression	1.035553	Sum squared resid		5.361852
Durbin-Watson stat	1.733386			

Source: Computed by the author from Eviews

From the analysis it can be concluded that to a certain extent India and to a much greater extent the rest of South Asia stand out as having a weak environment for attracting FDI, though recently some measures are performed to attract FDI. It had the lowest initial level of inward FDI to GDP ratio. It has had the largest decline in investment policy openness, the lowest level of natural resources per capita, and largest deterioration in political stability as experienced in several countries of South Asia excluding India. South Asia is ranked low in case of conducting business, which can be cited as a factor for receiving low FDI inflows.

South Asian region performs well on some indicators. The region's human capital growth has been stronger than other regions. The region has the largest reduction in energy losses though India has not progressed in that regard. The financial sector development growth of South Asia is second only to the Europe and Central Asia region, and infrastructure growth has been highest after Sub-Saharan Africa. For India to a certain extent, trade liberalization and investment policy openness have been strong during this period, while for the rest of South Asia it has shown only modest fluctuations. The region's relatively strong GDP growth over the past decade is a well appreciated fact, despite a period of relatively weak growth in FDI inflows. Though India, which accounts for approximately 85 percent of regional FDI inflows, is unique in its strong improvements to investment policy and trade liberalization, which have played a positive role in enhancing growth in FDI to GDP ratio. However great caution has to be exerted with regard to the nature and quality of FDI inflows so as to avoid intensifying the crowding out effect.

Though the empirical analysis performed for verifying the impact of FDI in earlier study brought to light the crowding in effect in Indian economy (Dolly Sunny, 2012), it was expected that the mild crowding in effect may not continue to remain due to divergent issues prevailing in the Indian economy and the change in rules stipulated for the entry of FDI. So FDI policy decision making remains to be an unsolved riddle which needs to be carefully implemented in South Asian Region the present scenario.

4.1 ISSUES BEFORE POLICY MAKERS

As per the World Bank projections, in forthcoming two decades, more than one million new workers are estimated to enter the South Asian labour market every month as potential job seekers. South Asian countries will have to rely on more than just public investment for provision of employment in huge numbers. It is not desirable to divert all the economic resources for employment creation through the government sector, owing to financial constraints. The private sector will have to play a key role in creating productive jobs for the new labour market entrants. It depends on a great extent on creating the economic climate to attract private investment. Foreign private capital flows which include the bank lending, direct investment and portfolio investment as well as to expand the potential sources of capital available to countries, raising productivity and boosting growth are vital in this regard. In order to facilitate all these, right type of FDI has a major role in provision of employment, to increase GDP and to spurt domestic investment.

The South Asian region has become increasingly attractive to Foreign Direct Investors owing to positive

changes that have taken place during the past few decades. This affirms how liberalization of FDI policies is essential to attract further inflows. The more advanced economies tend to move faster toward FDI liberalization since they have more FDI-friendly policies. According to UNCTAD (2012) the causative factor which resulted in poor FDI inflows into South Asia in general and India in particular was the September 11 terrorist attacks which shattered the confidence of foreign investors with regard to the stability of the investment environment of the country. If the foreign investors' perception is adversely affected due to internal war or terrorist attack, attracting high FDI is difficult. Therefore, a developing country must ensure that there exists an investment climate which is free from terrorists attack or internal war. Further a sound macroeconomic environment, legal and regulatory policies, appropriate institutions and basic infrastructure are needed for attracting large share of FDI inflows.

In the past decade, though South Asia witnessed an increase in FDI inflows; it resulted in the displacement of domestic investment; which is a great cause of worry. Probably inappropriate FDI policies might have been instrumental in preventing the right type of FDI inflows into South Asia. The composition of FDI is heavily concentrated in the service industry, which may reflect South Asia's comparative advantage in this sector. But it may also indicate that FDI into other prominent sectors, such as manufacturing, is low due to insufficient infrastructure and inappropriate investment climate which restrict FDI inflows to these sectors. It is needless to mention here that FDI has a very important role to play in spurting GDP growth promoting domestic investment and creation of employment opportunities. India, though earlier experienced the beneficial crowding in effect which caused promotion of domestic investment, has presently begun to face repercussions due to the crowding out effects, needs a special mention here. Great care has to be exerted by the policy framers to encourage the right type of FDI inflows not only to India but also to South Asian region as a whole.

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