

**Determinant of inward FDI in Bangladesh,  
Pakistan, and Sri Lanka: An overview and  
policy implications**

by

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## ABSTRACT

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Inward FDI to South Asian countries has declined significantly recently. Since reaching its peak in 2007 a decline has been seen which has surprised many. It is vital to study the determinants that have maximum effect on the inward FDI to these countries. The thesis identifies the factors that, more than most, determine the potential of attracting FDI. The contribution of this thesis is to evaluate which factors are the most crucial when it comes to dedicating attention in policy making and resources to be dedicated in the national context. Policy suggestions are made to the policy makers in the region as a whole and individual countries. Areas where future research can be made are also identified.

**Keywords:** *Foreign direct investment, Gross Domestic Product, Financial Development, Institutional Quality, Macroeconomics Policy, Inflation, Institution, South Asia.*

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# 1 INTRODUCTION

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The recent shift in production and marketing functions of firm in developed world away from their home country to a more global spectrum has greatly increased the potential of developing countries to attract foreign direct investment (FDI).

The level of foreign investment inflow to the developing economies since 1990 is an evidence that more and more multinational companies (MNCs) are seeing these countries as a more attractive avenue for their investments. This also means that the factors that actually determine the attractiveness of a developing country as a host for foreign investment have also changed in this period. Hence, it is necessary for the policy makers to constantly revisit these factors as they change continually overtime. So that they can take advantage of this changing landscape (Kokko, 2002).

Due to the increase in globalization and the international business activity; FDI has seen a significant growth over the years. Since 1980's, there has been a rapid growth in FDI as compared to domestic production and trade. The World FDI inflows amount to US\$1.35 trillion in 2012 (World Investment Report, 2013), which is approximately 26 times larger than the FDI of 1980's, US\$53 billion.

Foreign Direct Investment (FDI) contributes to increased efficiency and productivity and can hence be characterized as a significant measure of economic growth in shaping the world's economy. Studies over the years have shown that, FDI in developing countries aids the transfer of technology, reinforces the links with international markets, stimulates competition in the domestic market, enhances human capital development, escalates export earnings, and contributes to corporate tax revenues which in turn, promote development (Feldstein 2000).

Since 1990s, FDI became one of the biggest components of external financing for developing countries. As a result, there is a strong competition for FDI and reduced restrictions on foreign investment in the previous 20 year period. Historically, the flow of the global FDI has been mostly between the developed countries such as United Kingdom investing in United States and vice versa but the trends have changed. Developing countries took the lead in 2012 and accounted for about 52 percent of the global FDI flows (UNCTAD 2013).

Section II looks at the recent changes in the FDI in the South Asian region and makes a case for its competitive and strategic importance. It establishes that the region's capacity to attract FDI is falling and it is performing below par. Hence, a need to revisit the policy making procedure. Determining which factors are more important than the

others will help policy makers pinpoint the area which they need to attend immediately to increase the current performance.

The low performance by these South Asian countries in attracting FDI raises concerns regarding factors responsible for it and the actions that policy makers should take to increase the flow of FDI in their countries. Thus the research aims to find the most important determinants of inward FDI in the developing countries of South Asia and suggest policy recommendations for the policy makers in those countries by analysing the main drivers of FDI inflow as identified by Mohamed & Sidiropoulos (2010).

## 2 LITERATURE REVIEW

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FDI plays an important role in industrialization, which is also attributed significantly by the policy makers at the national level. However, with the evolution of supranational institutions and opened trade flows between countries has decreased the interference by governments at national level and has also reduced the scope for industrial policy (Ramamurti, Ravi et al. 2004).

Organizations expand globally to seek competencies and according to Chandler et al. 1998, Rugman and d’Cruz (2000) knowledge has become integral for competitiveness both at national as well as at the international level. Moreover, as knowledge based capabilities is gaining dominance, the production networks ought to play an important role for coordination between business units, exchanging information and thus fostering long-term relationships (Chandler et al. 1998). Being operated on a global scale MNEs usually make the optimal use of the resources that they avail at different locations and use unique combinations of these resources. Hence they strategize accordingly such as global outsourcing or strategic asset seeking FDI (Meyer, E. et al. 2009).

Extensive work has been carried out in the prior literature that has discussed determinants of FDI such as empirical studies carried by Lipsey (2000) and Moosa (2002) on the determinants of FDI and these lead us to select those significant usually highlight how the investors seek to benefit from domestic market size, locational differences and the difference in factor costs variables that are widely used and also found to be significant determinants of FDI. The most commonly used set of variables are growth in GDP, GDP and their relationships with the FDI or coefficients are usually found to be positive.

Aqeel (2005) has analyzed Pakistan’s economic policies and fundamentals over the time period from 1961 to 2003 and has given munificent trade and fiscal incentives to foreign investors through various ways such as credit facilities, trade concessions and tariff reduction. This is also supported by the previous literature of Khan (1999), accordingly the decline in tariff rate, imports from MNCs have increased and further confirms that due to recent structural reforms trade has been liberalized. However, due to inconsistent reforms and policy changes the level of FDI stayed to a considerably low level when compared to other economies falling the developing category. Moreover, this research paper will analyze other causes that of falling FDI in Pakistan over the past few years.

IMF describes FDI as an investment when 10% or more of a foreign company's capital is owned by an investor, every other inflow is also considered to be a part of FDI. If the stakes owned are less than 10%, than it is considered to be a portfolio investment which



lacks control. Hence governments are very vigilant about FDI laws and procedures. The increase in FDI cannot only be attributed to the technological advancement but government regulations and policies and other institutions i.e. IMF, OECD etc. have played a vital role for its development (Haskel, Pereira et al. 2007). The environmental and social issues are yet not addressed or analyzed in mainstream academic research, but the interrelated role of MNEs and FDI has much been discussed.

The way MNCs look allocating resources in host countries has been significantly influenced and change due to globalization (UNCTAD, 1998). The new markets are starting to open has offered a wide range of options to MNCs in deciding how they are going to cater the international market. It is also argued that this new landscape has led to new strategies in resource allocation where MNCs look to seek the balance between allocating mobile assets and immobile resources where the latter is normally kept at the home country (Haskel, et al., 2007).

This has at least two major impacts on the factors that determine the level of inward FDI that an economy may attract:

- MNCs evaluate host countries on a much wider and broader set of variables than they were doing previously. The number of policy consideration has increased which determine whether an investment climate is favorable or not.
- The relative importance of each factor that actually contributes to determining the country's attractiveness as a host for inward FDI is not a static list of factors rather a dynamic list that keeps on changing as the global scenario changes and the economies take new shapes.

Dunning (1999) makes a case for the changing nature of FDI determines. He argues that the factors that are going to determine which host country will attract more inward FDI will change overtime. He specifically mentions that the firms have shifted their preference from market oriented and resource oriented towards a more integrated perspective of efficiency seeking nature. MNCs that have a more global orientation try to seek cost efficiency by attaining a more global value chain which is more efficient that their previous resource based set up.

The inward FDI to the developing and third world economies is now driven by access to the natural resource in that country that MNCs seek. (Baltagi, et al., 2004). In addition to the natural resources access to cheaper labor or raw material is also an important determinant in these countries.

Policy making has taken a more complex shape as globalization continues to make the game of policy making more challenging and the host governments have to consider a new set of rules and a new set of factors if they wish to increase the foreign investment

to become a larger part of their economy (Dunning, 1993). In the light of above shed arguments and evidence it can be concluded that the landscape has truly shifted and policymakers can no longer rely on the traditional or previous literature to form policies and expect to do well in the new competitive landscape.

Market related factors are among the traditional determinants of inward foreign investment to an economy. They can be found to be quoted several times in the literature by various researchers. Agarwal (1980) argued that the market-size of the host is a vital factor in explaining the ability of it to attract foreign investment his study is based on the developed nations.

Wheeler & Mody (1992), Bergstrand & Egger (2004), Jackson and Markowski (1995), Miller (1999), and Taylor (2000) are among the authors that support the importance of market related factors such as GDP, market size, inflation to be important factors in determining flow of inward FDI to an economy.

The question arises that whether globalization has actually make the market related factors irrelevant and that these factors actually do not hold in the post globalization era. With the less significant results that market related variables and produces it is worth wondering whether we need non-traditional factors to explain the inward FDI to economies or do we need another method to study the impacts.

Tsai (1994) makes use of the simultaneous equation models to study FDI. It was found that in 1970, the growth of host country and flow of foreign investment were positively correlated, then in 1980, it was no longer the case. Another evidence that the factors change over time. The study conducted by Lucas (1993) to determine the factors affecting the inward FDI in Southeast Asia and East Asia suggests that openness to trade affect the inward FDI very significantly. It is suggested in the study that the market size is another important variable in determining FDI inflow.

Recent studies on inward FDI determinants study trade-related determinants.

The study conducted by Taylor (2000) makes use of the survey results presented in the World Competitiveness Report to determine the degree of influence the government policy has on imports in a country. Other studies use proxy measure to determine the trade openness including tariff rates, and other barriers. But most of these studies fail to yield significant results.

Taylor (2000) studies on FDI, similar to other studies has not assessed the changes over a period of time. However, results of his studies do provide somewhat significant and reliable results when it comes to increased importance of trade openness on the inward flow of investment to a country.

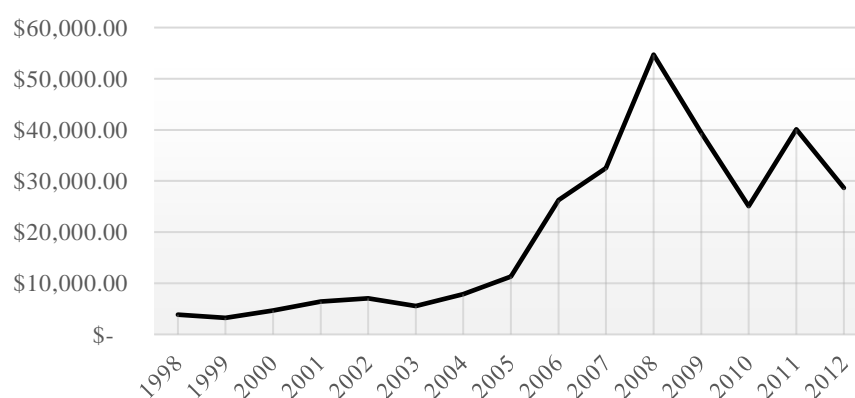
The research work of Noorbakhsh, Paloni and Youssef (2001) sheds light on the factors considered to be outside of the traditional domain to determine FDI in the developing countries. They define variables that are not trade specific as non-traditional. They suggest that human capital has become an important measure of inward FDI to developing economies overtime. Despite the fact that changes in the non-traditional variables are not studied over a period of time. The study provides significant results. Some authors argue that use of panel data that studies the relation over the course of time is actually more effective when it comes to studying FDI (Lucas, 1993).

### 3 INWARD FDI TO SOUTH ASIA

#### 3.1 OVERVIEW

Total inward FDI to South Asia declined significantly by 28.54% in 2012, this decline can be attributed to the decreased FDI inflow to a countries like Bangladesh, India, Pakistan, and Sri Lanka which are among the major contributors of FDI in the region. A drop of 13%, 29%, 36% and 21% respectively was seen for these countries.

Figure 1: Inward FDI to South Asia, annual, 1998 - 2012 (US Dollars in millions)



Source: UNCTAD, UNCTADstat (2013)

As depicted by Figure 1, South Asia has been unsuccessful in maintaining the high growth in FDI during the years 2005 to 2008. Since then the FDI of the entire region has been declining. A breakdown of the FDI figures in Table 1 shows that all of the major contributors of FDI of the region have seen a decline in FDI since 2008 with India and Pakistan both seeing major declines in the inflow of FDI, the Inward FDI decreasing by 84% and 46%.

Table 1: Inward FDI to South Asia, annual, 2007 - 2012 (US Dollars in millions)

Country	2007	2008	2009	2010	2011	2012
Afghanistan	189	94	76	211	83	94
Bangladesh	666	1,086	700	913	1,136	990
Bhutan	3	7	18	26	10	16
India	25,350	47,139	35,657	21,125	36,190	25,543
Maldives	132	181	158	216	256	284
Nepal	6	1	39	87	95	92
Pakistan	5,590	5,438	2,338	2,022	1,327	847
Sri Lanka	603	752	404	478	981	776
<b>Total</b>	<b>32,540</b>	<b>54,699</b>	<b>39,390</b>	<b>25,079</b>	<b>40,081</b>	<b>28,641</b>

Source: UNCTAD, UNCTADstat (2013)

### 3.1.1 India

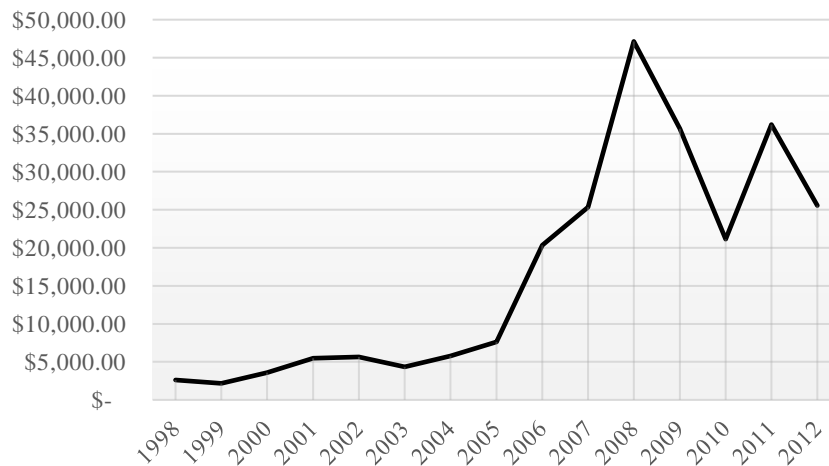
Despite the 46% fall in FDI since 2008 and a 29% decline in the last year India still remains the largest contributor of FDI in South Asia, contributing approximately 90% of the total inward FDI. As shown in Table 2, India's contribution to the FDI of South Asian region has increased significantly from 78% in 2008 to 90% in 2012. This significant percentage increase can be attributed to the massive decline in the inward FDI to Pakistan.

Table 2: Contribution to Inward FDI, annual, 2007 - 2012 (Percentage of Total Inward FDI in South Asia)

Country	2007	2008	2009	2010	2011	2012
Afghanistan	0.58	0.17	0.19	0.84	0.21	0.33
Bangladesh	2.05	1.99	1.78	3.64	2.84	3.46
Bhutan	0.01	0.01	0.05	0.10	0.03	0.06
India	77.90	86.18	90.52	84.24	90.29	89.18
Maldives	0.41	0.33	0.40	0.86	0.64	0.99
Nepal	0.02	0.00	0.10	0.35	0.24	0.32
Pakistan	17.18	9.94	5.94	8.06	3.31	2.96
Sri Lanka	1.85	1.38	1.03	1.90	2.45	2.71
<b>Total</b>	100.00	100.00	100.00	100.00	100.00	100.00

During 2012 Indian economy's growth was at its lowest level in the entire decade along with high inflation and increase in investment risk for the country. This led to a decline in the confidence of investors during the last year. But with the increasing FDI flow in the manufacturing sector from major players like Japan and Korea it is expected that FDI inflow to India will increase in the years to come(2013). As shown in Figure 2, Inward FDI to India has increased significantly in the last 15 years reaching its peak in year 2008. Since then India has been unable to maintain this high growth of FDI(Laudicina, Peterson et al. 2013).

Figure 2: Inward FDI to India, annual, 1998 - 2012 (US Dollars in millions)



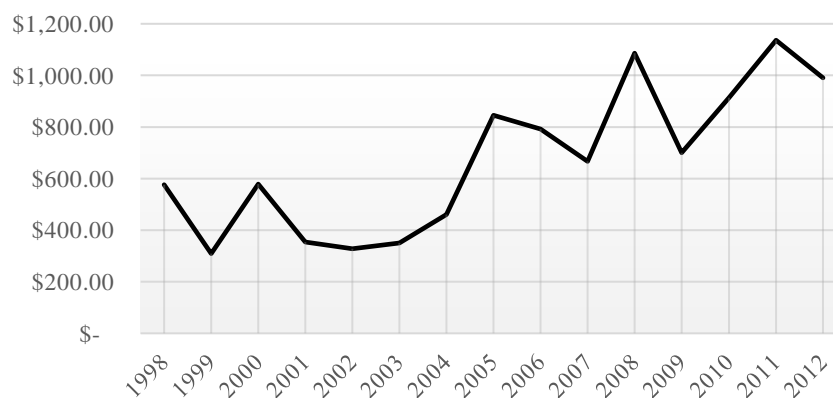
Source: UNCTAD, UNCTADstat (2013)

### 3.1.2 Bangladesh

Bangladesh has seen an increase of 72% in its inward FDI since 1998. Bangladesh's ability to attract FDI has significantly risen and it received second highest FDI in 2012 after India. Figure 3 shows historic rise and fall in Bangladesh's FDI. Bangladesh is now considered to be an important player in the textile manufacturing and export industry. Its ability to offer large production capacity at low cost has made it the focal point in attracting FDI compared to other players in the region(2013).

Bangladesh's inward FDI was majorly in four different sectors: garment sector (\$271 million), banking sector (\$249.3 million), energy sector (\$238.2 million) and the telecommunication (\$18.09 million)(Roy and Saleh 2012).

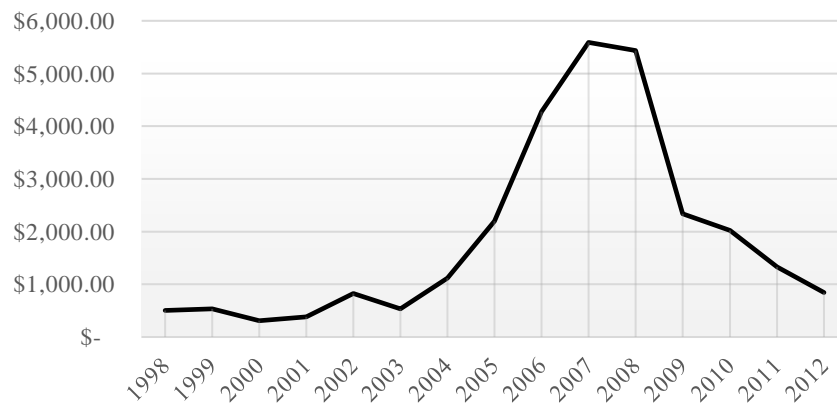
Figure 3: Inward FDI to Bangladesh, annual, 1998 - 2012 (US Dollars in millions)



### 3.1.3 Pakistan

Pakistan has seen a huge decline in the inward FDI over the last five years with its inward FDI falling from \$5.5 billion in 2007 to \$0.8 billion in 2012. This 85% decrease over the last five years is alarming and a major concern for the region. Pakistan now accounts for a mere 2.96% inward FDI of South Asian region as compared to 17.18% in 2007. Pakistan has lost its significant FDI to Bangladesh, India, and Sri Lanka(2013).

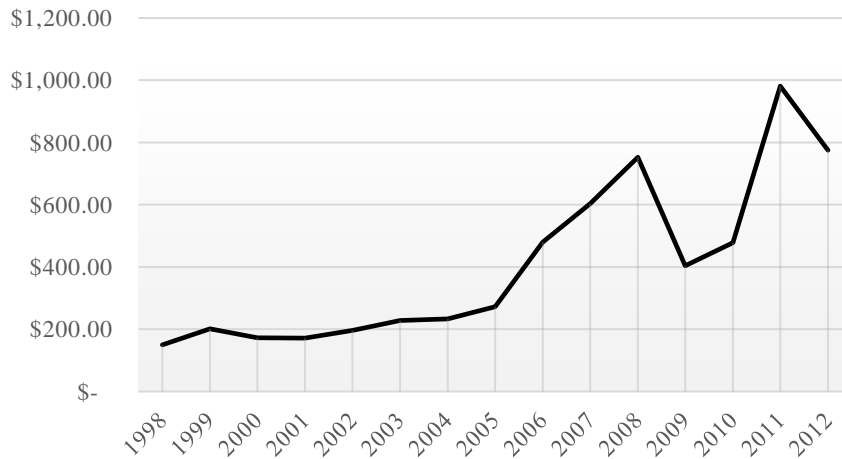
Figure 4: Inward FDI to Pakistan, annual, 1998 - 2012 (US Dollars in millions)



### 3.1.4 Sri Lanka

Sri Lanka has seen a significant increase in FDI volume in absolute term over the past 15 years. Despite a dip in FDI in the last year, something that has common among major South Asian countries, Sri Lanka has done significantly well in attracting FDI. Sri Lanka's inward FDI has increased by 62% since 2006. It is emerging as a major ready-made garment exporter along with Bangladesh and India(2013). Figure 5 shows a historic trend of Sri Lanka's inward FDI.

Figure 5: Inward FDI to Sri Lanka, annual, 1998 - 2012 (US Dollars in millions)



### 3.1.5 Afghanistan, Bhutan, Maldives, and Nepal

Afghanistan, Bhutan, Maldives, and Nepal remain among the smallest players to attract inward FDI to their country. Together these four countries attract a mere 1.7% of the total inward FDI of South Asia. All four of these smaller player have seen minute increase in their inward FDI in 2012.

## 3.2 GLOBAL COMPARISON

India has been ranked among consistently among top 20 countries in attracting FDI. Other than India no South Asian country can be categorized as a major player in attracting FDI. Pakistan which was ranked among top 50 countries in term of volume of FDI attracted has fallen sharply to 105 in 2012. Implying that Pakistan is no more seen as an attractive region when it comes to foreign investment. Sri Lanka and Bangladesh come close to Pakistan and they have also seen a decline trend when their ability to attract foreign investment is compared to other countries. Maldives, Afghanistan, Nepal, and Bhutan are among the lowest ranked countries to, in terms of volume of inward FDI, in the world. A look at ranking shows the declining ability of the South Asian countries to attract FDI.

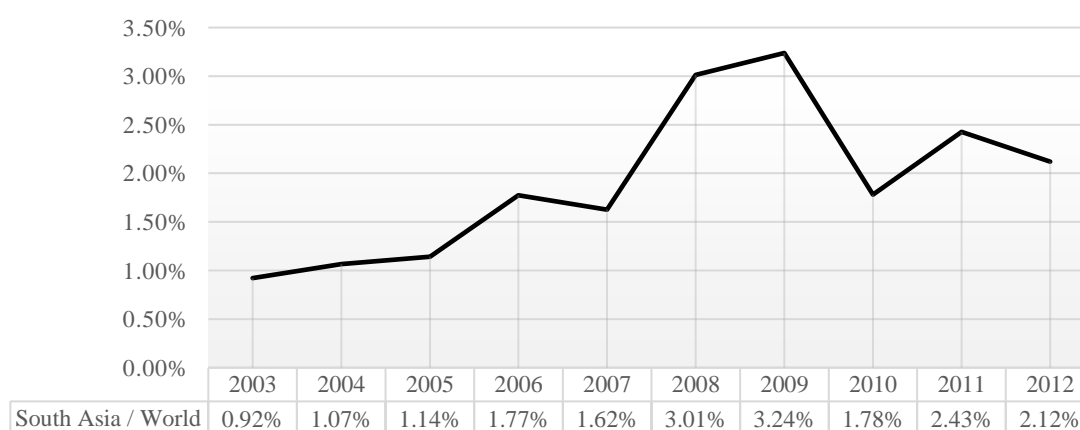
Figure 6 shows the combined inward FDI of South Asian countries as a percentage of the combined FDI of all countries of the world. South Asia currently makes 2.12% of the world's entire FDI. In 2009 South Asia was attracting 3.24% of the world's FDI, this decline can be accounted to the decreased ability of major players like India and Pakistan to attract FDI.



Table 3: Ranks based on inward FDI flow, annual, 2007-2012

	2007	2008	2009	2010	2011	2012
India	19	10	8	19	13	15
Bangladesh	104	90	93	85	86	96
Pakistan	48	47	60	57	81	105
Sri Lanka	107	106	109	104	95	109
Maldives	147	136	128	131	133	137
Afghanistan	139	157	157	133	157	162
Nepal	181	183	166	160	153	163
Bhutan	183	177	170	174	178	187

Figure 6: South Asia's inward FDI as a percentage of the World's total FDI



### 3.3 REGION'S ATTRACTIVENESS

Analysis of past data shows that South Asia can potentially attract more inward FDI based on its past performance. Currently the entire region is under performing and a slight decline can be seen when compared to the rest of the world. India remain a rather attractive spot for foreign investment with Sri Lanka and Bangladesh improving their ranks. While Pakistan is the worst performer and has been losing FDI to its neighbors due to a variety of reasons. This research aims to study the factors that are most impacting the declining performance of Pakistan and compares it with its close comparable countries (Sri Lanka and Bangladesh) in terms of attracting FDI.

## 4 METHODOLOGY

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### 4.1 MODEL

The model used in the research is based on the econometric model of FDI determinants presented by Mohamed, Eltayeb, & Sidiropoulos (2010). The model was originally presented for MENA (Middle Eastern and North African) countries so the variable measures were chosen accordingly. The model is applied for South Asian countries, hence the model is adapted accordingly.

Following is the model used in this research:

$$FDI_{it} = f(GDP_{it}, FDev_{it}, Inst_{it}, Poicy_{it}, Z_{it})$$

Here,

$FDI_{it}$	Inward Foreign Direct Investment
$GDP_{it}$	GDP Growth
$FDev_{it}$	Financial Development
$Inst_{it}$	Institutional Quality
$Poicy_{it}$	Macroeconomics Policies
$Z_{it}$	Other Variables

Data sources and brief description of the variables used is as follow:

#### 4.1.1 Inward Foreign Direct Investment

In the research inward FDI represents the dependent variable and it is also our variable of interest as well. World Bank's Databank was used as the source for inward FDI data on each of the countries. Data was extracted ranging from year 1998 to 2012 for the indicator "Foreign direct investment, net inflows (% of GDP)".

#### 4.1.2 GDP Growth

Mohamed, Eltayeb, & Sidiropoulos (2010) argue that GDP growth in the previous year can be safely used as a proxy measure for growth expectations. They assume that investors tend to look at past GDP growth pattern when establishing their expectations for the coming year. They have found this proxy measure to provide strong evidence in case of MENA countries which fall into developing countries. Since the sample set also includes countries from developing world research will also make use of GDP growth as a proxy measure for growth expectations. Data was collected from World Bank's Databank.

### 4.1.3 Financial Development

Here financial development in a country refers to the presence of instruments and markets that support the growth of investment process (FitzGerald 2006). Literature provides strong evidence that inward FDI to any country largely depends on the quality of financial institutions, the availability of credit, and the ease of getting local financing (Klein, Michael et al. 2000).

Liquid liabilities of an economy, the credit that private sector extends and the credit that banks are extending in an economy can be taken as a proxy measure for the financial development of an economy (Mohamed, Eltayeb et al. 2010). But, due to limitations regarding the availability of data for our sample countries we have decided to use “Credit to Private Sector” and “Bank Z-Score” as proxy measure in this research.

#### Credit Provided to Private Sector

Credit provided by Banks in a country to the private sector is taken as one of the proxy measure for financial development in our sample countries. It is hypothesized that as the credit availability increases the country will become more attractive for foreign investment. The indicator “Credit to private sector (% of GDP)” from World Bank’s Databank is used.

#### Bank Z-Score

Bank Z-Score is used to measure the probability that an economy’s commercial banking system will default. Z-Score compares the capitalization of banking sector and the level of volatility of the returns to those commercial banks. Data for z-score was taken from World Bank’s Databank.

The Z-Score is the inverse of the probability of insolvency, i.e. a higher Z-Score indicates that a bank incurs fewer risks and is more stable. Formula for Z-Score is as follow:

$$Z - Score_{it} = \frac{ROA_{it} + CAR_{it}}{SDROA_i}$$

ROA	Return on Assets
CAR	Ratio of total equity over total assets of bank (i) in year (t)
SDROA	Bank’s standard deviation of the ROA

#### **4.1.4 Institutional Quality**

The quality of institutions is defined as “level of contract enforcement, property rights, shareholder protection, and the like in a country”. Since poor institutional quality can lead to added costs for MNCs in form of poor right protection due to weak enforcement of and bad governance, it is considered to be vital in this part of the world (Bénassy-Quéré, Agnès et al. 2007), investors constantly look at quality of institutions when deciding on an investment decision. Poor institutional quality includes corruption, bureaucratic red tape, political instability, and poor legal system which impacts negatively to the inward FDI of a country (Wei 2000). Hence, no research on FDI will be completed without studying institutional quality.

We have used the indicator “Regulatory Quality: Estimate (RQ.EST)” from World Bank’s Databank. Regulatory Quality Estimate gives a single figure that determines the enforcement of regulations and other laws in a country. We have used this indicator as a proxy measure to estimate institutional quality.

#### **4.1.5 Macroeconomics Policies**

##### **Inflation**

Inflation is one of the more popular variables that are used as proxy for measuring macroeconomic stability. Higher level of inflation might actually disrupt the economy and the economic activity. This may even lead to reduction in the level of investments in some extreme cases. We hypothesize a negative relation between inflation rate and FDI inflow. Inflation here is used as a proxy measure for macroeconomic instability.

#### **4.1.6 Other Variables**

##### **Natural Resources**

Natural resource availability positively affect the inward FDI in case of developing countries in particular(Jenkins and Thomas 2002). Since, the South Asian countries in our sample set belong to strong agricultural background. We have used indicator “Agriculture, value added (% of GDP)” from World Bank’s Databank.

##### **Infrastructure Quality**

Communication network, highways and ports, rail network, air transport, roadways all fall in the broad category of infrastructure. The availability and quality of Infrastructure is one of the most important determinants of FDI inflows. Literature reveals that Multinational Corporations are attracted to those markets where infrastructure is in better condition and supportive to investors as it results in increased cost savings and

maximization of benefits (Wheeler and Mody 1992) and countries where necessary supporting services are not available MNCs are unlikely to locate in that country. Thus, there is a positive correlation between infrastructure availability and quality and FDI. This means that the more the availability and the higher the quality of infrastructure, the higher the FDI inflows to that country and vice versa. When MNCs are trying to evaluate best country out of developing countries in which to make FDI. The country that has the best infrastructure tends to take the lead (Mohamed, Eltayeb et al. 2010).

Hence we have used natural log of indicator “Air transport, freight (million ton-km)” as the proxy measure for infrastructure quality. Air transport, freight (million ton-km) measure the amount of million ton cargo was carried by airline during the year. Data on roads and research expenditure was only available for Pakistan and was missing for Bangladesh and Sri Lanka, hence we have only used Air transport, freight from World Bank’s Databank as our proxy measure.

## 4.2 TEST

The research uses data in form of cross sectional time series. The variables mentioned previously vary over a time period for each country. The benefit of use the data in panel form is that it controls for “unmeasured” and “unobservable” variables.

Generally two techniques are used to analyze panel data and these include fixed effects and random effects technique. Fixed effect technique is used when the concern is to analyze the impact of variables that vary over time. On the other hand, the random effect technique is used when the variation across entities is assumed to be random and uncorrelated with the independent variable present in the model. The random effect model is often preferred when there the differences across entities have some sort of direct or indirect impact on the dependent variable.

Hausman test is used to decide that whether we should use a fixed effect or the random effect model. The null hypothesis is that a random effect is the preferred model with an alternate hypothesis of fixed effect as the preferred model. For this purpose we first run a fixed effect model and save its estimates and then a random effect model and save its estimates as well. The Hausman test is then performed and if Prob>chi2 turns out to be greater than 0.05 we prefer and use random effect model estimates and if it turns out to be less than 0.05 we then prefer fixed effect over the random effect model.

## 5 RESULTS

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### 5.1 HAUSMAN SPECIFICATION TEST

	Coefficients		(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
	(b) Fixed	(B) Random		
DCPS	.0142533	.0420821	-.0278289	.002108
ZS	-.0252041	.0562632	-.0814674	.0257925
INF	.0558511	.0480561	.0077951	.
NATR	-.0561356	.0634726	-.1196082	.0361107
GGRW	.1556754	.1063959	.0492795	.0018307
INFRLN	.6353037	.5952544	.0400493	.2766421
Reg	2.250251	.5313185	1.718932	.5579687

b = consistent under Ho and Ha; obtained from xtreg  
B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

```
chi2(7) = (b-B)'[(V_b-V_B)^(-1)](b-B)
          = 12.01
Prob>chi2 = 0.1004
(V_b-V_B is not positive definite)
```

After comparing the results from both Fixed and Random regressions using Stata. We get the value for  $\text{Prob}>\chi^2 = 0.1004$ . Since, this value is greater than 0.05 we can safely use random regression model.

## 5.2 RANDOM-EFFECTS GLS REGRESSION

```

Random-effects GLS regression           Number of obs   =       45
Group variable: Country                 Number of groups =        3

R-sq:  within = 0.5184                   Obs per group:  min =       15
        between = 0.9596                  avg =      15.0
        overall = 0.5845                  max =       15

corr(u_i, X) = 0 (assumed)              Wald chi2(7)    =      52.05
                                           Prob > chi2     =      0.0000

```

FDI	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
DCPS	.0420821	.0171253	2.46	0.014	.0085173	.075647
ZS	.0562632	.0250975	2.24	0.025	.0070731	.1054534
INF	.0480561	.0201987	2.38	0.017	.0084673	.0876448
NATR	.0634726	.0271269	2.34	0.019	.0103049	.1166403
GGRW	.1063959	.0462806	2.30	0.022	.0156875	.1971043
INFRLN	.5952544	.2733264	2.18	0.029	.0595445	1.130964
Reg	.5313185	.2737741	1.94	0.052	-.0052688	1.067906
_cons	-5.656305	1.904974	-2.97	0.003	-9.389986	-1.922625
sigma_u	0					
sigma_e	.45636157					
rho	0	(fraction of variance due to u_i)				

All of the variables produced significant results except for Regulatory Quality Estimate which was just outside the acceptance region with 95% confidence interval. All variables were found to be positively correlated as originally hypothesized except for inflation which was hypothesized to be negatively correlated but there existed a very weak positive correlation of inflation with FDI.

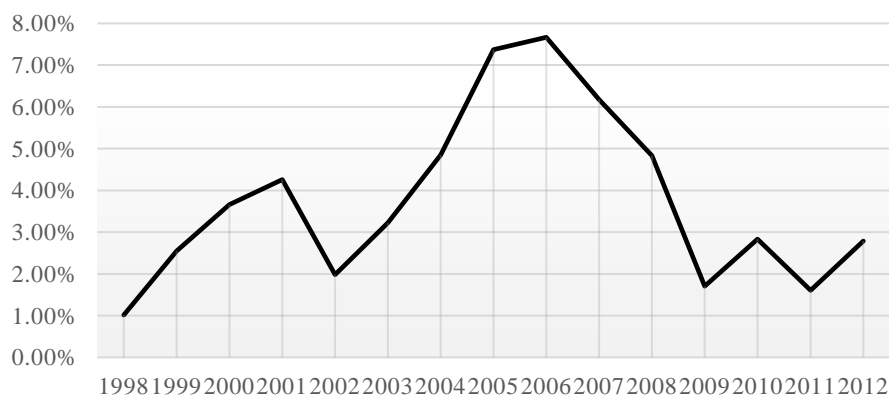
## 6 DISCUSSION

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### 6.1 PAKISTAN

#### 6.1.1 GDP Growth

Figure 7: Pakistan's GDP Growth, annual, 1998 - 2012



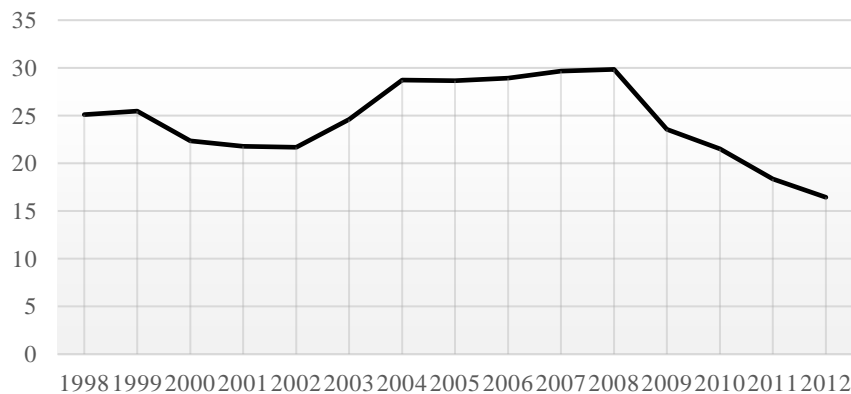
As can be seen in figure above Pakistan's GDP fluctuated immensely from 1% in 1998 raised up to almost 8% in 2006 and has been following mostly a declining trend since then which means the level of FDI had also decreased. This instability can be attributed to inconsistent government policies and poor law and order situation of the country. Moreover manufacturing sector which was the biggest contributor of GDP got affected by energy crisis and industries started moving in other low wage countries i.e. Bangladesh(2013). This is not a positive signal for the investors and hence FDI is most likely to decline. Hence in order to improve GDP and resulting FDI government should focus on consistent polices to attract foreign investors.

Energy sector should be given most importance as a lot of other sectors are dependent on its output. Manufacturers should be assured of energy supply so that economic activity increases. A better GDP growth is also vital to present a better picture to foreign investors.



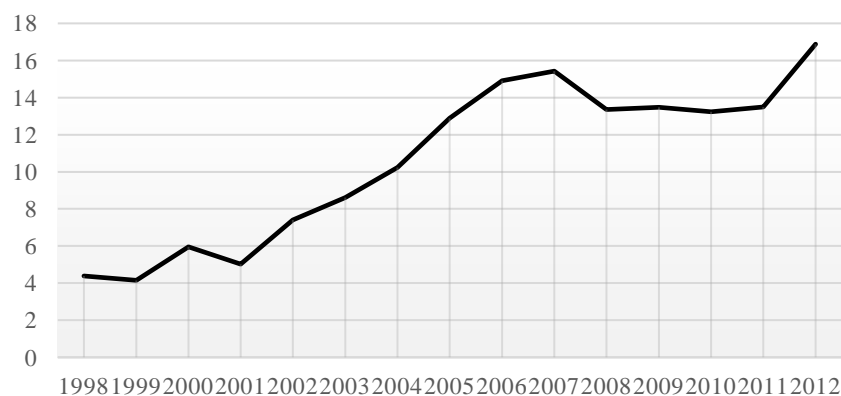
## 6.1.2 Financial Development

Figure 8: Credit to private sector (% of GDP), Pakistan, annual, 1998 - 2012



As the figure above depicts credit provided by banks in Pakistan started to decline after year 2008. The decline can be contributed to the fact that most of the Pakistani banks started to focus more on credit recovery by using Special Asset Management (SAM) programs year 2008 onwards. Also Pakistani banks were facing a liquidity crunch and State Bank of Pakistan had to decrease their reserve requirements to increase banks liquidity.

Figure 9: Pakistan Z-Score, annual, 1998 - 2012



As evident from figure above, Z-Score for Pakistan's banking institutions has increased significantly since 1998. The growth in Z-Score indicates that Pakistan's financial institutions are sound and risk of default is very low. Our results present evidence of correlation of Z-Score with inward FDI.

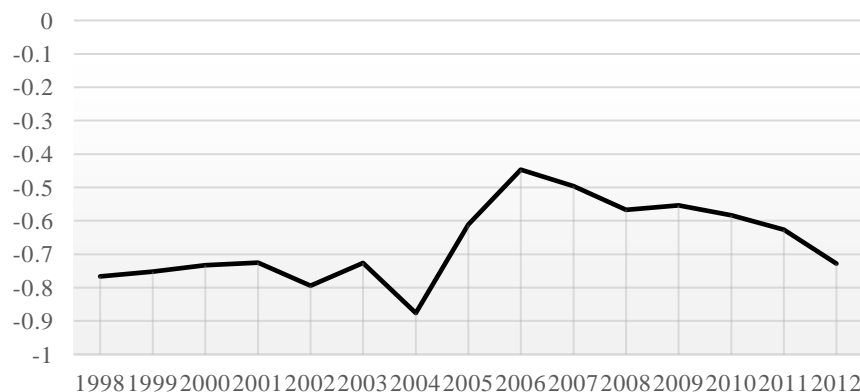
So, as we saw despite being strengthening in terms of riskiness Pakistani banks did not provided as much credit to the private sector as much it should have. A major reason to this is the lack to liquidity. Liquidity of a bank increase the stability measure and reduce

the risks but at the same time it generate more credit to the private sector(Wagner 2007). We recommend that State Bank of Pakistan waits till the next monetary policy and if the credit availability continues to decline they can simply lower the reserve requirement on temporary basis.

### 6.1.3 Institutional Quality

Quality institutions have never been one of the strongest traits of institutions in Pakistan. Pakistan has been laden with corruption, bureaucratic red taping, and weak law enforcement. In addition to these lack of stable policy at government level has always weaken Pakistani institutes (Verkaaik, 2001). A look at the past 15 years of data related to institutional quality we can see that Pakistani institutions began to improve in 2005-06 and then started to decline 2007 onwards.

*Figure 10: Pakistan Institutional Quality, annual, 1998 - 2012*



Considering the importance of quality institutions we recommend Pakistan’s government to develop a long term plan for improving the quality of institutions in Pakistan. Alonso & Garcimartín (2013) has identified derminants that can imporve institutional quality in a country: better education, better tax collection methods, income distribution, transparency and international openness.

We make the following recommendations:

- **Education:** Better education policy improves workforce in the long run and improve workforce quality. This can make quality of institutions better. Increase in budget spent on education and availability of higher quality education to mass public is essential.
- **Tax Collection:** Improved tax collection will mean more resources for the government to invest in development.
- **Transparency:** Increased transparency can address corruption to a certain extent. Making government institutes transparent can gain confidence of international

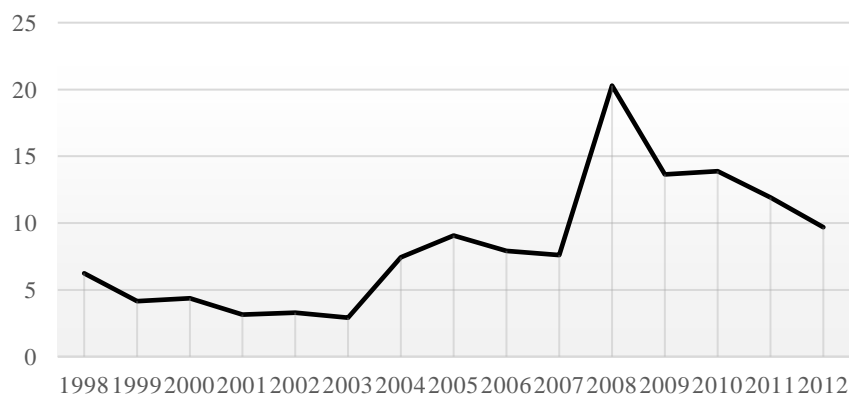
investors as they can now see the internal working and also it will put pressure on the internal bodies as well. A similar kind of initiative has already been taken in KPK

- **International Openness:** Collaboration with international bodies will boost the learning curve for the local institutions. A positive relation with international institutes can also open pathways to further trade and investment opportunities.

#### 6.1.4 Inflation

According to World Bank Statistics inflation rate in Pakistan has increased consistently from 1999 to 2008 whereas the FDI in the particular period has also increased. Also, the exchange rate (LCU per \$) has gone up from 45.04 to 70.40 PKR in 2008. This shows due to high inflation not just the demand of local goods declined but also the falling exchange rate of Rupees signifies the strong demand for foreign goods. Foreign investment increased in the period with a motive of establishing export facilities in the country. In 2007 the total exports increased to 25,470,500,000 from the previous year.

Figure 11: Pakistan Inflation, annual, 1998 - 2012



Anti-inflationary policies such as high interest rates can have demand contractionary effect which may hinder the FDI inflows; but despite the real interest rate was -0.2% in 2008 and the inflation rate was at peak in the history at 20.09%, this could not serve to establish investors trust in the country and FDI started declining after 2008.

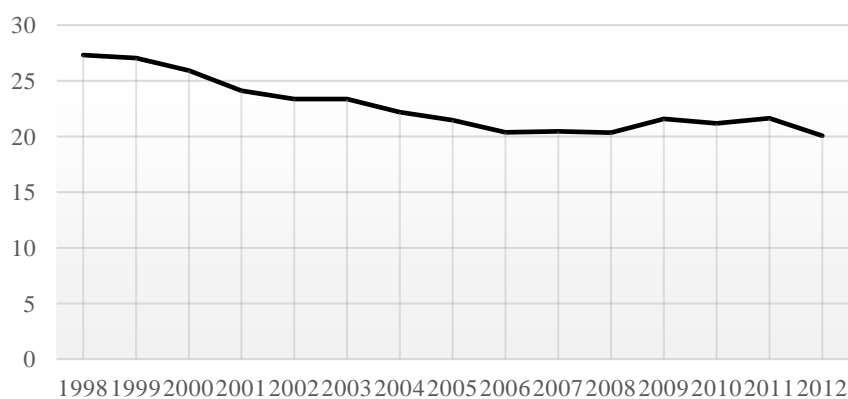
If we compare the economic policies adopted by Pakistan to that of other developing countries of South Asia, we will find why the capital inflows to Pakistan have declined. Moreover, the abrupt changes in the government highlight the need of consistent industrialization and investment policies.

Despite the weak currency Pakistan failed to attract FDI. Other factors such as inadequate infrastructure, high bureaucracy and present situation of law and order elaborates this trend well.

### 6.1.5 Natural Resources

Pakistan has seen a huge decline in the inward FDI over the last five years with its inward FDI falling by \$4.7 billion in 2012. Since natural resources have a positive correlation with FDI, we can analyse the agriculture as a percentage of GDP in Pakistan has been declining over the last fifteen years. According to World Bank's statistics, in period 2012-13, the agriculture sector estimated to have grown at 20.06% of GDP that is 7% less than it was in 1998. According to Federal Bureau of Statistics despite the agriculture sector's critical importance to growth, it has been suffering from decline. Economic Survey (2009-2010) highlights that productivity remains low while yield gaps are rising (State Bank of Pakistan Annual Report, 2009-10).

Figure 12: Pakistan Natural Resources, annual, 1998 - 2012



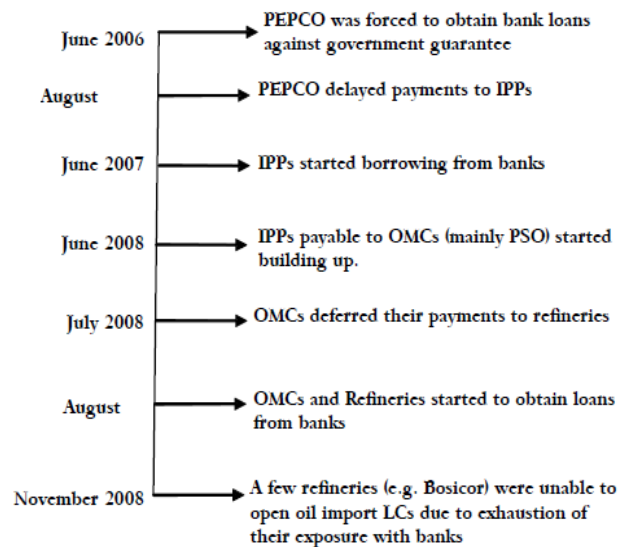
Moreover, the falling investor confidence can be attributed to the finite supply of power and energy supply in the Pakistani economy due to the circular debt issue. As for now, gas Load shedding and supply cuts have been quite common practices that jeopardize the confidence of foreign investors such as Pak Arab Fertilizers has divested from Pakistan.

Effect of Depleting Natural Gas Resources on Fertilizer Sector:

## Circular Debt in Pakistan's Energy Sector

Following has happened in past few years:

Chart 3: How Inter-corporate debt chain developed in the energy sector?

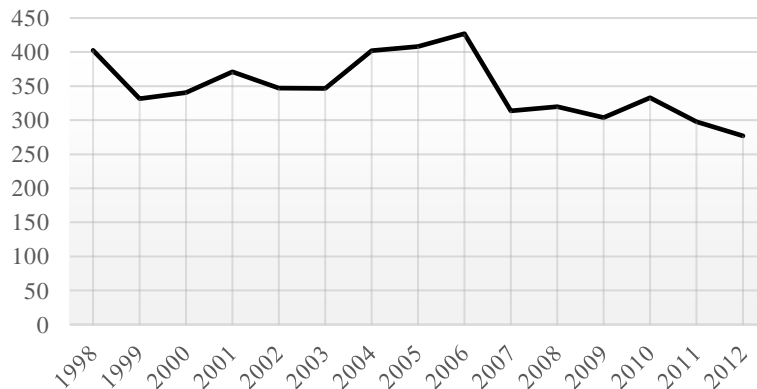


Alternate sources of energy need to be utilized to their maximum potential which includes utilization of vast coal, solar and hydal resources. Thermal power plants using natural gas need to be converted to coal fired power plants which would enhance gas supply to fertilizer industry and domestic consumers. Transmission losses need to be minimized and bill collection system needs to be revamped on priority in order to address this ever growing menace.

### 6.1.6 Infrastructure Quality

Infrastructure present in a country plays a vital role in the economic development, growth, and national prosperity. However, Pakistan's infrastructure has suffered from the neglect of the government. This has led to a decline in the quality of infrastructure over the years, leading to a declined level of FDI inflow. It is safe to assume that many FDI opportunities are lost each year due to the absence of strong infrastructure in the country.

Figure 13: Pakistan Infrastructure Quality, annual, 1998 - 2012



The analysis of the air network of Pakistan reveals that it has strengthened since 1980s. The country has 50 airports where Karachi, Lahore, Peshawar, Quetta, and Rawalpindi deal with cargo flights and both international passenger. The Karachi and Lahore airports have actually been updated and extended by the provincial government in collaboration with the civil aviation authority since 1994. The major international airline of Pakistan is Pakistan International Airlines which is owned by the government, however four other airlines also operate in the region offering both international passenger and cargo services.

Since 1970s air and road networks grew at a faster rate than the railroads. Freight volume and the number of passengers carried by the rail networks experienced only a slight increase as compared to the road and air networks where freight and passengers more than doubled.

Pakistan’s rail network is owned by its government covering 8,775 kilometres and runs at a loss. Since 1998 to 2013 goods transported by the rail networks of Pakistan have decreased from 6187 million ton-km to 1757 million ton-km while, passengers carried also decreased from 24,731 million passenger-km to 20,619 million passenger-km and the rail lines have remained stable at 7,791 route km.

Moreover, motor vehicles, roads and road traffic all have increased considerably since 1990s. The road network increased from 215,055 km to 262,256 km from 1998 to 2012. Although the government of Pakistan proclaimed that they had plans to move traffic load from roads to rail in early 1990s but due to deteriorating quality quantity of rail service private and commercial use of roads increased.

Telecommunication services are also an important part of the infrastructure of any country. Pakistan had approximately 196,096 mobile cellular subscriptions, 2,661,000 telephone lines and 0.043947719 internet users (per 100 people) in 1998 which

increased to 120,151,237 mobile cellular subscriptions, 5,803,320 telephone lines and 9.9637 internet users (per 100 people) in 2012.

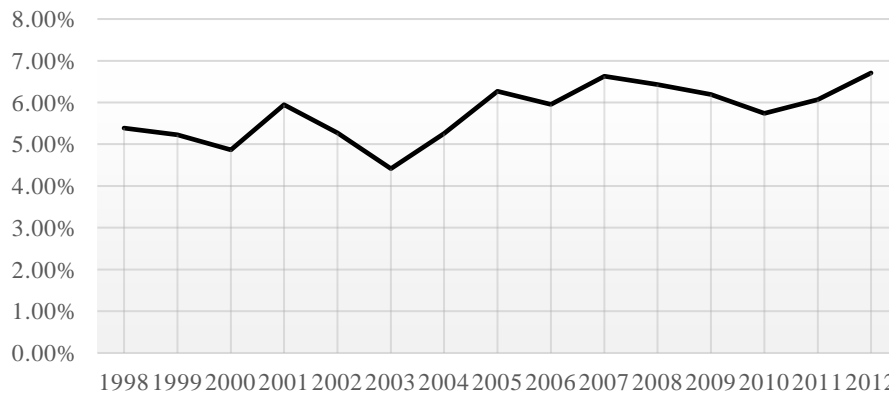
The analysis of Pakistan's infrastructure reveals that the country's infrastructure needs are enormous while its resources are limited. It is required that government partners with foreign investors to improve the current land and air logistics. Development projects will aid the growth of local as well as foreign investment.

The Government of Pakistan should consider projects like China-Pakistan rail link. Also, the primary focus of international donor agencies including IMF, ADB and UNO and Pakistan's friend countries like China should be on infrastructure reconstruction as it will result in both rehabilitation, Pakistan should invest more in the areas of education and physical infrastructure. Private participation should also be encouraged in the region and the government should consider the privatization of railways and Pakistan International Airline as a possible solution to boost infrastructure quality.

## 6.2 BANGLADESH

### 6.2.1 GDP Growth

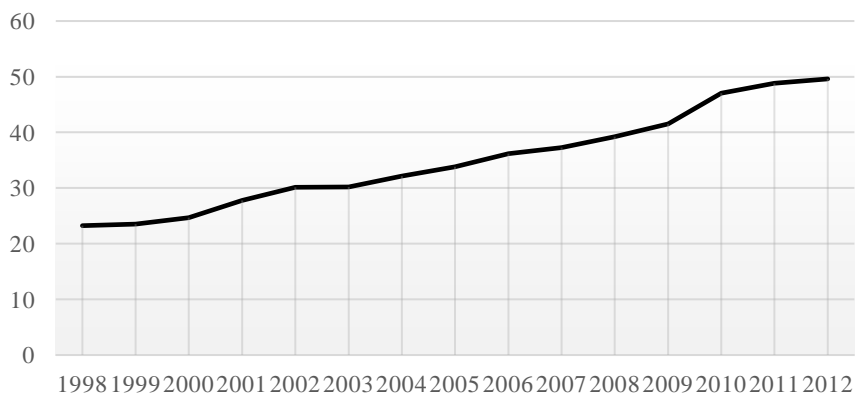
Figure 14: Bangladesh's GDP Growth, annual, 1998 - 2012



Bangladesh GDP shows a relatively stable trend. It suffered a decline in 2003 but has been able to recover and now has reached up to almost 7%. This can be attributed to decent performance of agriculture and manufacturing sector. The advancement of information technology and government's liberal policies also attracted a lot of foreign investment. However to further increase the FDI policymakers should discourage protectionism and search for more international trade. Infrastructure bottlenecks and bureaucratic red tape should also be removed to further enhance economic growth and investors' confidence.

### 6.2.2 Financial Development

Figure 15: Credit to Private Sector, Bangladesh, annual, 1998 - 2012

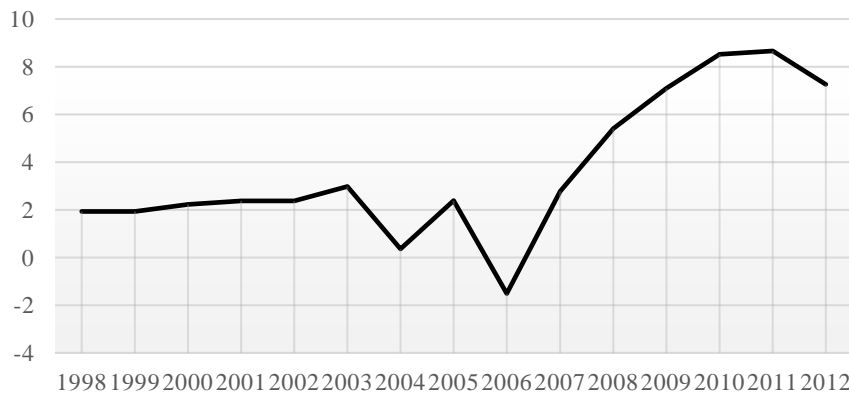


A consistent rise in the credit availability to private sector is a positive indicator for Bangladesh's economy and this rise can be attributed as one of the factors responsible



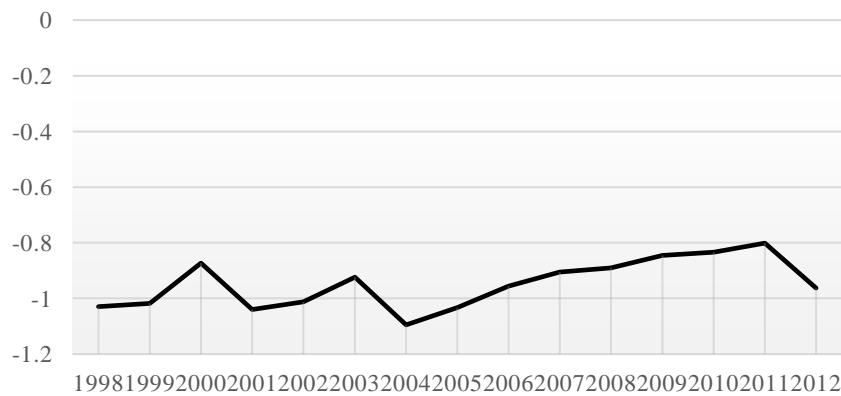
for FDI growth. Recent developments in microfinance as well as in commercial banking sector signals a strengthening financial system in Bangladesh. Unlike Pakistan, Bangladesh's private sector had a lot of credit available to them to take advantage of.

Figure 16: Bangladesh Z-Score, annual, 1998 - 2012



Just as we saw an increasing trend in case of credit availability, the banking sector's stability has also increased over the past six years for Bangladesh. Even though the banking sector is not as stable as Pakistan or Sri Lanka but the growing trend is a positive sign.

### 6.2.3 Institutional Quality

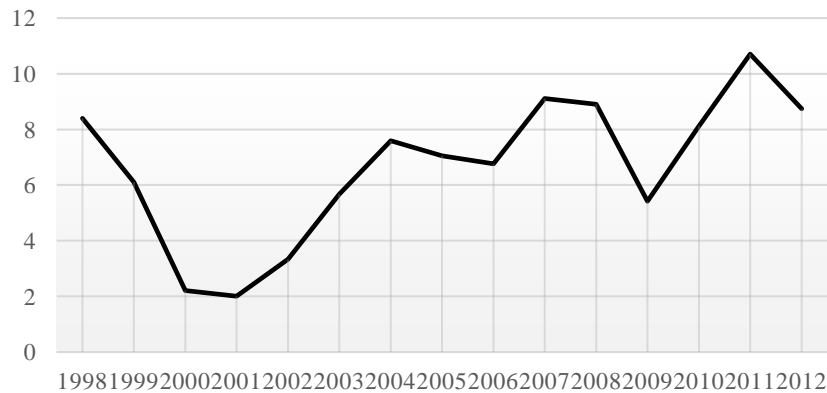


A trend similar to the previous countries studied can be observed in Bangladesh as well. Bangladesh's institutional quality has stayed low over the years. The figure for governance control remained in negative during the last 15 years and only fluctuated a little between -1 and -0.8. We recommend the same policy measures to Bangladesh as we did to Pakistan.

## 6.2.4 Inflation

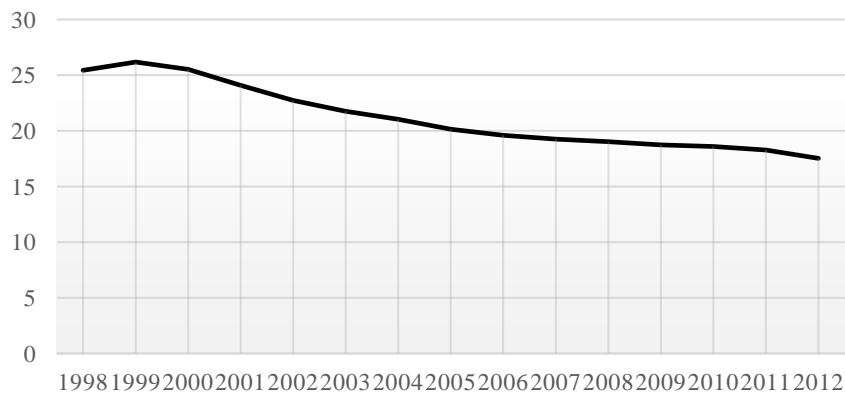
In Bangladesh inflation has decreased from the period 1999 to 2001 but then it started increasing up to period 2008 with a 3% fall in 2009 and 2012. Subsequently, the FDI in period 2007-2008 has shown a steady increase as compare to 2009 and 2012 when it was started to decline. These trends confirm the positive relations between FDI and inflation. In 1999 the exchange rate (LCU per \$) was 49.085 taka to 70 taka in 2007. However, in 2008 it was expected to rise, but it remained at 68.8 taka per USD. These trends further elaborate that high inflation attracted FDI in the country it reduced the value of currency, but increases FDI inflows meant for investors to boost up the local industry such as garment sector (\$271 million), banking sector (\$249.3 million), energy sector (\$238.2 million) and the telecommunication (\$18.09 million) (Roy & Saleh, 2012). The exports increased from \$10,536,724,170 in 2005 to \$27,763,808,329 in 2012.

Figure 17: Bangladesh Inflation, annual, 1998 - 2012



## 6.2.5 Natural Resources

Figure 18: Bangladesh Natural Resources, annual, 1998 - 2012

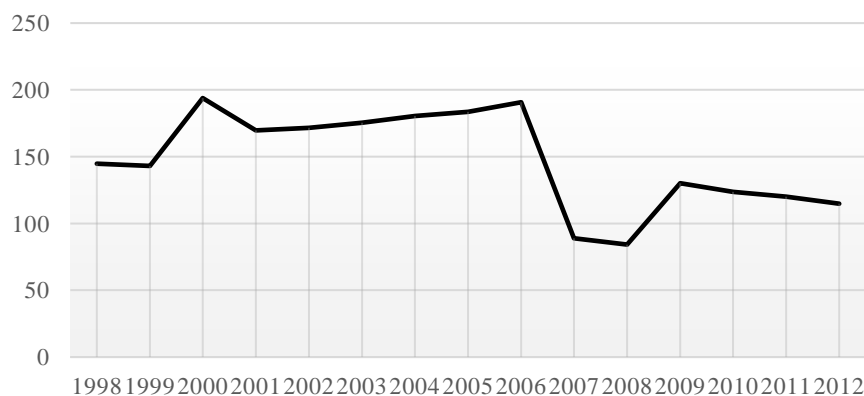


The country is vulnerable to natural disasters due to its geographical and demographic characteristics. Also, there is a poorly integrated input and output market and collusion by the traders pose significant constraints.

### 6.2.6 Infrastructure Quality

The road network significantly decreased from 204,743 km to 21,269 km from 1998 to 2010. Since 1998 to 2011 goods transported by the rail networks of Bangladesh have decreased from 896 million ton-km to 710 million ton-km while, passengers carried also decreased from 3,678 million passenger-km to 7,305 million passenger-km and the rail lines have slightly increased from 2,733.5 to 2,835 route km. Bangladesh had approximately 75,000 mobile cellular subscriptions, 412,607 telephone lines and 0.0037 internet users (per 100 people) in 1998 which increased to 97,180,000 mobile cellular subscriptions, 961,589 telephone lines and 6.3 internet users (per 100 people) in 2012.

Figure 19: Bangladesh Infrastructure Quality, annual, 1998 - 2012

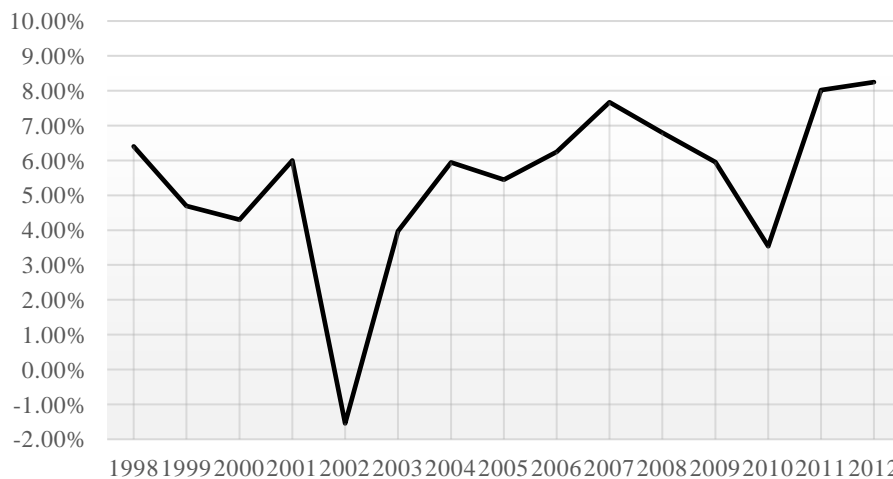


It is evident that the physical infrastructure of Bangladesh is poorly developed and the country should reinforce its infrastructure facilities along with improving the quality of services in order to attract the inflow of FDI within the region. Suitable policies are required such that the private sector can efficiently operate in providing infrastructure services. Government policies should reassure private sector participation in some of the key sectors including transportation and telecommunication. The government of Bangladesh should give special attention and must consider strengthening the road network of the country as it has experienced a significant decline since the period under study.

## 6.3 SRI LANKA

### 6.3.1 GDP Growth

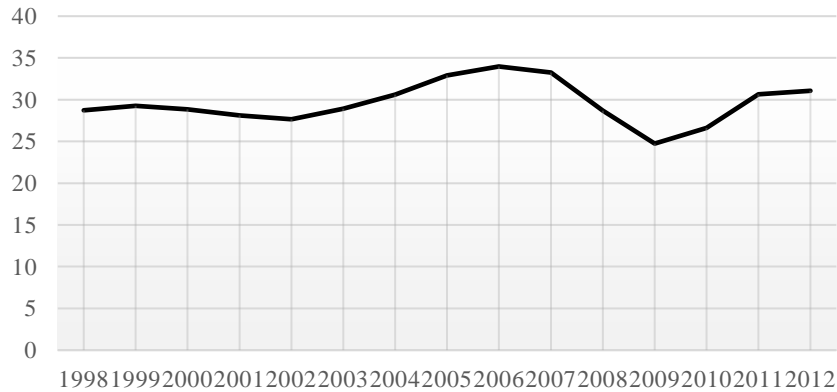
Figure 20: Sri Lanka's GDP Growth, annual, 1998 - 2012



Sri Lanka's GDP has also seen a turmoil in 2002 where its value dropped to -2%, it recovered later but has seen major fluctuations since then. This shows that investors cannot place much confidence in predicting growth of economy which is not a good symbol for FDI. Inconsistency in economic performance can be attributed to the delay of industrialization and civil war which had badly shackled economy. Manufacturing and agricultural played an important role in improving conditions and the economy still depends on garments and textiles industry for creating employment. To further improve growth prospects and attract FDI government should take steps to try to focus on encouraging industrialization by providing easy access to credit and by improving infrastructure. It should also focus on improving human and financial capital to support foreign investors.

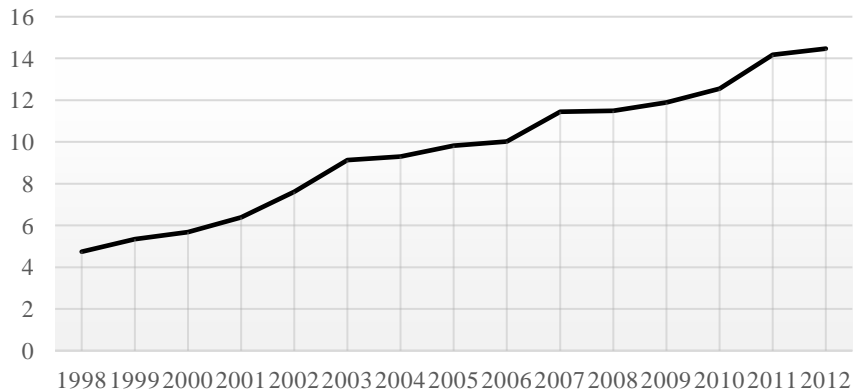
### 6.3.2 Financial Development

Figure 21: Credit to Private Sector, Sri Lanka, annual, 1998 - 2012



Credit availability to private sector remained more or less stable over the last 15 year period. It has seen a significant increase after going down in 2009. Sri Lanka's banking sector looks to be recovering strong and hence provides a good avenue for foreign investment. A look at Z-Scores for Sri Lanka over the last 15 years we see that Sri Lanka's banking industry is constantly becoming stronger and stronger with stability on the up. Hence, over all Sri Lanka's banking sector is as stable as Pakistan but credit to private sector has remained stable over the course of 15 years.

Figure 22: Sri Lanka Z-Score, annual, 1998 - 2012



### 6.3.3 Institutional Quality

Figure 23: Sri Lanka Institutional Quality, annual, 1998 - 2012

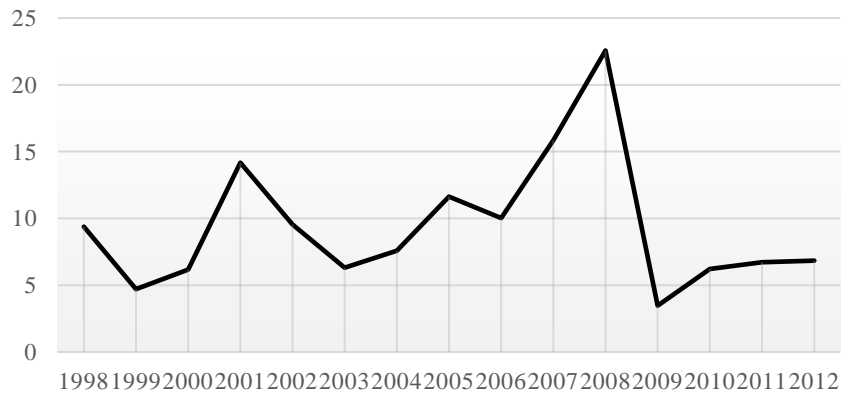


Institutional quality in Sri Lanka declined significantly during 2002 and 2005 period falling to as low as -0.4 and since then has recovered back to -0.1. Much like Pakistan and Bangladesh, case of Sri Lanka is more or less same and same policy recommendations can be given to Sri Lanka as can be given to other developing countries as well.

### 6.3.4 Inflation

Inflation in Sri Lanka has decreased from 2001 to 2003 but increased from the period 2004 to 2008. With a major decline in trend in 2009, the general increase in price level continued to exist. However, the FDI trend in Sri Lanka has been positive from the past fifteen years with a major decline in 2009. These trends can be correlated with increasing inflation trend as when the consumer price index raise, the demand shifts to the foreign manufactured goods. Sri Lanka's inward FDI has increased by 62% since 2006. It emerged as a major ready-made garment exporter. (World Investment Report, 2013). The exports increased from \$75,866,000 in 2005 to \$449,130,000 in 2007. Moreover, since inflation rate has a negative effect on the exchange rate, we have analyzed the Sri Lankan rupee devalued from 70.63 in 1999 to 110.62 LKR in 2007 while attracting FDI inflows. From 2008 to 2009 the exchange rate fell from 108 to 114 LKR. This fall in Sri Lankan currency can be related to high inflation rate of around 23% in 2008 (World Bank) but the FDI declined drastically because armed conflict coupled with ethnic violence. Exports also declined to \$ 121,700,000 in 2009.

Figure 24: Sri Lanka Inflation, annual, 1998 - 2012

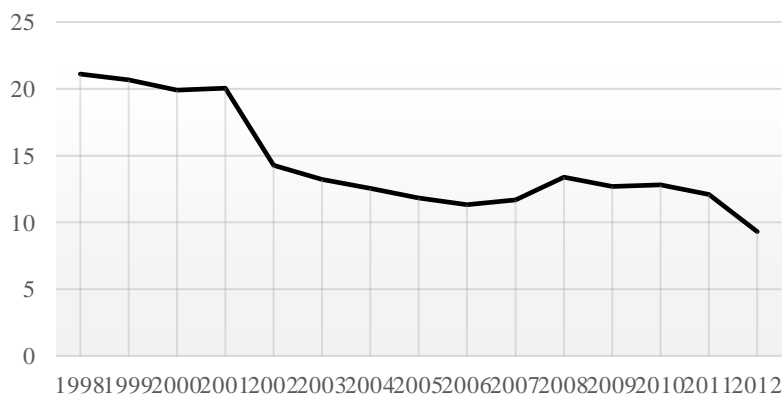


Privatization of state-owned enterprises contributed to attract significant amounts of FDI. Also research establishes a positive relation to be present among a good infrastructure and FDI inflow, more attention should be paid to infrastructure development (Thilakaweera, 2009)

### 6.3.5 Natural Resources

Sri Lanka has seen a significant increase in FDI volume in absolute term over the past 15 years. The country has been an attractive location for many FDIs since its independence. A number of firms in England have export tea, rubber and coconut (Bruton et. al., 1992).

Figure 25: Sri Lanka Natural Resources, annual, 1998 - 2012

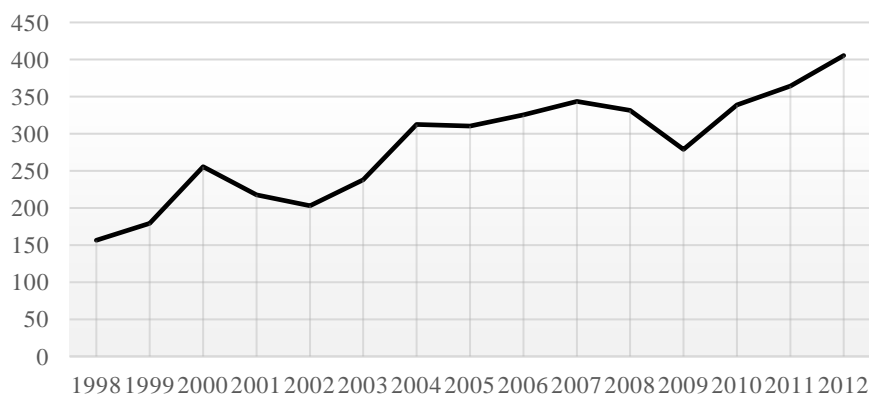


However, there are still considerable challenges to promote stable long-term economic development. (Index of Economic Freedom, 2013)

### 6.3.6 Infrastructure Quality

Air transport, passengers carried were 9300, 156.5 and 1,212,500 in 1998 while the number shifted to 35,940, 405 and 4,616,075 in 2012 respectively. The road network increased from 99,200 km to 1,144,093 km from 1996 to 2010. Since 1998 to 2008 goods transported by the rail networks of Sri Lanka have increased from 106 million ton-km to 135 million ton while, passengers carried also increased from 3147 million passenger-km to 4767 million passenger-km and the rail lines have slightly decreased from 1491 to 1463 route km. Sri Lanka had approximately 1742,02 mobile cellular subscriptions, 523,529 telephone lines and 0.30 internet users (per 100 people) in 1998 which increased to 20,324,070 mobile cellular subscriptions, 3,449,391 telephone lines and 18.2854 internet users (per 100 people) in 2012.

Figure 26: Sri Lanka Infrastructure Quality, annual, 1998 - 2012



Although air transport, road and telecommunication infrastructure have increased over the years for Sri Lanka but in order to compete in the international market major infrastructure development is required as the country's infrastructure is still underdeveloped when compared to the rest of the world (World Economic Forum, 2012). Thus, the government of Sri Lanka should consider investing more in its infrastructure both in physical transport and telecommunication. Since the rail network of the country have deteriorated since 1998, thus it should be given particular focus and distinct projects should be undertaken in order to expand the rail network of the country.



## 7 CONCLUSIONS

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Policy makers cannot rely on previous studies to make policy to sustain or increase the level of FDI in their regions. The inward FDI to South Asia has performed below its potential in the previous years. It is important for the policy makers in the region to revisit their policies in order to improve these figures.

The Z- Score of the countries under study reveals that the financial sector stability is high in the region but still the countries have attracted very little inward FDI. The analysis of the report highlights that this declining trend can be attributed to low level of institutional quality, under developed infrastructure and finite supply of natural resources. However, with suitable policies in place these countries have the potential to attract more inward FDI which can stimulate the process of consistent economic growth.

The key policy implications hence include developing a long term plan for improving the quality of institutions which can be achieved through a transparent regulatory framework. These countries must also pay attention to improve the quality of their infrastructure and the government policies must also ensure to control the level of inflation in these countries. Not only the policies to attract FDI should be focused upon but also the policies that are essential for FDI to produce a positive development impact in the recipient country.

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