The Impact of Political Risk and Macro Economic Policy Uncertainty on Foreign Direct Investment:

The Case of Selected South Asian Countries

By

Muhammad Azam

A dissertation submitted in partial fulfillment for the degree of the

Requirements for the degree of

Master of Philosophy in Economics

Department of Economics Pakistan Institute of Development Economics Islamabad

2010

DECLARATION

I hereby declare that this thesis is the result of my individual research and that it has not been submitted concurrently to any other university for any other degree.

Muhammad Azam

Dedicated to my loving Parents

Acknowledgements

All praise is to Almighty Allah Who showered His countless blessing upon us and opened new horizons of knowledge for mankind. All respect goes to the Holy Prophet (PBUH), who enlightened our conscience with the essence of faith in Allah

I would like to take this opportunity to express my deepest and most sincere gratitude to Dr. Muhammad Arshad Khan for his invaluable guidance, encouragement and supervision throughout this study. I also wish to thank Dr Musleh-ud Din for his encouragement during my study at Pakistan Institute of Development Economics. Special thanks to Dr Ejaz Ghani and Dr Idrees Khawaja for their valuable suggestions. My special thanks to my parents, teachers and friends for providing me the means to learn and understand. My sincere thanks to Nasir Iqbal , and Muhammad Irfan Channi who were always there to help me whenever I needed.

Muhammad Azam

TABLE OF CONTENTS

List of Tables

List of Figures

Abstract

This study examines the potential effect of political risk and macro economic policy uncertainty for selected South Asia countries. The attractiveness of FDI inflows in developing countries requires how the political factors and macro-economic policy uncertainty factors affect Foreign Direct Investment (FDI) and how large these factors affect. It is important to measure the impact of macroeconomic policy uncertainty and political risk on FDI for empirical study. In this study, first we extend the theoretical model developed by Del Bo (2009) to highlight the affect of political risk and macro policy uncertainty on FDI inflows in host country. Then, we construct macroeconomic policy uncertainty index as well as political risk index for evaluating the impact on FDI inflows. We use autoregressive distributed lags (ARDL) to examine the long run and short run impact of political risk and macro economic policy uncertainty index on FDI inflows. The long run results show negative affect of political risk and macroeconomic policy uncertainty indices on FDI inflows in selected south Asian countries. The trade openness may effect negatively to FDI inflows in long run that maybe due to lack of creditability regarding consistent trade liberalization policy and high trade cost. Trade openness shows positive effect on FDI inflows only in short run. Furthermore, the market size elasticity coefficient is more responsive as compared to other determinants in long run and short run. It maybe considered that FDI inflows in selected south Asian countries are market seeking type.

Chapter 1

Overview of the Study

1.1 Introduction and Background

In the era of globalization, countries are expanding their links in capital markets networks worldwide. The developing countries can make economic progress by capital accumulation through profitable investment projects by giving equal opportunities to local and foreign investors. The process of globalization enhances the importance of the FDI for developing countries. The FDI is considered as an engine for economic development, employment and productivity improvements through technological and managerial spillover in developing countries (Lipsey, 2002).

The objectives of economic development can be realized in developing countries without opening the door for foreign investors. Therefore, the attraction of foreign capital is main priority for policy makers. However, the developing countries compete transitional countries for could not attract FDI inflows at the level achieved by transitional countries. The literature highlighted various economic and noneconomic factors that determine the inflows of FDI. Market size, population, capital formation, infrastructure facilities and productivity of factor of production and trade openness etc are the main economic factors that influence the behavior of investors, hence determine the amount of FDI inflows.

Recent literature emphasis the importance of political uncertainty factors in attracting FDI. Political uncertainty or political risk is generated by number of factors like institutional quality, internal and external conflict, military and religion involvements in national politics, socioeconomic and investment conditions of host country in determining the inflows of FDI. Political risk can be accessed by considering all these factors in host country environment

(Jun and Singh, 1996). Busse and Hefeker (2005) have identified the importance of political risk as precondition for FDI inflows in host country by analyzing data on 83 developing countries. They argued that burocratic institutions and government stability can play an important role for FDI inflows. A lower burocratic institutional quality may become major cause for contract enforcement and procedural delays that effect negatively to FDI inflows. Thomas and Worrall (1994) have pointed that institutional risk can become a serious threat for investment contract enforcement signed between multinational corporations (MNCs) and host country government. In this way, the return on capital can be deteriorated in those countries having more chances of political risk. Thus; instead of focusing on traditional economic determinants we maybe consider the political factors for FDI inflows.

Another strand of literature focuses on macroeconomic policy uncertainty in developing countries that may limit FDI inflows from developed countries. The macroeconomic policy uncertainty may include the uncertainty regarding monetary policy, fiscal policy and exchange rate policy. The literature highlights various channels through which macroeconomic policy uncertainty may affect FDI inflows and inflation might be considered as an important channel. It is generally argued that higher inflation will increase uncertainty about prices of inputs that make it difficult for MNCs to predict prices in host country (Fisher, 1993). A persistent increase in fiscal deficit in host country is another important channel that may increase uncertainty about fiscal policy and results inform of high taxation rates. A high taxation rates results in high input cost of capital and thus reduce the profit margin for MNCs and finally this reduction adversely impact FDI inflows in host countries.

In developing countries, FDI flows have raised in subsequent periods of 80`s. FDI flows have increased from $10100 millions in 1986 to $87124 millions in 1994. In 2007, FDI flows in

developing countries were around $500 billion. FDI flows have also improved in South Asia on the average $968.27 millions in 1989-1994 to $49176.6 millions in 2008 (UNCTAD, 201O). FDI have been considered as an important source for economic development and technological spillover in South Asian countries. South Asian countries like Bangladesh, India, Pakistan and Sri Lanka have introduced a wide range of incentives for local and foreign investors. These countries provide facility to foreign investors in avoidance of double taxation, foreign investment protection under the rule and regulation and removing restrictions for foreign investment in different sectors of economy.

Table 1.1: FDI Inflows Shares of South Asia (1999-2009)

Country Name	1990-2000	2004	2005	2006	2007	2008	2009
Share of South Asia (in percentage)							
World	0.51	1.06	1.14	1.79	1.53	2.71	3.45
Asia	3.3	4.2	5.03	8.95	8.75	11.7	12.1
Developing Countries	1.89	2.67	3.4	6.01	5.7	7.62	8.03
Share in South Asia (in percentage)							
Bangladesh	7.48	5.9	7.52	3.04	2.07	2.26	1.87
India	67.15	74.14	67.86	77.81	77.65	84.14	90.16
Pakistan	18.24	14.34	19.6	16.36	17.36	11.32	6.22
Sri Lanka	6.26	2.99	2.42	1.84	1.87	1.57	1.05

Source: UNCTAD (2010).

South Asian countries have adopted business friendly polices to attract FDI. Before 1990s. South Asian's countries adopted restriction policy for foreign investors that international investors were not ready to invest in South Asia. In early period of 1990s, South Asian countries

started to remove restrictions on foreign investors. After this, FDI inflows in South Asian countries started to rise in past few years. The percentage share of FDI inflows in South Asia comparative to Asia followed uneven path. The individual countries share in FDI inflows in South Asia started to decrease after 2006. However FDI inflows in South Asia are very low. It may raise question that FDI inflows in South Asia may face some challenging problems. It is not surprising that FDI inflows in South Asia are far below than the potential level.

The major bottlenecks faced by South Asia economies are low institutional quality, bad infrastructure and high cost of doing business etc. Table 2 represents that rule of law situation is not favorable in each individual countries of South Asia. Law and order situation has generally deteriorated in recent years that ultimately increase the transaction cost for business. Similarly, regulatory quality is very poor that is challenging issues in South Asia. The poor regulatory quality also increases the transparency problems and processing problem sin business operation. In addition to, macroeconomic policy uncertainty including increase in the inflation rate, persistent budget deficit and exchange rate fluctuations increase the cost of doing business that counter the gains from FDI in terms of volume in South Asia. Theses considerations raise the questions to analyze the role of political and macroeconomic policy determinants for FDI inflows in South Asia.

Table 1.2: Average Ranking and Scores of South Asian Countries (1995-2009)

Country Name	Rule of Law	Regulatory Quality	Cost of Doing Business
Average Ranking Of different regions			
World	102	101	91
EU25	32	25	37
ASEAN	117	103	88
South Asia	122	130	114
Average Scores of South Asian Countries			
Bangladesh	-0.8	-0.79	113
India	0.16	-0.24	128
Pakistan	-0.82	-0.6	81
Sri Lanka	0	0.07	102

Source: Ghani et.al. (2010).

Based on this background, it becomes compulsory to examine the impact of these political and macroeconomic factors in determining the flow of FDI in South Asian Economies. This thesis analyzes the significance of political risk as well as macroeconomic policy uncertainty factors for FDI in South Asia. To achieve this objective, we have extended theoretical model developed by Del Bo, (2009) who assumed oligopolistic and imperfect competition environment in host country. A macroeconomic policy uncertainty index has been developed for south Asia. The motivation of this thesis is the lack of empirical work on political risk and macroeconomic policy uncertainty in south Asia.

1.2 Objectives of study

The main objective of study is to examine the significance of political risk and macro economic policy in attracting FDI. The specific objectives are:

- Analyzing the FDI flows trends and policies in south Asia.
- Identify Theoretical links among political Risk, Macroeconomic Policy uncertainty and FDI inflows.
- Analyzing the effect of political risk and macro economic policy uncertainty on FDI inflows.

1.3 Organization

The study is organized as: Chapter 2 provides a brief literature Review and Chapter 3 discusses trends and patterns of FDI Inflows policies in South Asia. The Model, methodology and data issues are discussed in Chapter 4. Conclusion and Policy Recommendation are given in final chapter.

Chapter 2

Theories and Empirical Evidence of the Impact of Political Risk and Macroeconomic Policy Uncertainty on FDI

2.1 Introduction

The aim of this chapter is to provide literature reviews on FDI both theoretically and empirically. The literature has identified theoretical channels through which political factors and macroeconomic policy effects FDI in host country. Besides political and macroeconomic policy related factors location specific factors are also crucial for FDI attractiveness. The link between FDI, macroeconomic factors and political factors can be discussed under the followings theoretical approaches:

- Classical and Neoclassical approaches
- Eclectic or OLI paradigm Approach
- Institutional Approach
- Macroeconomic Policies Approach

2.2 FDI and Its Determinants: Theoretical Literature Review

2.2.1 Classical and Neoclassical Approaches

Classical approach to FDI can be traced back Adam Smith (1776) and David Ricardo (1817). These authors supported the idea that FDI can increase with motives of economies of scale in production. According to absolute advantage theory by Smith (1776), international trade benefits trading nations through the increase production and consumption. According to comparative advantage theory due to Ricardo (1817), a country should focus on the production of that commodity which it can produce at lower cost.

Similarly, neoclassical economic theory propounds the determinants of FDI by arguing that MNCs expand their operational activity at international level because of interest rate differential. In this ideological framework, capital movements take place from low return on economies to high return economies. Harrison (2000) identified that free risk and perfect market competition are the main assumptions of neoclassical theory. The neoclassical theory further reveals that foreign investment contribute positively to economic development of host country by replacing inferior technological, generate competition and productivity improvements, increasing foreign exchange and improvements in infrastructure of host country (Harrold and Rajiv, 1993). Graham (1995) objected that comparative advantage theory was not reliable empirically because the massive capital flows in terms of factors movements to occupied colonies after world war second. Therefore, a more comprehensive approach was required to identify factors important for capital flows to developing countries.

2.2.2. The Product Life Cycle Approach

The product life cycle theory explained that FDI flows process regarding products from home country to host country. Vernon (1966) argued that production process and sale of new products should be started in home country. The reason behind this argument is that product is not standardized, thereby per unit input requirement and cost is not uniform. The product will be standardized due to increase the local demand of product and generate demand of high income and labor saving product outside the home country. FDI takes place where cost of production is low and firm face competition towards maturing the products. when product reaches at maturity stage the skilled labor contribute in production, a high income and labor saving product will be produced and host country become attractive place.

Hymer (1976) argued that is based on owner ship advantage, new technology and market forces based which are helpful in maturing product. The opponents of the product life cycle theory argued that this theory is empirically not valid because most of firms start their operations locally and abroad simultaneously (Chen, 1983). In theoretical perspective the product life cycle theory cannot explain and predict process of many innovative products and product diffusion strategies. This theory explained FDI decision as a defensive strategy avoiding transportation cost and tariff without considering location factors of host country.

2.2.3 An Eclectic or OLI Paradigm Approach

The FDI decision of MNCs can be traced in writing of the “Eclectic or OLI paradigm” Theory. Dunning (1988) developed “Eclectic or OLI paradigm theory” that FDI decision abroad depends upon following factors. Firstly, the term (O) implies the ownership factors that matters for MNCs to take FDI decisions abroad. The Ownership factors include protection of property

rights, enjoying monopoly power and controlling the supplies of outputs in that country. Secondly, another term (L) that belongs to Location factors that determine MNCs decision for FDI in developing countries. The location factors can be categorized on the basis of market seeking factors, efficiency seeking factors for MNCs. The market seeking factor includes large market size. Large market size normally increases the productivity potential of MNCS by achieving of economies of scale in host country. Similarly, market openness increases the competitive and sustainable environment of host country that also creates attraction for FDI.

The efficiency seeking factor that matter for FDI includes cheap and skilled labor force in host country. The infrastructure factors have also got an important regarding location factors. The infrastructure factors that matters are railway, road networks and communication system as well as the electric consumption capacity in host country are majors' determinants for FDI. Thirdly, the internationalization factors include institutions and political factors as well.A more detail of this internationalization factors have been given below in political institutions approach point of views. The OLI theory has identified an overall factors that matters for FDI.

2.2.4 Political institutions Approach

According to North (1990), an institutional environment of host country includes rule and regulation, norms and customs, process and procedure that matters for FDI inflows. An Institutional framework should categorize into three forms (1) a country level institutional forces (2) an interactive institutional forces among firms, (3) a social or interactive relationship among MNCs subsidiaries. These three levels of institutional forces are important for MNCs to take investment abroad. Country level institutional forces can be conceptualized by political influences and legitimacy problems which can be categories; formal rules, taxation rates, informal pressure groups, operating constraints and regulations (Huang and Sternquist, 2007). It

is argued that government plays an important role for MNCs by providing stable political and economic environments, contract enforcement, skilled workforce and sound infrastructure both at macro level and micro level (UNCTAD, 1997). Government also effect on FDI inflows through tax breaks, investment restrictions and controls (Williamson, et al. 1998). It can be concluded that bad governance or political risk results in less attractive environments for MNCs (Mauro, 1998).

The concept of political risk factor may includes the government instability factors as well as societal instability factors that ultimately become a major cause of nonfinancial risk for MNCs in host country. Jakobsen (2010) argued that political risk is an important challenge for MNCs in current period. He developed a theoretical model to analyze the effect of political risk in aluminum industry. A political risk can affect MNCS through government bargaining power attitude. A political risk factor can be increased by how much host government wants to intervene in MNCs that is an important characteristic of host government. He further argues that sociopolitical instability and intervention of non state actors in MNCs business activity discourage FDI in host country. Krueger (1974) evaluated that any profitable economic activity mismanaged by the government will results in high payoff or economic rent from civil society. He further argued that bad governance generates rent seeking behavior which is main reason of political unrest in host country in MNCs perspective. Political risk factors normally affect MNCs profitability through fund remittances control, government expropriation risk and cultural risk in host country environment. All theses factors not only bring uncertainty but deteriorate the expected profitability for MNCs that ultimately restrict FDI inflows. Political risk in host country sometimes deteriorates investment friendly strategy in host country. A counter argument has been developed by Lui (1985) who argued that bad governance system and corrupt government

is beneficial for FDI inflows. Corrupt government speed up procedural requirements regarding MNC`s in host country. Due to bribes, the burocratic work quality is improved in host country and creates a favorable environment for FDI inflows.

2.2.5 Macroeconomic Policy Approach

A very strong consensus among the economists has been developed that MNCs will attract to a country having sound economic conditions. The recent literature has given tremendous importance to macroeconomic policy of host country in attracting FDI. The importance of macroeconomic policy can be understood by exploring theoretical relationship with FDI inflows. To understand the effect of macroeconomic policy on FDI, it is important to examine the impact of monetary policy, fiscal policy and exchange rate policy effect on FDI.

2.2.5.1 Monetary Policy and FDI

One of the most important challenges facing to policy makers is how to make monetary policy more effective for macro economic stability. The economic literature regarding channels and effect of monetary policy on FDI has been discussed theoretically. There are different channels that transfer the effect of monetary policy to economic activity and investment environment in a host country. Monetary policy affects firm`s through bonds, real estates and prices of other assets. Inflation targeting is one of the important objectives to bring price stability (Mishkin and Savastano, 2000). Burdekin (1995) argued that higher inflation may increase uncertainty about prices of inputs and make it more difficult for MNCs to predict accurately. The higher rate of inflation is resulted inform a negative real interest rate .A continuous rise in inflation rate results in overvaluation of domestic currency which lead to high trade deficit .A

high trade deficit ultimately leads to falling reserves in terms of capital flight and discourage FDI flows in host country.

Hallsten (1998) explained the crucial importance of credit market in context of conventional monetary policy. Cost of credit directly restricts banks borrowing capacity to firms (Lown and Morgan, 2006).These financial constraints restrict not only local firm's investment decision but also foreign firm's investment decision (Kaplan and Zingales, 1997). It is argued that tight monetary policy by increasing interest rate restricts credit constraints ability and in this way foreign capital inflows (Meltzer, 2003). The counter argument persists in economic literature that financial constraints are irrelevant for firm's investment decision in the context of perfect capital market approach (Modigliani and Miller, 1958).

2.2.5.2 Fiscal Policy and FDI

FDI attractiveness is the main priority of every government. Fiscal policy adopted by host country has got tremendous attention for MNCs concerning FDI decision. Fiscal deficit results in terms of high taxes that effect MNCs decision (Oman, 2000) .The increase in budget deficit in developing countries reinforce the governments to impose high taxes on local and foreign firms .MNCs investment decision is badly effected by the imposition of taxes to finance budget deficit. A competitive tax rate environment in a country also support FDI by providing economies of scale in production and access to foreign markets. Tax rate effect is transferred through cost of capital channel to foreign investment decision. The labor supply side channel also creates an important relationship between fiscal policy and investment decision. A tax rate imposed on labor market will results in terms of higher wages that automatically discourage

investment by increasing cost of production which ultimately reduce the profits of MNCs (Chirinko et.al., 1999).

2.2.5.3. Exchange Rate Policy and FDI

An exchange rate policy has given significant importance theoretically and empirically for FDI in host country (Kogut and Chang, 1996). Ambiguous arguments have been reported in the context of exchange rate and FDI. There are different arguments regarding the channels by which effect of exchange rate policy effect is transmitted to FDI and different perceptions about relationship between exchange rate and FDI. There are different theoretical channels which transfer the effect of real exchange rate depreciation or appreciation to FDI (Blonigen, 1997). It is argued that exchange rate policy reveals the currency devaluation which is an important source for attracting FDI from source country to host country (Xing, 2006).An exchange rate effect FDI not only through production and wealth channels but also effect distribution of FDI from MNCs. Foreign investors normally take decision of investment location on the basis of labor skills, market size, political and economic environment and exchange rate uncertainty has tremendous effect on FDI (Cushman, 1985). The option theory predicts that uncertainty in exchange rate gives a waiting option to MNCs before investment abroad and ultimately decrease FDI in host country (Tomlin, 2000). A counter argument has been developed which has focused that uncertainty of exchange rate in host country is an important source to increase in FDI (Broll and Zilcha, 1992).

It is further argued if export demand has relationship with exchange rate uncertainty then risk averse investors bring more investment in host country (Goldberg and Kolstad, 1995). It can be explained that currency devaluation becomes major source for lowering cost of production in

host country as compared to home country of MNC`s. Thus return on capital will increase in host country having lower cost of production. In this way, a more FDI inflows are attracted to countries having more devalued currency.

Exchange rate raises competition between foreign countries regarding decision about specific location selection. Therefore, a country having more comparative advantage in attracting FDI having more currency devaluation strategy (Zhao and Xing, 2006). In this line of arguments, real exchange rate depreciation may affect FDI through imperfect capital market channel which means that internal cost of capital is lower as compare to foreign borrowing. This channel predicts currency depreciation in host country which will increase wealth of foreign investors comparatively to local investors if foreign investors adopt merger and acquisition strategy in host country (Froot and Stein, 1991). In contrast to exchange rate depreciation, the theoretical and empirical literature has also supported that exchange rate appreciation positive effect on FDI. This argument supports that exchange rate appreciation may increase imports in host country. A rise in imports becomes a positive sign for host country demand for products. In this scanioro, host country governments adopt trade barriers strategy to home country industry. The trade barriers and host country product demand are major signs to earn profit in host country. So, MNCs predict currency appreciation in host country and bring FDI. Thus currency appreciations have positive impact on FDI inflows in host country.

2.3 FDI and Its Determinants: Review of empirical literature

Empirical studies can be categorized into **(1)** Studies related to eclectic paradigm or ownership, location and internationalization (OLI) Determinants. **(2)** Empirical studies related to Political Risk **(3)** Studies related to Macroeconomic Policies Uncertainties.

2.3.1 Empirical Studies related to eclectic or OLI determinants

Mottaleb (2007) examined the influential factors that matters for FDI inflows towards developing countries over the period 2003-2005 for 60 developing countries .These countries for the analysis have been selected from Asia, Latin America and Africa. The results showed that FDI inflows towards developing countries depend upon host country GDP growth rate .Large size of GDP that also determined the host country market size. This factor had positive sign for better infrastructure and business friendly environment. The study further explored that corruption deteriorated FDI inflows toward developing Countries.

Sahoo (2006) analyzed the data for five south Asian countries and highlighted the importance of economic factors for FDI flows. He used panel cointegration technique to examine long run relationship between economic variables and FDI inflows. The results of the study identified that market size; trade openness, infrastructure index and labor force growth rate as major determinants. Hailu (2010) identified the demand side factors importance for FDI inflows to African countries over the period of 1980 to 2007 for 45 countries. This study utilized fixed effect least square dummy variable (LSDV) model for estimation. The results of this study revealed that trade openness, Market size and infrastructure in host country exerted positive effect on FDI inflows. Furthermore, the finding of this study also highlighted the significant of

political factors and natural resources for FDI. The results suggested that a sustainable political condition in host country facilitate foreign investors regarding business expansion, property right protection that played crucial role for FDI attractiveness to African Countries.

2.3.2 Studies related to Political Risk

Busse and Hefeker (2005) investigated the effect of political risk and institutions on FDI for developing countries. They focused on panel data of 83 developing countries for the period of 1984 to 2003. They accounted all twelve political risk factors calculated by political risk service group from 1984 that not only cover political risk factor but also institutional factors. They analyzed the dynamic panel data by using fixed effect model and the problem of autocorrelation have also been addressed by GMM estimators. The results revealed that political risk factors included government stability, internal and external conflict, ethnic tensions, law and order situations and democratic rights played a very significant role in FDI inflows for developing countries. They also checked the robustness of estimates but the significance of above mention variables remain the same.

Morales et al. (2009) assessed political risk is an important determinant for FDI. They developed theoretical link between good governance indicator and political risk. In this study good governance score was used as a proxy to estimate the political instability. Furthermore, the political instability among countries could be differentiated on the basis of more prominent factors including rule of law, control of corruption among all other factors. They found that political instability and voice and accountability effect significantly on FDI. Rajan and Hattari (2009) explored the main determinants of FDI inflows to Asian countries .Concentrating on panel data over the period of 1990-2005 for 12 Asian emerging countries. They used gravity

model approach to access the effect of political, location and other economic determinants of FDI. The data on political risk was taken form International Country Risk Guide (ICRG) source. They found that intra Asian trade, transportation cost and information asymmetries matters for Intra Asian FDI flows but more FDI outflows emerged from Asian countries to outside the world. The political risk, corporate taxes in Asian countries revealed as an important determinant for attraction FDI inflows in Asian countries.

Chan and Gemayel (2004) provided analytical analysis of various components of political risk for Middle East and North African (MENA) countries. This paper analyzed the relationship of political risk and FDI inflows over the period of 1991-1999. A fixed effect and random effect specification was used .The investment risks as well as political risk was found as an important determinant for FDI. The government should adopt preemptive measures that bring long term policy stability which ultimately reduce political risk and investment risk in MENA countries.

Kim (2006) investigated the relationship between FDI and political risk in Asian countries for the period of 1984-2002. A fixed effect model and random effect model was estimated to examine the important determinants for FDI. The study explored that bilateral investment treaties (BITs) is one of the important way to attract FDI in Asian countries but the expropriation of political risk counter balance the benefits of(BITs) for Asian countries. So, the political risk factors could not be ignored for FDI attractiveness

2.3.3 Studies related to Macroeconomic Policy Uncertainty

Del Bo (2009) investigated the relationship between exchange rate risk, political instability and FDI outflows from United States to 53 countries for the period of 1982-2005. An interactive term between political risk and exchange rate was found important significant factors

for FDI. Hermes and Lensink (2001) evaluated the effect of policy uncertainty in context of FDI outflows. The time span used for this study 1971-1991 for LDC countries. The result showed that policy volatility had significant effect on capital outflows. The result of this study suggested that policy uncertainty decreases the expected wealth that ultimately becomes a major cause of capital flight from local country. A government could play an important role for policy consistency that ultimately encouraged FDI from outside the world.

Barrell et.al. (2003) investigated the relationship between FDI and exchange rate risk by applying GARCH model methodology. This technique captured the multivariate context and conditional mean and variance of exchange rate .This study investigated that exchange rate volatility is linked with market concentration or monopoly power that discourage FDI in host country. Data set from the period of 1982-2000 was used for European Countries.

2.4 Conclusion

By summarizing the whole theoretical and empirical literature, it can be concluded that political risk factors effect negatively on FDI inflows. But, macroeconomic policy uncertainty factors are essential when evaluating the suitable business environment for FDI flows in countries. So, it is compulsory to analyze the role of macroeconomic policy variables uncertainty and political risk along with economic factors for FDI inflows.

Chapter 3

Trends and Patterns of FDI Inflows and Policies in South Asia

3.1 Introduction

The FDI has got tremendous attention after 1980s in most part of the world. FDI is an important source of natural resource utilization of host country in an efficient ways and become a major source for technological transformation in host country. Developing countries have reframed their policy strategy to attract more FDI from developed economies of the world. FDI inflows have been risen in the world on average $201749.1 millions in 1989-1994 to $1697353 millions in 2008 (UNCTAD, 2009) showed in (Table 3.1). FDI inflows have also improved in South Asia on the average $968.27 millions in 1989-1994 to $49176.6 millions in 2008.

Table 3.1: FDI Inflows in world 1989-1994 to 2007-2008 (in Millions of US current $)

Years	South Asia	World
1989-1994	968	201749
1994-1999	3732	600266
1999-2000	4658	138167
2000-2001	6414	820430
2001-2002	7033	629675
2002-2003	5524	565159
2003-2004	7787	734892
2004-2005	11216	973329
2005-2006	26132	1461074
2006-2007	32323	1978838
2007-2008	49176	1697353

Source: United Nations Conference on Trade and Development (UNCTAD)

3.2. FDI Policies and Trends in South Asia

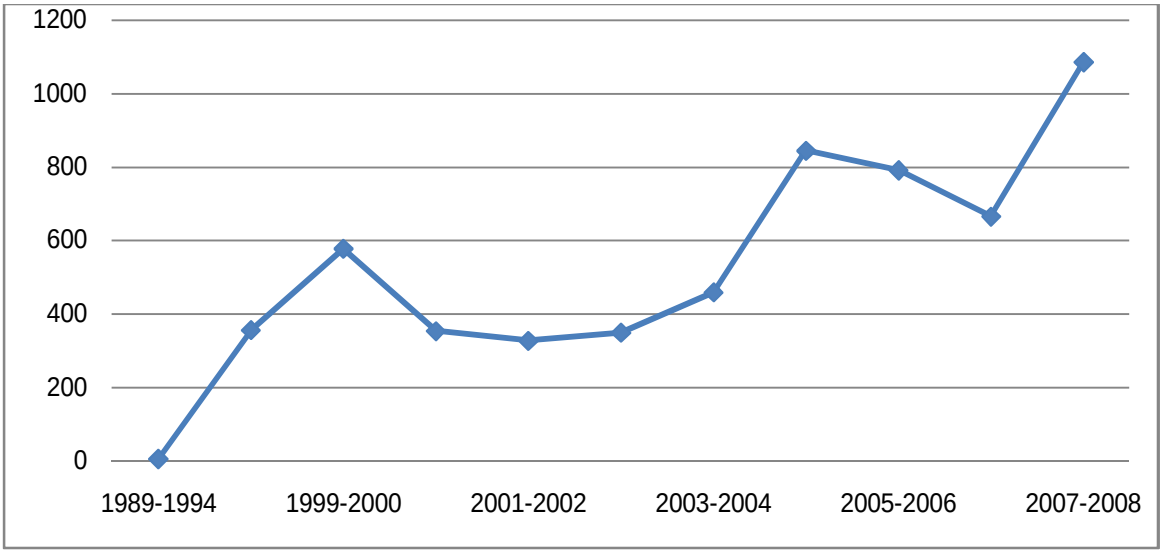
3.2.1 Bangladesh

A country can generate capital by increasing savings and investment rates. Bangladesh economy has offered more liberalization policies comparative to other Asian countries. Bangladesh has taken initiatives for 5-7 years tax holidays and income tax exemption policies to attract more FDI from outside the world. In spite of this, government of Bangladesh is protecting the rights of foreign investors under Foreign Investment Promotion and Protection Act (1980). In the second half decade of 1990s, a more liberalization policy was adopted that has attracted a considerable amount of FDI inflows (Sahoo, 2006). Bangladesh signed the Paris Convention on Intellectual Property right agreement as a member of Intellectual Property organization (WIPO).Foreign investment restriction removed in the telecommunications sector. An industrial policy was introduced that provide equal incentives to local and foreign investor.

In 2005, complete liberalization policy of investments and tax free zones were established for foreign investors. There was no condition imposed on equity transfer for foreign capital. Foreign investors can own 100 percent equity shares of any firms. In the period of 2000s ,the basic incentives of FDI policies are 5-7 years tax exemption and 15 years tax exemption in power generation sector. Exemption of import duties on export oriented industry but 5%advalorem on other sector. Avoidance of double taxation system through bilateral agreements for foreign investors. Capital and profit repatriation facilities to foreign investors. The foreign investor can take 100 percent ownership of equity shares.FDI inflows is not encouraging despite of liberalization policies comparative to developing countries.

In Bangladesh, FDI inflows has increased 1989-1994 averaging around $ 6.7 millions to averaging around $356 millions in 1994-1999 due to exploration of large reserve of natural gas resource and that attracted significant level of investment in this period. In 2001-2002, FDI inflows in Bangladesh decrease and it was around $328 millions.FDI inflows depicts increasing trend after 2002 and it reached on maximum peak of $845 millions in 2004-2005 .In 2005-2006, FDI inflows in Bangladesh deteriorated as compared to previous year and it was round $792 millions that maybe due to unstable political conditions and late decisions on different projects proposals offered by foreign investors. In 2007-2008, FDI inflows in Bangladesh shows an increasing trend and the value of FDI is $1086 millions is given in Figure 3.1.

Figure 3.1: FDI Inflows in Bangladesh (in Million US Current $)



Source: (UNCTAD, 2010)

FDI inflows as a percentage of GDP has grown from averaging around 0.02 percent in period of 1989-1994 to 0.69 percent in 2002 that shows a gradual increase in FDI inflows as a percentage of GDP. FDI inflows as percentage of GDP in 2008 stood up to 1.36 percent. FDI inflows have highly contributed to gross fixed capital formation. FDI inflows has contributed

averaging around 0.11 percent over the period of 1989-1994 .FDI inflows as percentage of gross capital formation has increased 1999-2000 up to 5.33 percent. During the period 2007-2008, FDI as a percentage gross fixed capital formation reached at the level of 5.64 percent while FDI growth rate has shown negative growth during the period of 2000 up to 2002 and negative growth rate of FDI inflows has also been observed during the period 2005 up to 2007.The main reason for negative growth rate in FDI inflows may include the poor investment environment due to political instability, high business cost and inconsistent government polices.[1]The country face political risk inform of continuous strikes of oppositions against government. Country is facing negative image in front of foreign investors because of poor law and order situation. Political parties directly and indirectly support terrorist activities and threats to foreign investors. Foreign investors have to pay involuntary tolls to theses terrorist for business security protection that ultimately raise the cost of doing business in Bangladesh.

[1] Other factors may also include anti-investment bureaucracy, lack of coordination among institutions, and the government machinery due to systemic distortions etc.

Table 3.2: FDI Inflows in Bangladesh from 1989-90 to 2007-2008

Years	FDI as % of GDP	FDI as % of Gross Fixed Capital Formation	FDI per capita	FDI growth rate (% age)
1989-1994	0.02	0.11	0.19	91.86
1994-1999	0.83	3.95	3.33	196.22
1999-2000	1.22	5.33	2.47	87.20
2000-2001	0.75	3.26	2.25	-38.70
2001-2002	0.69	2.98	2.36	-7.39
2002-2003	0.67	2.88	3.05	6.67
2003-2004	0.81	3.38	5.52	31.46
2004-2005	1.40	5.71	5.09	83.60
2005-2006	1.28	5.19	4.22	-6.24
2006-2007	0.97	3.98	6.88	-15.91
2007-2008	1.36	5.64	6.78	63.01

Source: Author`s calculation.

3.2.2. India

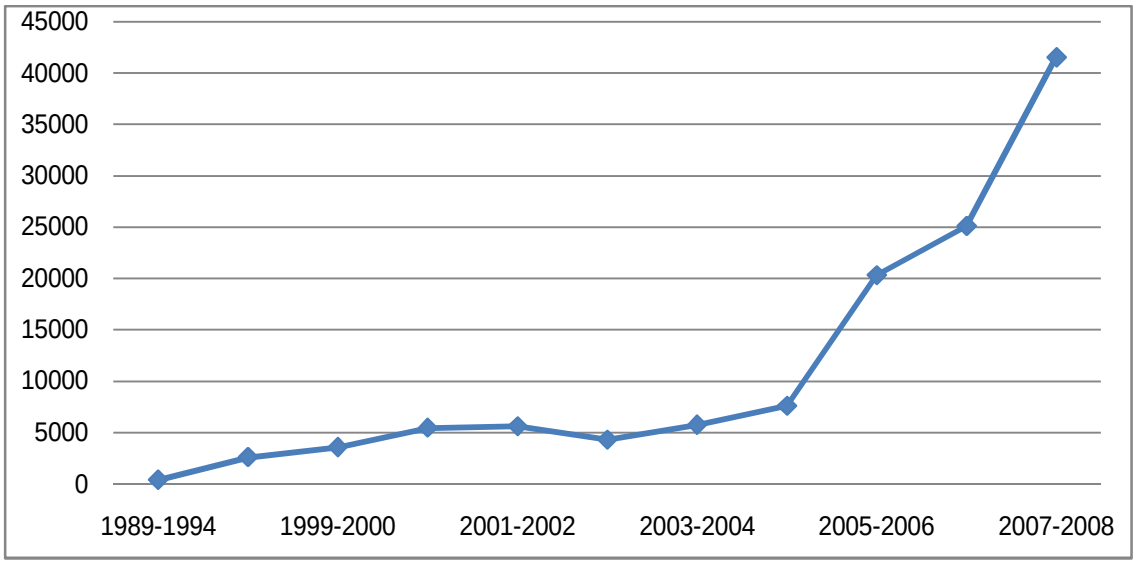
India adopted a restrictive policy before 80s regarding foreign investors to promote their local industry. However, FDI restrictive policy was substituted with liberalization policy. In 1991, a new industrial policy was introduced in India .The main focus of this industrial policy was to liberalize the investment restriction in India. After this liberalization policy, India has attracted a considerable amount of FDI from foreign investors. During this period industrial licensing policy was liberalized for and no undertaking is required to foreign investors after getting industrial license. The main objective of this industrial policy was to improve management skills, foreign technology transfer and export promotion. To achieve the policy objective a continuous relaxation and foreign investor's friendly environment was developed. In 1993, the industrial licensing condition was terminated before investment in industries. In 1996,

foreign investors were given opportunity to invest in governments securities and can issue their own preferential securities to general public.

In 2002, the investment policy regarding foreign investors was relaxed including 100 percent equity transfer to foreign investors, investment opportunity in print media on limited extent and foreign investors were allowed to take active participation in general bidding offers. In 2004, an electronic tax payment system was introduced that facilitate the foreign investors to pay taxes only in local earning in host country not on foreign earnings outside the India. In 2005, a more liberalized policy for foreign investor was introduced by opening the door for investment in infrastructure sectors with full equity permission along with some conditions imposed inform of approval before new joint venture. The foreign investors were also given tax exemption on income earned through interest rate. In 2008, foreign investors were given opportunity inform of more liberalized investment policy that include full equity permission, no industrial licensing conditions before issue of equity shares to general public.

India has attracted a considerable amount of FDI in South Asia. FDI inflows have increased dramatically 1989-1994 averaging around $413 millions to averaging around $2619 millions in 1994-1995. In 20002, FDI inflows in India were $5672 millions. In 2003, FDI inflows slightly down $4323 millions comparative to previous years due sanctions imposed on investors. In 2008, FDI inflows in India has shown sharp increase and stood up to $41554 millions. Thus a continuous rise in FDI inflows has been observed in India shown in Figure 3.2.

Figure 3.2: FDI Inflows in India(in Million US Current $)



Source: (UNCTAD, 2010).

FDI inflows as a percentage of GDP has grown from averaging around 0.13 percent in period of 1989-1994 to 1.10 percent in 2002 that shows a gradual increase in FDI inflows as a percentage of GDP.FDI inflows as percentage of GDP in 2008 stood up to 3.58 percent. FDI inflows have highly contributed to gross fixed capital formation in India. FDI inflows have contributed averaging around 0.63 percent over the period of 1989-1994. FDI inflows as percentage of gross capital formation have increased 2000-2001 up to 4.84 percent. During the period 2007-2008, FDI as a percentage gross fixed capital formation reached on its highest level 10.29 while FDI inflows growth rate followed uneven path in the period of 2000s.India is one largest economy in the world like china. But FDI inflows in Indian`s economy is far below comparative to Chinese`s economy in Asia. It is argued that political factors, law and order situation and poor infrastructure facility etc are main factors that discourage foreign investment in India. The corrupt burocratic environment in India had effected badly to foreign capital

inflows.[2]The inefficiency of government for controlling corruption, terrorist activities by different religious militants resulted in unsecure business environment in India comparative to china. Different ratios of FDI are given in Table 3.3.

Table 3.3: FDI Inflows in India from 1989-90 to 2007-2008

Years	FDI as % of GDP	FDI as % of Gross Fixed Capital Formation	FDI per capita	FDI growth rate (% age)
1989-1994	0.13	0.63	0.46	96.54
1994-1999	0.64	2.78	2.71	3.95
1999-2000	0.77	3.42	3.52	65.33
2000-2001	1.14	4.84	5.29	52.63
2001-2002	1.10	4.66	5.36	2.83
2002-2003	0.72	2.89	4.06	-23.17
2003-2004	0.82	2.89	5.34	33.49
2004-2005	0.93	3.02	6.94	31.79
2005-2006	2.22	6.82	18.32	167.36
2006-2007	2.13	6.28	22.33	23.55
2007-2008	3.58	10.29	36.45	65.37

Source: Author`s calculations

3.2.3 Pakistan

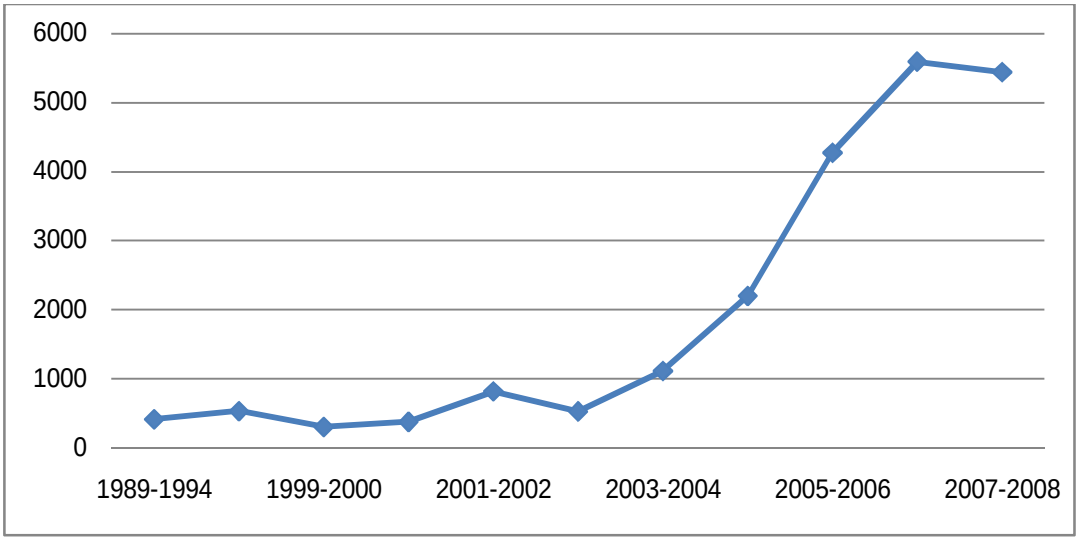
The economic development goals can be achieved with high level of investment and savings rates in Pakistan. The domestic saving rate in Pakistan has fallen down up to 11.5percent as percentage of GDP due to lower per capita income .The attraction of foreign capital is main priory at national level to fulfill the gap between desired level of investment and savings. Pakistan has adopted liberalization and fiscal incentives policies to foreign investors. The country has adopted market based policies after restrictive economic polices in 1990s that include taxes relaxation, credit incentives etc (khan, 2007).In the early period of 1990s,

[2] For further detail Kapur and Ramamurti, (2001).

government of Pakistan has taken substantial measures in regulatory framework and business environment. A new investment policy was introduced that opened the door for foreign investment in manufacturing, services and agriculture sector, telecommunications, energy and insurance. Capital and profit, dividend repatriation facilities to foreign investors but tax clearance certificate are needed.1n 1994, government of Pakistan has removed restrictions on foreign borrowings and foreign capital transaction up to some extent (Khan, 2007). In 1997, a new investment policy was introduced that take more liberalized steps by removing restrictions on foreign investors to invest in agriculture and service sector. The aim of investment policy was to improve the infrastructure and capacity of different sectors by foreign investment inflows (Sahoo, 2006). In the era of 2000s, government of Pakistan further relaxed policies for foreign investors. Permission of 100 percent equity shares to foreign investors in industrial sectors except some restricted industries that include arms and ammunition, explosive sector, liquors etc. Avoidance of double taxation system for foreign investors by sighing agreements with 52 countries. A tax relief to foreign investors has been provided up to (50-90) percent. Relaxation provided in custom duty and currently it is less than 5 percent. The 5-10percent import duties on import of foreign machinery. Despite of foreign investor's friendly policies, government of Pakistan could not succeed in attraction of foreign capital comparative to other developing countries. The effectiveness of FDI policies can be judged how much FDI inflows have been taken place. Pakistan`s economy has received considerable attraction in last two decades for FDI point of views.FDI inflows was increased dramatically 1989-1994 averaging around $419 millions to averaging around $536 millions in 1994-1995 due to market oriented policies for investors. In the era of 1990`s, FDI inflows in Pakistan were not competitive Indonesia, china, Thailand despite of FDI liberalization policies adopted at national level. The

fundamental factors recorded in 1990`s were political instability that include the continuous changes in government regime, poor law and order situation and generation of militant troops were major threats for foreign investors. Similarly, the decline in this period was due to restrictions imposed by United States on Pakistan after the nuclear tests experiments. In 2000, FDI inflows in Pakistan were around $309 millions. In 2002, FDI inflows reached up to $823 millions. FDI inflows have increased $5590 millions up to 2007. In 2008, FDI inflows in Pakistan was slightly down $5438 millions comparative to previous years due to terrorism activities in Pakistan shown in Figure 3.3.

Figure 3.3: FDI Inflows in Pakistan (in Million US Current $)



Source: (UNCTAD, 2010)

FDI inflows can be assessed in Pakistan economy as percentage of gross fixed capital formation, per capita and growth Rate of FDI. Pakistan has received FDI inflows after post liberalization regime. FDI as percentage of GDP has grown from averaging around 0.8666 percent in period of 1989-1994 to 3.304992 percent in 207-2008 that shows a gradual increase in FDI inflows (Table 3.4). FDI inflows have highly contributed to gross fixed capital formation in

Pakistan. FDI inflows have contributed averaging around 4.78 percent over the period of 1989-1994. FDI inflows as percentage of gross capital formation has slide down 2000-2001 up to 3.38 percent. During the period 2006-2007, FDI as a percentage gross fixed capital formation reached on its highest level 18.65 percent and slide down in 2007-2008 up to 16 percent while FDI growth rate has negative trend in the same period. The political risk condition during 2007-2008 periods is one of the main reasons for deterioration FDI Inflows. The early period of 2000`s observed a high growth rate in FDI inflows due to consistent government policies and stable economic condition. But, the country has experienced political instability inform unstable government, terrorists attacks on general public, mosques etc, and corruption. Theses issues also contributed to high rate of inflation and unstable macroeconomic conditions that ultimately discouraged FDI inflows to despite of government incentives policies to foreign investors.

Table 3.4: FDI Inflows in Pakistan from 1989-90 to 2007-2008

Years	FDI as % of GDP	FDI as % of Gross Fixed Capital Formation	FDI per capita	FDI growth rate (% age)
1989-1994	0.86	4.78	3.64	27.74
1994-1999	0.861	5.43	4.17	-2.04
1999-2000	0.41	2.63	2.23	-41.91
2000-2001	0.52	3.38	2.70	23.94
2001-2002	1.13	7.44	5.67	114.88
2002-2003	0.64	4.24	3.59	-35.11
2003-2004	1.14	7.61	7.35	109.36
2004-2005	2.00	11.50	14.12	96.86
2005-2006	3.35	16.31	26.84	94.13
2006-2007	3.90	18.65	34.38	30.82
2007-2008	3.30	16.22	32.73	-2.71

Source: Author`s calculation

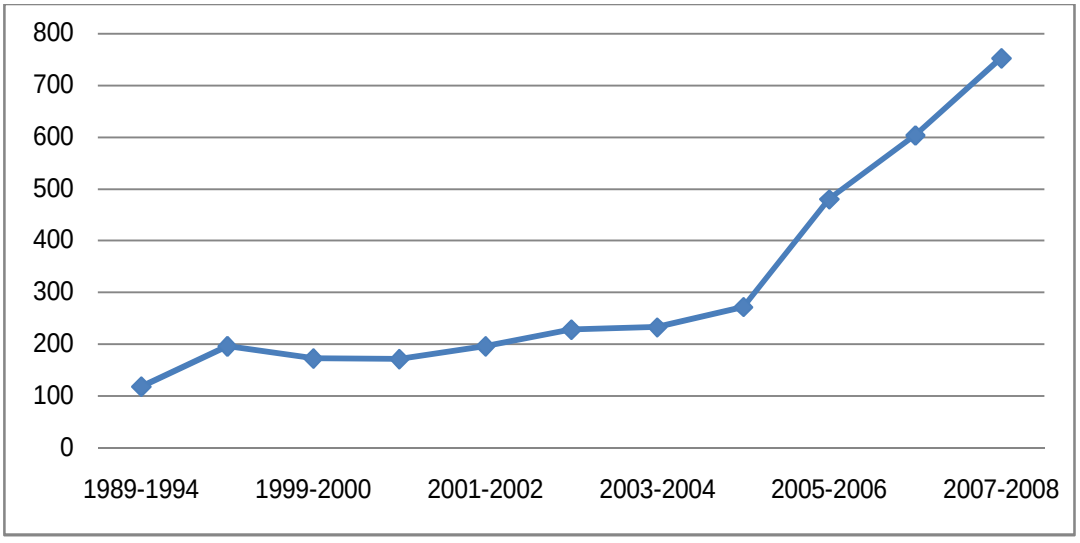
3.2.4 Sri Lanka

Sri Lanka has taken initiative steps by establishing commissions in 1978 with an objective to open the door for foreign investors in exports oriented industry. Foreign investors were given 10 years tax holidays along with exemptions in customs and property right protection facilities. The initial steps of liberalization reforms in Sri Lanka were taken in 1977 that provide foreign investors an investment opportunity in Sri Lanka. Before the decade of 1990s, FDI policy was not given considerable attraction for foreign investment. In the era of 1990s, FDI policy objectives were reframed. The objective of new FDI policy was to remove restrictions on ownership rights to foreign investors. In 1992, a board of investments was established that has given tax relief to foreign investors and speedy the matters faced by foreign investors (Sahoo, 2006).

In 2002, the main objective of FDI Policy was to sign free trade agreements with India and many other free trade zones were established for foreign investors. In 2004, the main objective of investment policy was to offer fiscal incentives to foreign investors. The fiscal incentives include 5-7 years tax holidays including tax exemptions on dividend. MNCs were exempted to keep control on foreign currency reserves under the investment policy. In 2008, foreign investment was allowed not in manufacturing sector but in other sectors of economy. An export promotion was gained by giving opportunity to foreign investors, a more relaxation in tariff was allowed to foreign investors that bring fruitful results in Sri Lanka.

In Sri Lanka, FDI inflows were increased 1989-1994 on average $118 millions to averaging around $196 millions in 1994-1999 due liberalization policies. In 2000-2001, FDI inflows in Sri Lanka were decreased up to $171.79 millions. FDI inflows depict increasing trend after 2002 and it reached on maximum peak of $ 603 millions in 2006-2007. In 2007-2008, FDI inflows in Sri Lanka depict a continuous increase value of FDI inflows stood $752 millions in shown in Figure 3.4.

Figure 3.4: FDI Inflows in Sri Lanka (in Million US Current $)



Source: (UNCTAD, 2010)

FDI inflows as a percentage of GDP has grown from averaging around 1.16 percent in period of 1989-1994 to 1.14 percent in 2002 .FDI inflows as percentage of GDP in 2008 stood up to 1.85 percent while FDI inflows has highly contributed to gross fixed capital formation averaging around 4.78 percent over the period of 1989-1994and decrease up to 3.79 percent during the period of 1999-2000. During the period 2007-2008, FDI as a percentage gross fixed capital formation reached at the level of 7.33 percent while FDI growth rate has shown negative trend during the period of 1999 -2001.The Tamil tiger's attacks generated terrorist activities in a country. Despite of FDI incentives provided to foreign investors, the investors were reluctant to invest in Sri Lanka in the period of 2000`s and they gave preference to Malaysia. A corruption at burocratic level also became the hurdle for foreign investment. The ratios of FDI are given in Table 3.5.

Table 3.5: FDI Inflows in Sri Lanka from 1989-90 to 2007-2008

Years	FDI as % of GDP	FDI as % of Gross Fixed Capital Formation	FDI per capita	FDI growth rate (in % age)
1989-1994	1.16	4.78	6.73	62.30
1994-1999	1.31	5.24	10.67	65.35
1999-2000	1.05	3.77	9.24	-11.93
2000-2001	1.09	4.95	9.13	-0.67
2001-2002	1.14	5.72	10.38	14.38
2002-2003	1.21	6.04	11.92	16.39
2003-2004	1.12	4.98	11.97	1.87
2004-2005	1.11	4.76	13.82	16.73
2005-2006	1.69	6.82	24.13	76.47
2006-2007	1.86	7.54	30.15	25.70
2007-2008	1.85	7.33	37.31	24.66

Source: Author`s calculation.

3.3 Conclusion

Summarizing the above discussion, it can be concluded that FDI inflows were vital component for external source of financing and economic development in South Asia. South Asian countries adopted FDI liberalization policies through process of continuous relaxation in taxes and imports duties, ownership rights and free capital mobility in a county etc. Despite of theses FDI incentives, the south Asian countries remained behind in foreign capital attraction comparative to their balanced economies like china, Malaysia and other developing countries. The political risk environment, corruption and inconstant macroeconomic policies are major obstacles that counterbalance the FDI policies incentives to foreign investors in South Asia[3].

[3] The complete detail of FDI policies initiatives can be seen in Apendex I.

Chapter 4

Theoretical Model, Data and Econometric Methodology

4.1 Theoretical Model

According to recent economic literature besides economic factors for FDI inflows political factors are also important. A country level tax reforms, formal rules or informal rules and investment restrictions are important component of political risk that effect financial ability of multinational firms (MNCs) but also restrict free capital mobility in host country (Huang and Sternquist, 2007, Mauro, 1998).Similarly, macroeconomic policy uncertainty effects MNCs through profit margin and increases the cost of credits for MNCs (Lown and Morgan, 2006).

To determine the link between of political risk, FDI and macroeconomic policy uncertainty we follow the theoretical framework developed by Del Bo (2009).Furthermore, we extend the theoretical framework developed by Del Bo (2009) by incorporating macroeconomic policy uncertainty index. The model starts by assuming that MNCs (J) face oligopolistic type of environment with imperfect competition abroad (Head, 2001; Brander et al. 1984).MNCs (J) produced final goods (Q) in foreign countries (F) and has paid input cost (CF) for final goods (Q) produced.

Suppose that each MNC faces inverse demand function in home country (H) which can be written as:

$$P_H = \delta - \phi F \text{...}(1)$$

Where P_H represents the market price of product in home country, δ and ϕ are parameters respectively, F is used for market clearing condition. The production quantity for each MNC can be represented by Q_H and $F = JQ_H$ represents market clearing condition. The inverse demand function for each MNC in home country can be written as:

$$P_H = \delta - \phi Q_H \text{...}(2)$$

Where Q_H represents the quantity demanded for final goods in home country. In terms of home country the profit function for MNC`s can be written as:

$$\Pi = P_H Q_H - \overline{C_H} Q_H \text{...}(3)$$

Where $\overline{C_H}$ marginal cost which is equal to average variable cost by assuming the linear production function for firms. Instead of considering a single factor that may effect marginal cost of multinational firms (J), Del Bo, (2009) investigate that exchange rate uncertainty increase the cost for FDI in foreign country. He incorporated exchange rate volatility factor in profit margin represented by equation (3).However, theoretical and empirical literature also highlight the importance of policy uncertainty variables that may increase the cost for MNCs in foreign country. Keeping in mind the policy uncertainty, we extend the theoretical model developed by Del Bo (2009) by incorporating macroeconomic policy uncertainty index related variable that increase the cost of FDI. The macroeconomic policy uncertainty index variable includes :(1) monetary policy uncertainty (2) fiscal policy uncertainty and (3) exchange rate uncertainty.

Holland (1986) concluded that inflation uncertainty effect firm`s input cost though labor market channel. A high inflation uncertainty means that high wage contracts between firms and employees and become a major source of cost for the firm in foreign country. Aizenman and Marion (1993) identified the theoretical and empirical importance of fiscal and monetary policy uncertainty for investment. The fiscal policy uncertainty decreases the expected marginal profit through tax rate channel that increase the cost for firms. Moreover, fiscal policy uncertainty has negative effect on investment decision.

The production cost of MNCs (J) is also affected by macroeconomic policy uncertainty in foreign country that ultimately affect the profit of MNCs. We incorporate macroeconomic policy uncertainty index that is composite of inflation rate uncertainty, budget deficit uncertainty and exchange rate uncertainty. The macroeconomic policy uncertainty index is denoted by η which is function of inflation rate uncertainty, budget deficit uncertainty and exchange rate uncertainty. i.e:

$$\eta = f(InfU, BdfU, ExU) \quad \ldots\ldots(4)$$

Where $InfU$ = Inflation rate uncertainty.

$BdfU$ = Budget deficit uncertainty.

ExU = Exchange rate uncertainty.

The marginal cost function faced by MNCs can be described as comparative to home production cost:

$$\overline{C_H} = \hat{\eta} C_F \quad \ldots\ldots(5)$$

By incorporating, the value in equation (3):

$$\Pi = P_H Q_H - \eta \hat{C}_F Q_H \text{...}(6)$$

MNCs also face political risk $(\rho \in (0,1))$ in foreign country that also affects the production cost of final goods. Therefore equation (7) can be written as:

$$\Pi = (\delta - \phi J Q_H) Q_H - \hat{\eta} C_F Q_H - \rho Q_H \text{...}(7)$$

If, we assume that macroecomic policy uncertainty which is composite of exchange rate uncertainty, inflation rate uncertainty and budget deficit uncertainty is normal random variable then we can apply the certainty equivalence of profit.[4] Assume that MNCs face partial equilibrium.

The certainty equivalence profit for firm can be expressed as:

$$\Pi_{CE} = (P_H - \rho \ - M_H C_F) Q_H \text{.......... ....}(8)$$

Where M_H that represents uncertainty or standard deviation of policy uncertainty index

The optimal output derives from profit maximization condition can be expressed as:

$$Q_H^* = \frac{\delta - \rho - M_H C_F}{\phi[J+1]} \text{......... ....}(9)*$$

Assuming that MNCs (J) take investment in small open economy and the investment decision can earn profit for each MNC that is in the form of reservation profit Π_R and free entry condition is assumed $(\Pi_{CE} = \Pi_R)$ .An expression form for MNCs entering in foreign country is

[4] This assumption is also supported by Del Bo (2009) for exchange rate uncertainty and for further detail in the baseline model of Cushman, (1985) and Lahiri, Mesa, (2006).

a function of different parameters that ultimately capture the pattern of FDI from MNCs (J) in host country or developing country can be written after some derivation[5]

$$[J+1] = \frac{\delta - \rho - M_H C_F}{\sqrt{\phi \Pi_R}} \text{..} (10)$$

Where reservation profit Π_R

The total differential of equation (10) captures the effect of macroeconomic policy uncertainty and political risk in foreign country or developing country on (J) multinational firms.

Taking square on both side of equation (10).We get:

$$[J+1]^2 = \left(\frac{\delta - \rho - M_H C_F}{\sqrt{\phi \Pi_R}}\right)^2 \text{..} (11)$$

$$[J+1]^2 = \frac{(\delta - \rho - M_H C_F)^2}{\phi \Pi_R} \text{..} (12)$$

The total differential of equation (12) is given as :

$$2[J+1]\ d_J = -\frac{2(\delta - \rho - M_H C_F)}{\varphi \Pi_R}.d\rho - \frac{2(\delta - \rho - M_H C_F)}{\phi \Pi_R}.dM_H \text{.........................} (13)$$

The effect of change in policy uncertainty and its on FDI can be represented if we keep political risk parameter constant that is:

$$\frac{d_J}{d\sigma_\eta} = -\frac{(\delta - \rho - M_H C_F)}{\phi \Pi_R (J+1)} \frac{dM_H}{d\sigma_\eta} \angle 0 \text{.................................} (14)$$

[5] Detailed derivation of model can be seen in appendix II.

From above expression it is clear that macroeconomic policy uncertainty exerts negative effect on FDI that may discourage FDI inflows to developing countries. Similarly, the effect of change in political risk in host country on FDI inflows can be represented by keeping macroeconomic policy uncertainty constant:

$$\frac{d_J}{d\rho} = -\frac{(\delta - \rho - M_H C_F)}{\phi \Pi_R (J+1)} \angle 0 \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (15)$$

It is clear from equation (15), the political risk factor of host country effect negatively to the entrance of FDI inflows from (J) multinational firms.

Based on above discussion, we conclude that the effect of political risk and macroeconomic policy uncertainty on FDI inflows from (J) multinational firms is negative.

4.2. Model Specification:

Following theoretical model in above section 4.1, we develop the empirical model by incorporating the economic factors, political risk, and macroeconomic policy uncertainty factor. According to Kamaly (2004), there is no unanimous ideology accepted theoretically for FDI determinants'. An economic literature has given importance to economic variables for FDI attractiveness.

Sahoo (2006) highlighted the role of economic factors for FDI inflows. He identified that market size; trade openness, infrastructure index and labor force growth rate as major determinants of FDI in South Asia. The market size is an important variable that attracts FDI inflows. Gross domestic product is an important proxy for market size of host country and it has positive effect on FDI inflows (Chakrabarti, 2001; Mosa and Cardak, 2006). The infrastructure

of host country has its own empirical importance for FDI inflows. The energy consumption per capita has been used as a proxy for infrastructure that may have positive sign (Del Bo, 2009). Similarly, trade openness shows an ambiguous kind of relationship that may be positive or negative (Rahman, 2000; Khan and Samad, 2010; Aizenman and Noy, 2005; Asiedu, 2002). For empirical purpose, we specify the following model:

$$FDI_{it} = f(GDP_{it}, EPC_{it}, TO_{it}) \quad \text{.....(16)}$$

Where

FDI=Foreign Direct Investment Inflows (at current US $)

GDP=Gross Domestic Product (at current us $).

EPC=Energy consumption per capita.

TO=Trade Openness.

A political risk factor is composite of institutional factors as well as financial risk factors also. Political risk has expected negative sign. We have extended equation (16) by incorporating political risk index i.e.

$$FDI_{it} = f(GDP_{it}, EPC_{it}, TO_{it}, PRI_{it}) \quad \text{.....(17)}$$

Where PRI= Political Risk Index.

Macroeconomic policy uncertainty variable is considered an other important element for FDI inflows in host country. This macroeconomic policy uncertainty variable is composite of uncertainties regarding the monetary policy, fiscal policy and exchange rate policies. Hermes and

Lensink (2001) evaluated the effect of policy uncertainty related to Inflation, exchange rate and budget deficit for lower developing countries (LDCs). We develop macroeconomic policy uncertainty index (PUI) that effect negatively to FDI inflows. Keeping this in view, macroeconomic policy uncertainty index can be incorporated in previous equation and final equation can be written as:

$$FDI_{it} = f(GDP_{it}, EPC_{it}, TO_{it}, PRI_{it}, PUI_{it}) \quad \text{.....(18)}$$

Where

PUI=Macroeconomic policy uncertainty Index.

4.3. Data

This study is based on panel data of four selected South Asian countries including, Bangladesh, India, Pakistan and Sri Lanka over the period of 1990-2008.The GDP at current $ price was used as proxy for market size. We used trade openness *(TO)* for trade liberalization policy. We used electric power consumption per capita *(EPC)* as an indicator for infrastructure development in host country. The data on following economic variables *(GDP, EPC, TO)* is obtained from World development indicators (WDI).The economic literature has widely recognized the importance of FDI inflows for economic growth (khan, 2007).We used FDI inflows as percentage of GDP *(FDI)* as dependant variable. The data on (FDI) was taken from United Nation conference on Trade and Development *(UNCTAD)* data source for south Asia.

Political Risk of a country can be accounted by assigning numerical values of governance quality as well as sovereign risk evaluation of a country. We used political risk index that is composite of government stability, socioeconomic conditions, investment profile, internal

conflict, external conflict, corruption, military in politics, religion in politics, law and order condition, ethnic tensions and democratic accountability of host country. Political risk index was generated by principal component approach (PCA). PCA basically capture the maximum variation in data with linear combination of set of variables by calculating Eigen values and Eigen vectors. Eigen vectors are arranged according to maximum variations towards lowest variations captured by Eigen values in data. The data source for political risk was used International Country Risk Guide (ICRG).

We used inflation as CPI proxy for monetary policy, budget Deficit as a percentage of GDP for fiscal policy and average nominal exchange rate for calculation of macro economic policy uncertainty .The data on Inflation, exchange rate was taken from World development indicators (WDI) data source while the data on budget deficit as percentage of GDP was calculated from central banks reports of relevant countries.

4.3.1. Macroeconomic Policy Uncertainty Index construction:

We have estimated macroeconomic policy uncertainty index for selected south Asian countries. In first step, uncertainties regarding inflation, exchange rate and budget deficit were calculated through variance approach. The variance of unpredicted part was calculated from residual of univariate model (Aizenman and Marion, 1993).An other way to estimate the conditional variance for high frequency (Daily and Monthly .etc) data is adoption of GARCH model approach. In our study, the variance of unpredictable part was captured by following AR (2) or second order autoregressive process for annual data following the method adopted by Ghosal and Loungani (2000).

The model can be written as:

$$Y_t = \alpha_o + y_{t-1} + y_{t-2} + trend + \varepsilon_{it} \quad \text{.....(4.1)}$$

From equation (4.1), we estimated the uncertainty regarding fiscal policy, monetary policy uncertainty and exchange rate uncertainty respectively. Budget deficit uncertainty was used for proxy of fiscal policy uncertainty, inflation uncertainty was used for proxy of monetary policy and exchange rate uncertainty was used for exchange rate uncertainty. In second step, macroeconomic policy uncertainty index had been developed by principal component approach that captures the combined effect fiscal policy uncertainty, monetary policy uncertainty and exchange rate policy uncertainty into a single index form.

4.4 Econometric Methodology

4.4.1 Panel Unit Root:

The augmented Dickey-Fuller (ADF) test has received considerable attention in time series data with non stationary null hypothesis. Levin et al. (2002) developed panel unit root test by extending called (LLC) panel unit root test. They incorporate heterogeneity of each cross sectional unit (N) deterministic effect and error term serial correlation structure with homogenous autoregressive assumption.LLC panel unit root have short comings that include independent assumption of each cross sectional unit that make LLC panel unit root test useless if cross correlation exists between cross sectional unit. Another limitation is auto regressive parameters are assumed same for cross sectional unit. Lm,Pesaran and Shin (1997, 2003) proposed a more advanced panel unit root test in heterogeneous panel data that depend upon reputed Dickey-Fuller procedure. This test is also applicable in case of non stationary of cross

section unit, heterogeneous serial correlation structure of error terms across each country unit and unbalanced panel data with some simulations is required. We used IPS test for panel unit root identification.

4.4.1.1 IPS Test:

IPS test normally considered likelihood framework and incorporate the mean of ADF statistics for each country without pooling the data set. IPS test procedure starts with ADF regression for each cross sectional unit with each country specific effect without time trend is given below:

$$\Delta y_{it} = \alpha_i + \rho_i y_{i,t-1} + \sum_{j=1}^{p_i} \beta_{ij} \Delta y_{i,t-j} + \varepsilon_{it}$$

Where i = 1. . . N and t = 1. . . T

The null Hypothesis can be formulated as:

$$H_0 : \rho_i = 0 \qquad \text{For all i}$$

The alternative Hypothesis:

$$H_a : \begin{cases} \rho_i < 0 \; For i = 1 \ldots\ldots\ldots N_1 \\ \rho_i = 0 \; For i = N_1 + 1 \ldots . N \end{cases} With \; 0 < N_1 \leq N$$

The alternative hypothesis allow unit root in some series but not all series. IPS test normally compute separate unit root test for the N cross-section units. IPS test is formulated on the basis of Augmented Dickey-fuller (ADF) statistics averaged across groups. The following steps are involved;

1. The individual country t-statistics is estimated from ADF Regression equation that is $t_{iT_i}(p_i)$:

2. Take the average for individual country t-statistics computed from ADF regression i.e.

$$\bar{t}\text{ – bar}_{NT} = \frac{1}{N}\sum_{i=1}^{N} t_{iT}(p_i \beta_i)$$

The assumption about t_{iT} is individually independent and contained the finite mean and variance. The t-bar statistics show better results in case of small value of N and T (IPS, 1997).The test statistics are also summarized by Pesaran and Shin (W-Statistics).W- statistics is used to test individual unit root of each series in panel data and assumes normality condition .The formula for W-statistics is given as:

$$w_{\bar{t}nt} = \frac{\sqrt{n}(\bar{t}_{nt} - n^{-1}\sum_{i=1}^{n} E(\bar{t}_{it}(p_i))}{\sqrt{n^{-1}\sum_{i=1}^{n} \text{var}((\bar{t}_{it}(p_i))}}$$

4.4.2. An ARDL Approach to Co Integration

The concept of co integration was developed by Engle and Granger (1987) .Later on Johansen and Juselius (1990), Pesaran and Shin (1999) and Pesaran et al. (2001) further developed the concept of co integration that was widely recognized.

This study estimates the long run relationship between FDI and its determinants represented by equation.18 utilizing ARDL approach developed by lm,Pesaran and Shin (1997) and Pesaran et al. (2003). An ARDL approach to co integration is more appropriate for

simultaneous estimation of long run and short run relationship in a small finite sample that contained 30 to 80 values. An ARDL approach evaluates the existence of long run relationship among variables irrespective the order of integration of variables that may be zero order ($I(0)$), order one ($I(1)$) or mixed order form. This approach is applicable incase of endogenity and serial correlation problem and parameters estimated by this approach are unbiased and efficient (Pesaran et al., 2003). To estimate the long run relationship, the autoregressive distributed lag ARDL model can be specified as model:

$$\Delta lnFDI_{it} = \alpha + \sum_{k=1}^{p} \theta_i \Delta \ln FDI_{i,t-i} + \sum_{i=0}^{p} \varphi_i \Delta PRI_{i,t-i} + \sum_{i=0}^{p} \delta_i \Delta PUI_{i,t-i} + \sum_{i=0}^{p} \gamma_i \Delta EPC_{i,t-i} + \sum_{i=0}^{p} \omega_i \Delta TO_{i,t-i} + \sum_{i=0}^{p} \rho_i \Delta \ln GDP_{i,t-i} + \beta_1 \ln FDI_{i,t-1} + \beta_2 PRI_{i,t-1} + \beta_3 PUI_{i,t-1} + \beta_4 EPC_{i,t-1} + \beta_5 TO_{I,T-1} + \beta_6 \ln GDP_{i,t-1} + \mu_{it} \ldots\ldots\ldots\ldots \quad (4.1)$$

Where $(\theta_i, \phi_i, \delta_i, \gamma_i, \omega_i, \rho_i)$ are the short run parameters, $(\beta_1, \beta_2, \beta_3, \beta_4, \beta_5 \beta_6)$ are the long run parameters.

The null and alternate hypothesis of no co integration can be formulated as:

$H_0 : \beta_1 = \beta_2 = \beta_{,3} = \beta_4 = \beta_5 = \beta_6 = 0)$ (No co integration)

$Ha : \beta_1 \neq \beta_2 \neq \beta_{,3} \neq \beta_4 \neq \beta_5 \neq \beta_6 \neq 0)$ (Co integration)

Two sets of critical values are I(0)and I(1) are calculated by Pesaran et al. (2001).If calculated value is greater the upper bound critical value then null hypothesis of no cointegration can be rejected and the null hypothesis of no co integration can not be rejected if calculated F-statistical value lies below the lower critical value.

Akaike Information Criteria (AIC) or Schwartz-Bayesian criteria are used to select the optimal lag length of each economic variable. When there is long run relationship among variables the short run dynamics are estimated through vector error correction model (VECM).The short run coefficients are estimated through error correction model. Error correction can be specified as:

$$\Delta \ln FDI_{it} = \alpha + \sum_{k=1}^{p} \theta_i \Delta \ln FDI_{i,t-i} + \sum_{i=0}^{p} \phi_i \Delta PRI_{i,t-i} + \sum_{i=0}^{p} \delta_i \Delta PUI_{i,t-i}$$
$$+ \sum_{ii=0}^{p} \gamma_i \Delta EPC_{i,t-i} + \sum_{i=0}^{p} \omega_i \Delta TO_{i,t-i} + \sum_{i=0}^{p} \rho_i \Delta \ln GDP_{i,t-i} + \beta EC_{i,.t-1} + \mu_{it} \text{.....(4.2)}$$

In above mentioned Model, ($EC_{i,t-1}$) represent one year lagged period of error correction model. The coefficient of error correction model (β) measures the speed of convergence or divergence in case of shocks to or from long equilibrium. The significance of these coefficients confirms short run relationship and it is also an evidence for long run co integration of economic variables.

Chapter 5

Empirical Results

5.1 Introduction

This chapter provides the empirical analysis of determinants on FDI inflows in a panel of four South Asian countries including Bangladesh, India, Pakistan and Sri Lanka over the period of 1990-2008. The long run and short estimates are obtained using autoregressive distributed lag model (ARDL) approach due to Pesaran et al. (2001). This chapter discusses the results of autoregressive distributed lags results and error correction model.

5.2. Panel Unit Test Results:

Before conducting co integration analysis, it is important to check whether specified economic variables are stationary or non stationary. According to Asterieou and Hall (2007), if non stationary variables are used in econometric estimation that may lead to spurious regression results. To check the stationary of variables, we apply lm, Pesaran and Shin (IPS, 1997) test and w-statistics is used for this purpose. IPS test is performed on some conditions that may include (a) individual intercept but no trends (b) individual Intercept with trend and (c) one lag is assumed in all variables. The results of IPS test at level and first difference are reported in Table 5.1.

Table 5.1: IPS Panel Unit Root Test of Stationary

	Im, Pesaran and Shin at Level		Im,Pesaran and Shin (W-stat) at Ist Difference	
	Without Trend	With Trend	Without Trend	With Trend
$LFDI_{it}$	1.1325 (0.8719)	-0.29608 (0.3836)	-6.83 (0.0000)*	-6.07 (0.0000)*
PRI_{it}	-1.3082 (0.0954)***	-2.4492 (0.0072)*	-2.7929 (0.0026)*	-1.8250 (0.034)**
PUI_{it}	-4.94 (0.000)*	-3.39 (0.0003)*	-8.389 (0.0000)*	-6.42 (0.000)*
TO_{it}	2.5721 (0.9949)	1.8044 (0.9644)	-5.549 (0.000)*	-5.100 (0.000)*
$LGDP_{it}$	6.34 1.00	0.8265 0.7958	-2.1559 (0.0156)*	-1.6029 (0.1230)
EPC_{it}	2.87502 (0.9980)	0.57140 (0.7161)	-1.80283 (0.0357)**	-1.05805 (0.1450)

Note: *,**,*** indicate the significance at 1%,5%,10% respectively, The value in parenthesis are the p-value

The results show that political risk index (PRI_{it}) and policy uncertainty index (PUI_{it}) are stationary by each specification of constant and constant and trend. This implies that the null hypothesis of unit root are rejected for (PRI_{it})and(PUI_{it}) at level .Hence theses variables are integrated of order zero i.e ($I(0)$).While the other variables including foreign direct investment inflows ($LFDI_{it}$), trade openness (TO_{it}), gross domestic product ($LGDP_{it}$) and electric power consumption per capita (EPC_{it}) are non stationary at level and stationary at their first difference. Thus we conclude that($LFDI_{it}$, TO_{it}, $LGDP_{it}$)and (EPC_{it}) are integrated of order one i.e $I(1)$.

Due this mixed order of integration the most appropriate approach for estimation of long run relationship in our study is Auto regressive distributed lag (ARDL) approach to co integration.

5.3 Auto regressive distributed lag (ARDL) Approach

Before applying Auto regressive distributed lag (ARDL) Approach, the first step is to select optimal lag length. We select two lags on the basis of Akaike information critera (AIC).The results are given in Table 5.2.

Table 5.2: Selection of Lag Length

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-1324.84	NA	1.68e+08	35.96886	36.15567	36.04338
1	-1023.34	545.9691	129207.9	28.79304	30.10075*	29.31470*
2	-982.36	67.56367*	115063.9*	28.65841*	31.08702	29.62721
* indicates lag order selected by the criterion						
LR: sequential modified LR test statistic (each test at 5% level)						
FPE: Final prediction error						
AIC: Akaike information criterion						
SC: Schwarz information criterion						
HQ: Hannan-Quinn information criterion						

Based on AIC two lags are selected for vector auto regressive process of co integration. After the lag selection, we have estimated unrestricted error correction model specified in equation (18) through Panel Least Squares method. In, table 5.3 reports the result

Table 5.3: ARDL Approach Results

Dependant Variable: $\Delta LFDI_{it}$

Variables	Coefficients	t-statistics
ΔPRI_{it}	-0.109**	-2.38
ΔPRI_{it-1}	0.925**	2.22
ΔPRI_{it-2}	0.083***	1.96
ΔPUI_{it}	-0.63**	-2.19
ΔEPC_{it}	0.0023**	2.11
ΔTO_{it}	0.035*	2.67
ΔTO_{it-1}	0.040*	3.59
ΔTO_{it-2}	0.027**	2.27
$\Delta LGDP_{it}$	1.31*	8.97
$LFDI_{it-1}$	-0.38*	-5.11
PRI_{it-1}	-0.072*	-3.24
PUI_{it-1}	-0.091*	-2.06
EPC_{it-1}	0.0021*	3.12
TO_{it-1}	-0.016**	-2.13
$LGDP_{it-1}$	0.24***	1.99
Constant	1.23	0.87
R^2	0.82	
Adjusted R^2	0.78	
F-Statistics	18.05 (0.000)	
Durbin Watson	2.02	
Normality Test	0.660 (0.718)	

(1).*Note:* *, **, *** indicate the statistical significance at 1%, 5%, 10% respectively.

To find the co integration, in the next step we calculate F-statistics by applying wald-test. The computed F-statistics is compared with upper bound F-statistics critical value computed by Pesaran et al. (2001). The computed F-statistics value is 6.07 is higher than upper bound critical F-statistics value i.e. 3.99. The null hypothesis of no co integration is rejected and it implies long run relationship between $LFDI_{it}, TO_{it}, LGDP_{it}$ $EPC_{it}, PRI_{it}, PUI_{it}$.To obtained long run coefficients, we normalize the lag level variables by dividing on the coefficient of $LFDI_{it}$ and assumed all other variables equal to zero.[6]In this way, the long run elasticity's are obtained and normalization equation is reported below:

$$\ln FDI_{it} = -0.18PRI_{it}^{*} - 0.23PUI_{it}^{*} + 0.0055EPC_{t}^{*} - 0.041TO_{it}^{**} + 0.61\ln GDP_{it}^{***} .....5.1$$

The results show that political risk exerts negative and affect on FDI inflows in long run. This implies that weak institutional structure that includes unstable government, corruption, internal and external conflict religious and poor law and order situation which are unwanted charters tics of South Asian countries effect negatively to FDI inflows. These factors increase the transaction cost for foreign investors and increase incredibility of host country to protect the assets for MNCs.

Macroeconomic policy uncertainty coefficient value is -0.23 that effect negatively on FDI inflows in long run. It means that macro economic policy uncertainty is composite of budget deficit; exchange rate uncertainty and inflation uncertainty adversely effect FDI inflows in long run. The finding suggests that macroeconomic policy uncertainty is an important factor for FDI because it affect profit margin by increasing cost for foreign firms. Macroeconomic policy

[6] A steady state condition is assumed for normalization. *, **, *** indicate the statistical significance at 1%, 5%, 10% respectively.

uncertainty effect MNCs by increasing cost of production through price channel and imposing of extra taxes in host country. Electric power consumption per capita used as proxy for infrastructure effect positively and its coefficient is 0.0055 which is significant in long run. This factor indicates that as infrastructure facility in host country increase it attract more FDI from different parts of world. The long run coefficient of GDP is 0.61 and significant .It means the large market size show positive impact on FDI inflows. The increase in GDP generates the demand of goods and services in host country. The increase in demand of goods and services provide incentives for local and foreign investors to achieve economies of scale in production (Khan and Samad, 2010). So, large market size attracts more FDI.

The long run coefficient of trade openness coefficient is -0.041. The impact of trade openness on FDI inflows is significant though negative. The sign of trade openness in long run is consistent with common empirical literature.

The negative effect of trade openness is also justified that a risk and uncertainty factor has also given theoretical importance in investment theory. This theory has provided a new paradigm that investor either to invest or gain through taking right decision of investment by accessing risk of investment. According to Rahman (2003), lack of credibility regarding consistent trade liberalization adopted by developing countries is one of the main reason that effect negatively to foreign investor decision to take long run investment decision. According to real option theory and investors' risk theory, foreign investors are more sensitive about risk and uncertainty factors about host country that depict credibility of that country regarding trade liberalization policies. So, foreign investors save the cost by taking decision not to invest in more risky countries comparative to domestic investors cost in host country (Lehman , 1999).

Another way to explain the effect of Trade openness on cost of production is through the wage differential channel. It is argued that trade liberalization policy increase the wage differential between skilled and unskilled labor. MNC`s face domestic competition and that force MNC`s to cut the cost of production. A high wage differential increase the cost of production in host country. A high level cost of production discourages FDI inflows (Becker 1971; Berik et al., 2004).

The coefficient value of political risk that is (0.18) and macroeconomic policy uncertainty coefficient value is (0.23) is higher comparative to trade openness coefficient (0.041),electric power consumption value(0.0055).On the basis of coefficient values, it can be argued that political risk and macroeconomic policy uncertainty matters more for FDI. Similarly, the value of market size coefficient is higher in long run that is 0.61.This implies that most of FDI inflows in South Asia is on the basis of large market size..

5.4. Error Correction Model for short Run Analysis

To examine the short run dynamics we estimate restricted error correction model. The short run results are reported in Table 5.4.

Table 5.4: Error Correction Results

Dependant Variable: $\Delta LFDI_{it}$

Variables	Coefficients	t-statistics
ΔPRI_{it}	-0.04 *	-2.64
ΔPUI_{it}	-0.63*	-3.05
ΔEPC_{it}	0.0022**	2.22
ΔTO_{it}	0.033*	2.72
$\Delta LGDP_{it}$	1.37*	10.12
ECit-1	-0.26*	-5.49
Constant	0.85*	5.32
R^2	0.78	
Adj R^2	0.76	
F-Stat	34.70	
	(0.000)	

Note: *, **, *** indicate the statistical significance at 1%, 5%, 10% respectively.

The error correction term depicts the convergence or divergence of series. The size of error correction term (ECit-1) is -0.26 which is negative and significant. It means that calculated t-value is above the critical value that implies the rejection of null hypothesis of no short run relationship exists. Thus we can imply that short run relationship exists that also confirms existence of long run relationship. In case of shocks all variables will converge to their long run

equilibrium path with 26 percent annual speed of adjustment. The political risk shows negative and significant effect in short run. It means that as political risk increases in short run FDI inflows decreases in South Asia. The policy uncertainty coefficient is negative and significant. FDI inflows are more sensitive to macro economic policy uncertainty in short run as compared to long run. The impact of GDP on FDI inflows is positive in short run. The impact of trade openness on FDI inflows is positive in short run. Trade openness indicates that it generates demand for imports required capital goods and services in short run that attract more FDI inflows (khan and Samad, 2010). The sign of trade openness is generally consistent to economic literature in short run (Aizenman and Noy, 2005; Asiedu, 2002).

Chapter 6

Conclusion and Policy Recommendation

The main objective to conduct this study was to study the determinants of FDI inflows in selected south Asian countries. This thesis studies the determinants for FDI for the period of 1990 to 2008 for four selected south Asian countries. An ARDL approach to co-integration technique is used for estimation of long run relationship of economic variable and for and for short run relationship Error correction model is applied.

More specifically, the study focused on political variables and policy variables in FDI inflows context. Further the importance of macroeconomic policy uncertainty and political risk has been confirmed by empirically testing the significance of these variables. Before conducting empirical analysis, political risk and policy uncertainty index have been developed for south Asia. These indices are used further to check relevant importance in context of FDI inflows. According to the results of the study, we find long run relationship between political risk index and FDI inflows. Political risk index also matters in short run for FDI inflows .The econometric results of this variable is according to our hypothesis of the study. The relationship between political risk and FDI inflows must be prioritized along with FDI incentives policies. Political risk includes government stability, corruption environment, internal and external conflict and democratic accountability etc. The results show that political risk have their own substantial importance for FDI inflows both in long run and short run for South Asia. Political risk includes internal and external conflicts, low institutional qualities factors and high level of corruption etc effect FDI inflows from different parts of world in selected south Asian countries.

In addition to political risk, the importance of macro economic policy uncertainty has been confirmed for FDI inflows. Our study also is in favor of the view that macroeconomic policy uncertainty effect negatively on FDI inflows in selected South Asian countries. Macro economic policy uncertainty normally discourages the foreign investors and creates an unstable or uncertain situation about the host country environment. Macro economic policy uncertainty regarding budget deficit, inflation and exchange rate normally discourages the investor to bring investment in South Asia. The impact of trade openness on FDI inflows in negative in long run that maybe due to lack of creditability regarding trade liberalization policy and high trade cost in host country that discourage FDI inflows in long run while the impact of trade openness on FDI inflows is positive in short run. A large market size exerts positive impact on FDI inflows in long run and short run. An electric power consumption variable also shows positive importance in long and short run context. For attracting FDI from other part of the World, South Asian countries should also focus political risk factors along with macroeconomic policy uncertainty factors. A political risk environment and macro economic policy uncertainty should be given substantial importance in FDI policies.

References

Asteriou, D. and Hall, S.G., (2007). Applied Econometrics: A Modern Approach using E-Views and Microfit, Palgrave Macmillan, Hampshire, New York.

Aizenman and Marion (1993). Policy uncertainty, Persistence and Growth, Review of international economics, 1(2), 144-163.

Aizenman, J.and Noy, I. (2005). FDI and Trade; Two ways linkages, (NBER Working Paper NO. 11403).

Asiedu, E. (2002). On Determinants of Foreign Direct Investment to Developing Countries: Is Africa different? World Development, 30(1), 107-119.

Abuaf, N., & Jorion, P. (1990). Purchasing power parity in the long run, The Journal of Finance. 45, 157–74.

Barrell, R., Gottschalk, S.D. and Hall, S.G. (2003). Foreign Direct Investment and Exchange Rate Uncertainty in Imperfectly Competitive Industries. NIESR (Discussion Paper NO.220).

Broll, U. and Zilcha, I. (1992). Exchange Rate Uncertainty, Futures Markets and the Multinational Firm. European Economic Review, 36, 815—826.

Busse M., Hefeker C. (2005). Political Risks, Institutions and Foreign Direct Investment. (HWWA Discussion Paper 315).

Brander, J.A. and Spencer, T. B. (1984). Protection and Imperfect Competition, in Monopolistic Competition and International Trade. Oxford University Press.

Brown, R.L., Durbin, J. and Evans, J.M. (1975). Techniques for Testing the Constancy of Regression Relations Over Time. Journal of the Royal Statistical Society, 37: 149-163.

Burdekin, R. C.K. and Farrokh K. L. (1995). Confidence, Credibility, and Macroeconomic Policy, London and New York: Routledge.

Busse M, Heffeker, C. (2007). Political Risk, Institutions, and Foreign Direct Investment. Europeon. Journal of Political Economics, 23(2), 397–515.

Blonigen B. (1997). Firm Specific Assets and the link between Exchange Rates and Foreign Direct investment, The American Economic Review, 87 (3), 447-465.

Berik, Gunseli; Yana Rodgers; and Joseph Zveglich., (2004). International Trade and Gender Wage Discrimination: Evidence from East Asia. Review of Development Economics 8 (2), 237-254.

Becker, Gary. (1971). The Economics of Discrimination. Second Edition. Chicago: University of Chicago Press.

Camenet, et.al. (2006). Monetary Policy in Vietnam: the case of a Transition Country. BIS (Papers No. 31).

Chakrabarti, Avik, (2001). The Determinants of Foreign Direct Investment: Sensitivity

Analyses of Cross-Country Regressions, Kyklos, 54(1),89-113.

Chan, K. and Gemayel, E, (2004). Risk Instability and the Pattern of Foreign Direct Investment in the Middle East and North Africa Region, IMF(Working Paper, No.139).

Chirinko, R.S., Fazzari, S.M., and Meyer, A.P. (1999). How Responsive is Business Capital Formation to its User Costs? An Exploration with Micro Data? Journal of Public Economics, 74, 53-80.

Chen, k.Y.E . (1983). Multinational Corporations, Technology, and Employment. London: the Macmillan Press Ltd.

Cushman, D. (1985). Real Exchange Rate Risk, Expectations and level of direct investment, Review of Economic and statistics, 67,297-308.

Del BO, C. (2009). Foreign Direct Investment ,Exchange Rate Volatility and Political Risk , Departmental Working Papers, Department of Economics, Business and Statistics, University of Milan Italy.

Dunning, J.H. (1988). Explaining International Production. London: Unwin Hyman,.

Engle, R..F.and Granger, C.W.J. (1987). Co integration and Error Correction, Representation, estimation and Testing, Econometrica, 55,251-76.

Faini R. (2004). Trade liberalization in a Globalizing world, CEPR (Discussion Paper NO.4665).

Fischer, S. (1993). The Role of Macroeconomic Factors in Growth, Journal of Monetary Economics, 32, 485-512.

Froot, K. A., & Stein, J. C. (1991). Exchange Rates and Foreign Direct Investment: An Imperfect Capital Markets Approach. Quarterly Journal of Economics, 106, 1191–1217.

Graham, E.H. (1995). Foreign Direct Investment in the World Economy, International Monetary Fund, Washington, D.C (IMF Working Paper NO.59).

Goldberg and Kolstad. (1995). Exchange Rate Variability and Demand Uncertainty, International Economic Review, 36(04), 855-876.

Ghosal, V. and Loungani, P. (2000). The Differential Impact of Uncertainty on

Investment in Small and Large Businesses, Review of Economics and Statistics, 82(2),338–343.

Ghani, E.,Din,M. and Iqbal,N. (2010). Regional Economic Integration and Foreign Direct Investment (FDI) in SAARC:The Role ,Bottlenecks and and Future Prospects :The Role of Domestic Financial Sector, KIEP(Conference paper No,2).

Harrison. H,R. (2000). Learning, knowledge Productivity and Strategic Progress, International Journal of Training and Development, 4(4), 244-258.

Hailu. (2010). Demand Side Factors Affecting the Inflow of Foreign Direct Investment to African Countries: Does Capital Market Matter? International Journal of Business and Management, 104-116.

Huang, Y., and Sternquist, B. (2007). Retailer's Foreign Market Entry Decisions: An Institutional Perspective, International Business Review, 16 (5), 613-629.

Holland, S.A. (1986). Wage Indexation and the Effect of Inflation Uncertainty on Unemployment, an Empirical Analysis, American Economic Review, 76, 235-243.

Hymer, S. H. (1976). The International Operations of National Firms: A Study of Direct Foreign Investment. The M.I.T Press.

Harrold, P and Rajiv, L. (1993). China Reform and Development in 1992-1993. Washington, D.C: The World Bank (world discussion paper No.215).

Hermes, N., and R. Lensink. (2001). Capital Flight and the Uncertainty of Government

Policies, Economics Letters, 71 (3), 377-81.

Head, (2001). Revisiting Oligopolistic Reaction: Are FDI Decisions Strategic Complements? Research in Industrial Economic, 26th annual meetings.

Hallsten, K. (1998). Implications of Inflation Targeting. Sveriges Riksbank.(Working Paper No. 46).

Im K.S., Pesaran, M.H. and Shin, Y. (1997), Testing for Unit Roots in Heterogeneous

Panels, Department of Applied Economics, University of Cambridge.

Im K.S., Pesaran, M.H. and Shin, Y. (2003), Testing for Unit Roots in Heterogeneous

Panels, Journal of Econometrics, 115, 53-74.

Jakobsen, (2010). Old Problems Remain, New Ones Crop up: Political Risk in the 21st Century. Journel of Business Horizons. 53, 481-490.

Jinjarak, Yothin, (2007). Foreign Direct Investment and Macroeconomic Risk, Journal of Comparative Economics, 35(3), 509-519.

Jun, K., Singh H, (1996). The Determinants of Foreign Direct Investment in Developing Countries, Transnational Corporations, 5(2), 67-105.

Johansen, S. (1991). Estimation and Hypothesis Testing of Cointegrating Vectors inGaussian Vector Autoregressive Models, Econometrica, 59, 1551-80.

Kamely, A, (2004). Evaluation of FDI flows into MENA Region, Economic Research forum working paper.

Khan, A. M and Samad, G. (2010). Intellectual Property Rights and Foreign Direct Invetsment: Analysis of 14 South and South East Asian Countries, 1970-2005, Applied Econometrics and International Development,10(1),219-230.

Khan, A. M. (2007). Foreign Direct Investment and Economic Growth :The Role of Domestic Financial Sector, PIDE (working paper No.18)

Khan, A, H. (1997). Foreign Direct Investment in Pakistan: Policies and Trends, The Pakistan Development Review, 36(4), 959-985.

Kim, S. (2006). Bilateral Investment Treaties, Political Risk and Foreign Direct Investment. MPRA (Discussion Paper No. 21324).

Kaplan and Zingales. (1997). Do Investment Cash Flows Senstivites Provide Useful Measures of Finanacing Constraints? Quartely Journel of Economics,112 (1),165-215.

Kogut, B. and Chang, S.J. (1996). Platform Investments and Volatile Exchange Rates:

Direct Investment in the U.S. by Japanese Electronics Companies, Review of Economics and Statistics, 78, 221-231.

Krueger, A. O. (1974). The Political Economy of the Rent-Seeking Society. American

Economic Review, 64, 291 -- 303.

Lehmann, (1999). Country Risk and the Investment Activity of U.S Multinationals in Developing Countries,IMF(Working Paper No.133).

Lucas, Robert E. (1990). Why Doesn't Capital Flow from Rich to Poor Countries, American Economic Review, 80(2), 92-96.

Lui, F.T. (1985). An Equilibrium Queuing Model of Bribery, Journal of Political Economy, 93(4),760-781.

Lown, C. and D. P. Morgan (2006). The Credit Cycle and the Business Cycle: New FindingsUsing the Loan Ocer Opinion Survey,Journal of Money, Credit and Banking, ,38(6) 1575-1597.

Lipsey, R. E. (2002). Home and host country effects of FDI. Cambridge, MA. (NBER working paper NO.9293).

Levin, A., C.F. Lin and C.S.J. Chu (2002). Unit root tests in panel data: asymptotic and Finite-sample properties, Journal of Econometrics, 108, 1-24.

Mosa, A.I. and Cardak, A.B. (2006). The determinants of foreign direct investment: An extreme bounds analysis, Journal of Multinational Financial Management,(16),199-211.

Mauro, P(1998). Corruption and the composition of government expenditure, Journal of Public Economics, 69,263-279.

Mishkin, F. S. and M. Savastano (2000). Monetary Policy Strategies for Latin America, (NBER Working Paper No.7617)

Meltzer, A.H (2003). A History of the Federal Reserve Chicago, University of Chicago Press,1, 1913□1951.

Mottaleb, Khondoker, Abdul, (2007). Determinants of Foreign Direct Investment and Its Impact on Economic Growth in Developing Countries, University of Munich, Germany.

(MPRA Paper NO. 9457).

Modigliani, F. and M.H. Miller, (1958). the cost of capital, corporation finance and the theory of investment, American Economic Review, 48(3), 261-97.

North,dogulass, c, (1990). Institutions, institutional change, and economic performance. cambridge, Cambridge university press.

Oman, C. (2000), Policy Competition for Foreign Direct Investment: A Study of Competition among Governments to Attract FDI, Paris: OECD.

Pesaran, Shin and Smith, (2001). Bounds Testing Approaches to the Analysis of Level Relationships, Journal of Applied Econometrics. 16: 289–326.

Rahman, (2003). Credibility of Trade Liberalization and Foreign Direct Investment: Can Problems in Governance Muddle Bangladesh's Development, seminar participants at the AEDSB, New Orleans.

Rajan, Ramkishen and Rabin Hattari, (2009). Understanding Bilateral Foreign Direct Investment flows in Emerging Asia, Institute of South Asian Studies (Paper No. 81).

Rios-Morales, R., Bamberger, D., Smuc, T., and Azuaje, F. (2009). Innovative methods in assessing political risk for business internationalization. Research in International Business and Finance, 23, 144-156.

Ramkishen S. Rajan and Rabin Hattari. (2009). Understanding Bilateral Foreign Direct Investment Flows in Emerging Asia, ISAS (Discussion Paper No.81).

Ricardo, D (1817). On the Principles of Political Economy and taxation, Variorum edition in P. Sraffa, ed., Works & Correspondence of David Ricardo, Cambridge University, I, 1951.

Sahoo, P (2006). Foreign Direct Investment in South Asia: Policy, Trends, Impact and Determinants.ADB Institute (Discussion paper No. 56)

Smith, Adam (1776). An Inquiry into the Nature and Causes of the Wealth of Nations. Volumes I and II. R. H. Campbell and A. S. Skinner, eds. Liberty Fund: Indianopolis.

Thomas J., Worrall T (1994). Foreign Direct Investment and the Risk of Expropriation. Review of Economic Studies, 61, 81-108.

Tomlin, K.M. (2000).The effects of model specification on Foreign Direct Investment Models, An application of count data models. Southern Economic Journal, 67,460-468.

UNCTAD (1994). World Investment Report, New York and Genva: United Nations.

UNCTAD (1997). World Investment Report: Transitional Corporations, Market Structure and Competition Policy. New York: United Nations.

UNCTAD (2000). World Investment Report: Trends and Determinants. New York and Geneva: United Nations.

UNCTAD. (2008). World Investment Report: Transitional Corporations, Market Structure and Competition Policy. New York: United Nations.

UNCTAD. (2010). World Investment Report: Transitional Corporations, Market Structure and Competition Policy. New York: United Nations.

Vernon, R., (1966). International Investment and International Trade in the Product Cycle. Quarterly Journal of Economics, 80, 190-207.

Williamson, J. and M. Mahar (1998). A Survey of Financial Liberalization, Princeton University (Essays in International Finance Paper. No. 211).

Xing, Y. (2006). Why is China so attractive for FDI? The role of exchange rates, China Economic Review, 17, 198-209.

Zhao, L. and Xing, Y. (2006). Global Production and Currency Devaluation, Review of International Economics, 14(2), 202-11.

Appendix I

An Empirical work before Eq (8) is based on assumption that MNCs face Certainty equivalence of profit and Policy uncertainty variables are normally distributed in empirical literature including the work of Aizenman (1993), lahiri (2006). The profit function can be described in case of certainty equivalence can be written as:

$$\Pi_{CE} = (P_H - C_H - \rho)Q_F - \psi StD(C_H Q_H)$$

: The derivation before equation (9)

$$\Pi_{CE} = P_H Q_H - \rho Q_H - M_H C_F Q_H$$

Where $P_H = \delta - \phi J Q_H$ for Jth firms

The profit maximization condition in case of cournot equilibrium environments are:

$$\Pi_{CE} = (\delta - \phi J Q_H) Q_H - \rho Q_H - M_H C_F Q_H$$

The profit maximization conditions in case of cournot conjuncture for firm's environments are:

$$\frac{\partial \Pi_{CE}}{\partial Q_H} = 0 \quad \text{and} \quad \frac{\partial \Pi_{CE}}{\partial Q_H} = 0$$

The maximization equation in case of cornout t conjuncture for firms with respect to QH:

$$\delta - \phi J Q_H - \phi Q_H - \rho = M_H C_F$$

$$\delta - (J+1)\phi Q_H \ - \rho = M_H C_F$$

and further we can write as

$$P_H - \phi Q_H \ - \rho = M_F C_H$$

$$P_F - \rho - M_H C_F = \phi Q_H$$

The derivation procedure before equation (10). The certainty equivalence profit has been written in following form

$$\Pi_{CE} = (P_H - \rho \ - M_H C_F) Q_H$$

$$P_F - \rho - M_H C_F = \phi Q_H$$

SO,

$$\Pi_{CE} = (\phi Q_H) Q_H = \phi Q^2{}_H$$

According to free entry Condition

$$(\Pi_{CE} = \Pi_R)$$

It can be written as

$$(\Pi_{CE} = \Pi_R = \phi Q^2{}_H)$$

Putting the value of optimal value of output

$$\Pi_{CE} = \phi(\frac{\delta - \rho - M_H C_F}{\phi(J+1)})^2$$

$$\Pi_R = \phi(\frac{\delta - \rho - M_H C_F}{\phi(J+1)})^2$$

$$\Pi_R = \phi[\frac{(\delta - \rho - M_H C_F)^2}{(\phi(J+1)^2}]$$

$$\Pi_R = \frac{(\delta - \rho - M_H C_F)^2}{\phi(J+1)^2}$$

Taking cross multiplication on both sides of Equation

$$(J+1)^2 = \frac{(\delta - \rho - M_H C_F)^2}{\phi \Pi_R}$$

Taking square root on both sides of Equation

$$\sqrt{(J+1)^2} = \sqrt{\frac{(\delta - \rho - M_H C_F)^2}{\phi \Pi_R}}$$

$$[J+1] = \frac{\delta - \rho - M_H C_F}{\sqrt{\phi \Pi_R}} .....10$$

Table3.6: Foreign Direct Investment Policy Initiatives in South Asia

Country`s Name	Years	Major Initiatives/ Steps
Bangladesh		
	1990 s	
		• Bangladesh signed the Paris Convention on Intellectual Property right agreement as a member of Intellectual Property Organization (WIPO). • Foreign investment restriction removed in the telecommunications sector.
	2000 s	
		• 5-7 years tax exemption and 15 years tax exemption in power generation sector. • Exemption of import duties on export oriented industry but 5%advalorem on other sector. • Avoidance of double taxation system through bilateral agreements for foreign investors. • Capital and profit repatriation facilities to foreign investors. • 100 percent ownership of equity shares are allowed to foreign investors.
India		
	1990 s	
		• Establishment of Investment Promotion Board (FIPB) that allowed 51 percent foreign equity participation. • Termination of industrial licensing condition for foreign investors. • Foreign investors were given opportunity to invest in governments securities and can issue their own preferential securities to general public. • Government removed restrictions for foreign investors in investment government securities-bills and mutual funds.
	2000 s	
		• Complete allowance for foreign investment in infrastructure sector and print media on limited level. • Permission 100 percent equity rights to MNCs and prior permission from exchange control authority removed. • Capital and profit repatriation facilities to foreign investors but tax clearance certificate are needed. • 100 percent tax exemption facility for 5 years to foreign investors in telecommunications services. • Introduction of electronic tax payment system that

		facilitate the foreign investors to pay taxes only in local earning in host country not on foreign earnings outside the India.
Pakistan		
	1990 s	
		• A new investment policy was introduced that opened the door for foreign investment in manufacturing, services and agriculture sector, telecommunications, energy and insurance. • Capital and profit, dividend repatriation facilities to foreign investors but tax clearance certificate are needed. • Allowance of equity shares to foreign resident investors and prior permission is required for dividend and profit transfer from state Bank of Pakistan. • Signing of intellectual property rights (IPRs) agreements to protect the foreign investors.
	2000 s	
		• Permission of 100 percent equity shares to foreign investors in industrial sectors except some restricted industries that include arms and ammunition, explosive sector, liquors etc. • Avoidance of double taxation system for foreign investors by sighing agreements with 52 countries. • A tax relief to foreign investors has been provided up to (50-90) percent • Protection to foreign currency accounts and loan facility to foreign investors. • Minimum conditions of foreign investment level $0.3millions in social sector • Relaxation provided in custom duty and currently it is less than 5 percent .The 5-10percent import duty on import of foreign machinery.
Sri Lanka		
	1990s	
		• Establishment the Board of Investment (BOI) for facilitating the foreign investors. • In Capital and profit repatriation facilities to foreign investors and ready access towards foreign exchange currency. • Introduced intellectual property rights (IPR) laws for protection to the foreign investors. • Avoidance of double taxation system through bilateral agreements for foreign investors.

2000s	• Tax incentives were provided inform of tax breaks system, and tax holidays for five years. • Zero percent import duties on imports of raw material in manufacturing sector. • Foreign investors are permitted to invest in Pawn broking, non bank money lending and retail trade sector. • 100 percent ownership to equity shares are allowed to foreign investors and no permission required except in restricted sectors (telecommunication, education, mass transportation .etc) under the condition of above 49 percent equity shares ownership. • No compulsory condition for foreign investors to transfer technology and royalty transfer. • Signing of bilateral investment treatise with 24 countries for providing protection to foreign investors.

Source: UNCTAD (2000, 2003), Sahoo (2006), SEBI (1995), CUTS (2003), Khan (2007).