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Bilateral Exchange and Foreign Direct Investment Inflow: Evidence From South Asia

by

Samra Tabassam

A thesis submitted in partial fulfillment for the
degree of Master of Science

in the

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This thesis is dedicated to my parents for their enduring patience, encouragement, love and support and for putting me through the best education possible. I appreciate their sacrifices as I wouldnt have been able to get to this stage without them. I thank my husband for the interest he showed in my studies and the motivation they gave me during those trying times when I had doubts about my abilities. Their confidence and faith in me helped me in achieving my goals.



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CERTIFICATE OF APPROVAL

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Abstract

This research study examines an impact of bilateral exchange rate on FDI inflow into the South Asian countries i.e. Pakistan, India, Bangladesh, Sri Lanka, Nepal, Bhutan, Afghanistan and Maldives. Panel data technique is used to investigate the results while using a data during 2004 to 2016. Moreover, static panel data model can not be used to provide robust results as the causality of variables challenge the model. To resolve the problem dynamic panel model (GMM) is used. The investigated results show a mixed trend. OLS Model showed that bilateral exchange rate is negatively related (when significant) to FDI inflow. Similarly, the static panel model showed that bilateral exchange rate has negative relationship with FDI inflow but the relationship is not significant. However, the results estimated by Dynamic panel model (GMM) are different from the previous models. It showed that bilateral exchange rate has positive relationship with FDI inflow. The positive relationship of Berr with FDI inflow is in line with the theories that strong currency discourages FDI into the country while weak currency motivates FDI into the country. When the exchange rate is increased (currency depreciation) the FDI inflow is increased, because of good purchasing power of people. On the other hand, when the exchange rate is decreased (currency depreciation) FDI inflow is increased due to the decreased production costs in the host country. Moreover, Coloney and Free trade agreement have positive relationship with FDI inflow. Similarly, GDP and lag FDI inflow has positive relationship with FDI inflow into the country.

Key words: Bilateral exchange rate, FDI inflow, GMM, GDP

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Chapter 1

Introduction

Foreign direct investment (FDI) has been focus of attention from several decades. It is categorized as international trade in certain studies and a mere export in others. Over the passage of time when the countries relationship developed, they started transactions across the border. The motive behind the transactions was the absolute and relative advantages of the countries in production (theories of absolute and relative advantages) (Rugman & Collinson, 2006) However, as the technological development (Sjoholm, 2007)took place in the business practices, international traders gained more knowledge and awareness in the field. They invested more in the countries where they knew that the costs of production were lower and they could get more return back into their countries (Brana, 2015). They reduced or even did not invest at all in the countries where they were sure they would not get more in return when they convert into their countrys currency. Statistics shows that FDI inflows has reached the figure of \$916 billion by 2005. Interestingly, it is also evident that more than half of the FDI inflows are received by developing countries. It is noteworthy to know the factors influencing FDI activity. Among them exchange rate is the factor which has received much attention due to its prime importance (Goldberg & Klein, 1997).

Moreover, the relationship of FDI with the exchange is practically proven to be positive, negative (Lee, 2015) as well as mixed trend (Chaudhry, Shah & Bagram, 2012). Some researchers have worked on exchange rate volatility (see Cavallari & dAddona, 2014) while others have worked on relative exchange rate (Bahrumshah

& Soon, 2012). Still others have focused fixed regime for exchange rate to predict the relationship. But now the transactions have been taken place between the countries in their respective exchange rate instead of fixed regime rate and the rate of trade block.

According to Macroeconomics, across borders FDI is a particular form of capital flows from one economy to another. Capital flows and revenues are variables obtained through investments (Lipsey, 2001). Moreover, different factors represent the financial strength and economic condition of any nation. Macroeconomics variables that are trade balance, GDP, import, export, inflation and rate of unemployment are factors that show the economic health of the country. Countries central bank and the Legislators analyze the above mentioned factors and they search out the methods in what ways they can improve them in order to have a strong and stable economy. Theories state that other macroeconomics variables might be affected negatively or positively by some variables. Legislators and central banks need to carefully focus which variable might be significantly affected by another factor. An accurate and careful understanding of the effects of those economic variables and timing would be profitable for stability and growth of the nation. Exchange rate is one of the basic components in representing the welfare of the country (Pan, 2003). In addition, study enlightened that exchange rate of the country is influenced by the factors that are interest, balance of payment, relationship among the demand and supply of currency, purchasing power, investment, intervention of the central bank on the currency market and tax policy, etc.

The institutions for OECD (economic co-operation and development) (2008) defines the FDI business as an incorporated and unincorporated business in which foreign investor owns the voting power or equivalency of unincorporated business or 10% or more than 10% ordinary shares. Therefore, direct investors are capable of effect or contribute in management and investors enjoy a long term interest in business. FDI has benefits for source country such as both direct e.g. employment and capital and indirect e.g. transfer of knowledge (Lipsey, 2000; Bruno & Campos, 2013).

1.1 Theoretical Background

1.1.1 Electic Theory

Dunning (1980 & 1888) developed a theory by name of electic theory which is combination of three theories. It tells that ownership, internationalization, location, these factors motivate the firms. economy of scale, monopoly, and technology are strength in ownership. In the host country benefits, economies, and social benefits included in location factor. Last one considered on the power of purchasing of goods or services among the various firms instead of licensing and franchising (Denisia, 2010 & Nocke, Yeaple, 2008).

Combinations of FDI (foreign direct investment) theories make a new theory that is called the Elctic theory (O-L-I). O presents the ownership benefits. Invisible assets, which are showing the company and might be transferred at minimum cost, direct to lo income or high earning. At some additional cost operational functions are performing by TNCs in different countries. A company must have some unique functions and performance to enter into foreign market. These benefits may be in location edge of company or some other significant benefits. . The firm has a monopoly over its own specific advantages and using them abroad leads to higher marginal profitability or lower marginal cost than other competitors. (Dunning, 1973, 1980, 1988).

Specific advantages are three which are as follows.

First, monopoly advantages are to get reach in foreign market through trademarks, by natural limited resources, and ownership of patents.

Second, Technology broadly information and knowledge of markets and other business innovations. Third, Economies that are financial capital access, large size of economy, and scope and scale of economy.

(2) L generate from location. If Ownership fulfilled its requirements, it will be more beneficial to own this company or firm rather than to rent to foreign firms or sell them. Key factor is location for different countries to elaborate that which

country is a host and which one is home country for the transnational purpose. Each country's specific advantages can be categorized in three factors,

- First, economic advantages rely on qualitative and quantitative production factors, market size, expense of transport, telecommunications etc.
- Second, benefits of political environment: FDI (foreign direct investment) effected by common and specific government policies.
- Third, social benefits, it consists on distance among the host and home countries, different cultures, and behaviors toward strangers etc.

(3) INTERNATIONALIZATION: if first two requirements completed, it will be beneficial for the company the use of these advantages, (Dunning, 1973, 1980, 1988) outside the country to collaborate with some factors. Third factor may show a direction in which company will explore its strength by sale of goods and services to many agreements that will be signed among the companies. In third Factor Company will get more profit after internationalization instead of franchising or licensing. Company will enter in new market and engage with new production system and get more experience. Companies are differed by OLI which is showed in Eclectic paradigm, and also tells that it depends on economy's context, political, and socially environment of host country. Therefore the objectives and strategies of the firms, the magnitude and pattern of production will depend on the challenges and opportunities offered by different types of countries.

Several Paradigms & hypothesis are created for existence for growth of operational Multinational Companies via FDI (Dunning & Lundan, 2008). Industrial Org. approaches foreign productions Firms and also they own and control value adding facilities for their advantages. It is evident that firms are familiar of the whole market and its behaviour abroad. The ownership of such Benefits must be enough to encounter the problems faced at homegrown (Dunning, 1981; Zaheer, 1995).

Moreover, the foreign direct investment is affected by multiple factors. One of the factors is the exchange rate that is taken as bilateral exchange rate in the current study. The economic part of the location factor in the theory is explained in terms

of economic variables; the exchange rate (bilateral), tax rate, gross domestic product, domestic investment, interest rate, inflation etc. the bilateral exchange rate is largely associated with the FDI inflow into the countries. Firms are motivated to invest their equity in the countries for decreasing costs and higher returns. When the currency of the country is stronger implying appreciation of currency, the FDI inflow is decreased into the country. The firms need to give less for more in return. They will incur less cost in the country with weak currency in installing factories and hiring labors. Thus, FDI is increased into the country with the depreciation of the currency and the FDI inflow is likely to be decreased into the country where more is sacrificed for less.

1.2 Problem Statement

The bilateral exchange rate appreciation and depreciation affect the foreign direct investment (FDI) inflow into the country. When the bilateral exchange rate is appreciated (depreciated) the FDI inflow is increased (decreased) accordingly. This increase and decrease in bilateral exchange rate can have great impact on the overall economy of the country. By managing the exchange rate the FDI inflow is enhanced and the economy is led to betterment.

1.3 Research Questions

This study has following research questions:

1. Does bilateral exchange rate have impact on FDI?
2. Does FDI increases with the depreciation of currency?
3. Does strong currency leads to diminished FDI?

1.4 Research Objectives

This study has following research Objectives:

1. To empirically test the data that has been collected for bilateral exchange rate and FDI.
2. To identify the pattern of inflow of FDI vis-a-vis bilateral exchange rate.
3. To analyse if FDI is increased with the depreciation of currency.
4. To know if strong currency leads to diminished FDI.

1.5 Significance of the Study

This study contains Asian countries i.e. Pakistan, India, Bangladesh, Sri Lanka, Nepal, Bhutan, Afghanistan and Maldives. Several studies have been found in literature that has focused on fixed exchange rate regime where dollar or Euro has been taken as a reference currency of exchange. But in current study bilateral exchange rate is taken for study as it is measured to be the ratio of two currencies of the paired countries rather than fixed currency that was used before. This study is the first attempt that will help to know the impact of bilateral exchange rate on FDI in south Asia i.e. Pakistan India Bangladesh Sri Lanka Nepal Bhutan Afghanistan and Maldives context with a new data set. This would help the policy makers, investors and large firms when making decisions regarding investment in the specific country with particular exchange rate.

1.5.1 Contribution

The contribution in the current literature is added to study the bilateral exchange rate and FDI relationship in the context of Pakistan and other countries in South Asia region. In the previous literature the mixed results are provided; the results are different from study to study. Similarly, most of the studies have been conducted to investigate the volatility of the exchange rate and real exchange rate and FDI in general. They have less focused the bilateral exchange rate effect on FDI where the pairs of countries are considered for investigation.

1.6 Plan of the study

The purpose of the study is to examine the impact of the bilateral exchange rate on FDI in Asian countries i.e. Pakistan, India, Bangladesh, Sri Lanka, Nepal, Bhutan, Afghanistan and Maldives. This study is organized into following five chapters.

Chapter 1: An introduction, theoretical background, research questions, problem statement, and significance of the study are discussed.

Chapter 2: Literature review is reported in this chapter.

Chapter 3: Data and methodology is discussed in this chapter.

Chapter 4: It includes results and findings.

Chapter 5: Conclusion, key findings, policy implications, future research and limitation are discussed in this chapter.

Chapter 2

Literature Review

By over two eras of research investigating the impact of FDI and its factors, there are some essential factors that can be considered while trying to apprehend the impacting factors of FDI (Amirahmadi and Wu, 1994; Kumari and Sharma, 2017). Literature study examined the number of variables that are assumed to affect the FDI; it includes GDP, infrastructure, trade openness, political stability, human capital, governance indicators and government incentives among other economies (Asiedu, 2002, Asiedu, 2006, Naud and Krugell, 2007, and Rodriguez Pose and Cols, 2017). Market size and the liberal policies of trade can be an exceedingly significant in both China and India, while capitals stream is deflected by political instability (Kumari and Sharma, 2017).

In recent study (Sulimana, Elianb, and Ali ,2018) investigated the economic growth and FDI to find out the bidirectional relationship among economic growth and FDI, they used the data of ESCWA countries over the time span of 1980 to 2011. The result of research indicated that FDI has a positive and significant impact on growth and the rate of growth is positively affected by the FDI inflows and the development of human capitals levels, though the impact of FDI on growth provisional to human capitals levels (Sulimana et al., 2018). Sulimana, and Ali, Hamid (2012) investigated a relationship among GDP growth and FDI and both might affect this in each either direction. With the evolution of literacy and integration among countries transactions across borders took place (Rugman & Collinson, 2006) and the integration of economy among the countries led into

production chain across the world. This evolution has been the result of easiness (liberalization) of the international trade and investment. The more prominent role has been played by information and communication technology. Literally, this liberalization of trade reduced the costs of transactions across the border and increased the need for FDI. Moreover, the liberalization of capital inflow and outflow has increased the FDI flow across the borders (Braná, 2015).

The trade in intra-industry usually considered as a phenomena among two trading partners having similar industries like industrialized countries. The countries with significant differences in technology, level of income, endowment factor are assumed to involve in intra-industry trade that are not trading similar commodities. Study of Helpman and Krugman (1985) showed that intra-industry trade depends on the size of two economies that are trading and relative endowment factor. In specific, smaller gap in level of incomes and highly similar in endowment factor encourages the advancement of intra-industry exchange. Grubel and Lloyd (1975) proposed intra-industry trades quantitative measurement in their early work. Greenaway and Milner (1986) found in their research that intra-industry trade was prevailing among countries with slight modification in endowments factor and prices factor. Moreover, an integrated association of global economy boosts the FDI and out-sources the activities by multinational corporations for this intra-industry trade among developed and developing countries extensively expanded.

In literature FDI became a focal point that investigates the rise of intra-industry trade among economies whose structure are different. Developments of intra-industry trade is associated with proliferation of FDI globally are viewed as one of the main factor that motivates the intra-industry trade development among FDI host and source countries. Intra-industry trade among foreign affiliation with their parent firms generally fall under the same category of industry as their specific technology and capital that is available in foreign affiliation with their parent firms. (Antras, 2003) analyzed that US imports transported by foreign affiliations to their US parents firms and US imports transported to the US affiliations by overseas parents. (Antras, 2003) concluded that US intra-industry is generally dynamic among Latin Americans economies and the US. (Wakasugi, 1997) using

an example of Japanese MNEs, stated that intra-industrys rising shares with in Asian economies was mainly promoted by Japanese Foreign direct investment and it built the network of intra-industry transaction among parent economies with their foreign affiliations.

FDI is affected by various variables naming exchange rate, price level (Bianco & Loan, 2017), inflation rate (Udoh & Egwaikhide 2008), technology gap, competition (Sjoholm, 2007) and political environment (Deseatnicov & Akiba, 2016), however here in this study the exchange rate particularly the bilateral exchange rate is focused to be studied. A lot more studies have been conducted around exchange rate and its impact on FDI. Some of them have focused exchange rate variability while others have explained real exchange rate and FDI. With a little variation, multiple strands of papers are found that have explained relationship between FDI and exchange rate.

This literature is organized around two strands of studies where in first exchange rate volatility and FDI relationship and in second exchange rate and FDI relationship without volatility is focused.

2.1 Exchange rate volatility and FDI

Cavallari and dAddona (2014) conducted a study considering 24 Organizations for Economic co-operation and Development (OECD) that comprises 552 country pairs. They found that variation in the exchange rate among the partner countries deters the FDI. They reported a strong negative relationship between the bilateral exchange rate variation and FDI. They also showed a negative relationship between bilateral exchange rate and FDI between the home and host countries. Explaining exchange rate volatility while taking the risk adjusted real exchange rate, (Cushman, 1985) identified that risk adjusted real exchange rate appreciation (currency depreciation) would lead to lower production cost in the host country which in turn enhances the foreign direct investment. Other things being constant like output prices of products and induced productivity change, the effect is

explained. His empirical results identified negative effect of exchange rate volatility considering the US flows to three countries France, Canada and Japan and in turn from Canada and Japan. Moreover, investigating the volatility effect in Asian countries (Chaudhry, Shah and Bagram, 2012) selected four regions of Asia naming South-Asia, South-East-Asia, East-Asia and West-Asia. They revealed the results to be such that mixed trend was found in some countries while in half of the countries the effect was not found.

Some studies are found that have thrown light on the effect of exchange rate volatility with respect to the duration that is long run and short run. One such study (Lee, 2015) investigated in his paper that exchange rate (bilateral) change (volatility) in the long run has negative relationship with FDI. It is argued that FDI from the source countries into the Korea diminished with the appreciation of the Korean won against those countries. Furthermore, in the short run the changes in Japanese yen has positive relationship with the Korean won, implies that with the depreciation of Korean won against the Japanese yen has increased the inflow of FDI into Korea. Similarly, other scholars have focused economic factors to estimate the exchange rate volatility effect. This effect is explained by (Mahmood, Ehsanullah and Ahmad, 2011) as they studied exchange rate volatility and macroeconomic factors and found that change in exchange rate has negative relationship with FDI.

In another research studies they differentiated the horizontal verses vertical FDI. Vertical FDI in which production disintegration processes has involved across the different countries, it might be discourage through exchange rate risk due to the prerequisite to engage in intra-firm trade. On the other hand horizontal FDI, in which similar actions are performed in different locations, may be positive response (Aizenman & Marion, 2004). If FDI comprises of several types of joint venture then reversibility will be the Japanese FDI flows to the large number of economies (Kiyota and Urata, 2004).

Therefore, some other research studies suggested that FDI flows are promoted by exchange rate volatility. (Itagaki, 1981) and (Cushman, 1985) narrated that in some cases theoretically uncertainty might be increased the FDI if substitution

of exports is used. Other researcher narrated that in the total production; the greater number of short term volatility of real exchange rate would be raised by the shares of foreign production (Goldberg and Kolstaad. 1995). (Lin et al, 2010) studied that how the uncertainty of exchange rate influences the FDI's timing by using the firm level data of outward FDI on firms of Taiwan into China over the duration of 1987 to 2002. They further concluded that uncertainty of the exchange rate inclines to deferral the activities of FDI of market seeking companies and it might be accelerated the activities of FDI of substituting exports companies if the companies are highly risk averse.

In 1973 when the Bretton Woods collapsed and exchange rate flotation is switched, real exchange rate volatility has been increased with the significant effect on the growth of economy, trade international and movements of capital (Baig 2001; Hviding et al., 2004). Especially in developing countries it is more significant wherever huge fluctuations in real exchange rates has been resulted by exchange controls abolition and liberalization of financials (Reinhart et al., 2002; Corden, 2002). Many factors have been identified by (Stancik, 2007) that are contributed by the misalignment of the real exchange rate. Between them, the volatility of exchange rates significant determinants were output level, economy's openness, inflation, rate of interest, supply of foreign and domestic money, regime of the exchange rate and independence of the central bank. The impact level of each factor depends and varies on the economic state of specific country. Hence, the economies that are in the process of transition are more exposed to be affected by those factors; decisions of the monetary policy will also being affected.

Some other researchers Coric and Pugh examined exchange rate volatility's impact on trade international by using the meta-regression method for analysis for the duration of 1978-2002 on the total of forty-nine studies. The findings showed that on trade international, volatility of exchange rate has an adverse impact. Moreover, the studies that use disaggregated data, volatility of exchange have negative impact. For developing countries, these outcomes are specifically significant where markets such as future, forward and option are less developed as compared to developed countries.

Exchange rate has been defined as the cost of the domestic currency in respect of foreign currency regarding their volatility and levels. When the exchange rate is lower that means cost of foreign currency has been depreciated and domestic currency is appreciated and vice versa. When the rate of foreign exchange goes up that would increase the purchasing power of foreign goods from this import activities declined and when the rate of foreign exchange goes down then the domestic currency has been depreciated and foreign currency has been appreciated. By the comparison among the two points in duration of time of change in percentage; the calculation of the currency in terms of depreciation and appreciation has been taken. If change in percentage is positive that means appreciation in foreign currency whereas negative change in percentage demonstrates that foreign currency has been depreciated. By the supply and demand curve of currencies among two countries could be calculated the exchange rate (Jeff Madura, 1997). On FDI, exchange rate has significant impact. The currency depreciation means the value of currency decreases in contradiction of other currency that type of association of exchange rate has some impact on FDI. To start with the wages and the cost of production when it has been reduced regarding to host country. Other thing is depreciation, for source country it is the enhancement of locational advantage with respect to the improvement of return rate that will enhance the inflows of investment in the host country.

(Javed and Farooq, 2009) examined that how the source countrys currency unit could be converted into the host countrys currency unit that is exchange rate. Basically its the conversion of one economy currency into other economy currency. Actually the supply and demand of currency are the major factors of the instability of exchange rate. The decision makers are directly affected by the instability of the exchange rate that how considerably the exports and imports are. Exchange rate also states that how many goods should be exported, imported, produced, manufactured, balance of payment and reverse money taken. On the prices of balance of payment, import and export are also affected by the exchange rate. The exchange rate fills in as an incredible open door for local investors to gain high profit through investing in international currency. Traders and the investors

like that framework wherever is a little discrepancy difference, amongst real and expected estimation of exchange rate. Higher profit is sourced by the exchange rates instability; it has been perceived by one school of thought. (Takagi and Shi, 2011) examined that on export neoclassical and classical are the two different school of thoughts. They thought that free contribution of foreign market has played an extraordinary part for the development of any country and its the way out of crises that faced by the countries. These two theories thought that by utilizing these resources, only that products should be produced by the country which they could create productively by increasing competitive edge, as the world have turned out to be a global village. When the country would produce cheap products then the products demand would be increased, though because of the global village the money will be redistributed due to this export will increase. Instability in exchange rate is seen when movement in exchange rate is takes place to flexible from fixed exchange rate (Mustafa and Nishat, 2004). (Huchet & Korinek, 2011) found that in emerging countries FDI's role is most important factor for growth. In host countries international investors has been inspired to invest, if the possibility of long term profit making through subsidizing area though the production of the host country is very noticeable. In emerging countries, FDI not just assume its crucial part to the formation of capital however it is a good source of innovation skills and the transfer of the technology from emerged to emerging countries. For the improvement of the less emerged countries, these countries proposed inducements to international investors keeping in mind the end goal to fascinate the more FDI. There two opposing views that incorporate these opposing views of flexibility production and avoidance of risk. As indicated by the first point of view that there is inverse relationship among the exchange rate and volatility of FDI and the second view that there is direct relationship among them. When confronting the opposite side of coin, the exchange rates appreciation of the host country could also be caused, the valuation for the conversion standard with the yields or contributions with checking (Sttar & Rehman, 2012).

As indicated in the literature that those countries which are using currency endeavor to impact the inflows of FDI from those countries which are using the currency i.e. week, presence of the FDI has been led by the cash flows (Bleaney & Greenaway, 2001). The current literature about the impact of the exchange rate on the flows of FDI, it started with the presumption of ideal capital versatility after 1990 in the world. There are additionally a few theories which clarify how the flows of FDI respond to conversion in the exchange rates level. Presumption of position of the wealth is one of them. For this theory, FDI nearly considered on the international exchange market by the effect of the variation of the exchange rates level on the comparative wealth of two economies of origin and destination. In the volume of FDI inflows, exchange rate played a great role in the host country (Froot & Stein, 1991). At sectorial level, they examined different kinds of inward FDI to US and they also proposed that an increase in volumes FDI has been led by dollars depreciation in the host country; the purpose is due to decrease in the investment cost and increase in the investors wealth. The more important, their findings demonstrate strongly negative association among the exchange rate level and the inward FDI in the firm of manufacturing. The another theory about the conversion effect in the exchange rates level on the flows of FDI is recognized as the labor cost theory respective to the previous studies. The devaluation of the host country's currency encourages more inflows of the FDI because of the deduction in production cost from very beginning day and inspires more international investors. As (Cushman, 1988) studied that the real devaluation of the currency of primary host country to encourage an increase in the inflows of the FDI, for the reason that it diminishes the wages and the cost of production in host country. Conversely as indicated by (Campa, 1993) the multinationals looking for benefits in the neighborhood advertise and in the event that they are hopeful about the future productivity, they increment their interest in this market. In this way, the inflows of FDI are increased by the model applications to the appreciation of the currency of source countries. Generally, the studies favoured the theory that diminishing the currency of the host countries increases the volume of the inflows of the FDI. A lot of studies existing on the impact of exchange rate, however there

isn't an exact outcomes that all examines support with though some of them proposed that there is a positive relationship among foreign direct investment and exchange rate, others recommended that there is negative relationship, and still various have been found that there is no relationship. The most investigations in the previous studies measured the flowing of FDI in emerged countries as opposed to the emerging countries. Therefore, the real impact on FDI of exchange rates volatility is confusing in complex and indeterminate (Yuen and Geio, 2003).

The relationship among FDI and volatility of the exchange rate is searched by the (Firoozi, 1997). The findings of (Crowley & Lee, 2003) demonstrated that there is a weak relationship present among the investment and the volatility of the exchange rates, if the activities are relatively low; however a strong relationship has been seen in the excessive activities. For instance (Duiker and Gorg, 2009) decided that among two currencies the real exchange rate is most important element in defining FDI from China to Japan and the depreciation of the currency of China has a positive effects on the inward flows of FDI in Japan through the sampling period. The results of (Chong & Tan, 2008) showed that in Southeast Asian Countries there is a relationship exists among the exchange rates volatility in long run and some macroeconomic factors; however, weak relationship has been found among them. According to (Jeon & Rhee, 2008) acknowledged that the existing of a significant association among inflows of FDI and the actual as well as variations in exchange rates offered the exchange rate by Korea. (Chowdhury & Wheeler, 2008) studied the relationship among FDI and risk involved in exchange rate. Their results demonstrate the mixed association between them. According to (Furceri & Borelli, 2008) the amount of openness of the country is the main factor; to examine the impact of volatility of exchange rate on FDI. According to (Lee & Min, 2011) there are several other elements and they concluded that in Korea there is a nonlinear association between risk investment. (Nyarko & Ampomah, 2011) demonstrated in their results that in Ghana there is not a significant association found among regime of the exchange rate for foreign direct investment. On Pakistan, the research of (Vita and Abbot, 2008) showed that the exchange

rates volatility has a negative impact on foreign direct investment. There are several other studies that show the effects of the exchange rates volatility on FDI, for example various presenting a positive relationship between the exchange rates volatility and foreign direct. The results of (Fontagne & Revil, 2001) explained that to emerging countries, on the flows of FDI there is a negative effect has been seen of volatility of exchange rate. The negative effect on investment of volatility of exchange rate has been found (Bleaney & Greenaway, 2001). (Kiyota, 2004) found in his studies that there is an inverse association to the exchange rates volatility on FDI, however the FDI is attracted by the devaluation of the yen. According to the (Chen & Rau, 2006) in an investigation they acknowledged the significant impacts of the volatility and level of exchange rate have negative impact of exchange rate risk on FDI trade. According to (Schnabl, 2008) the exchange rate volatilitys role, consistency is interrelated with the growth of the economy and a negative relationship amongst the exchange rates volatility and growth has been indicated. (Kyeremboah & Tettey, 2008) examined in Ghana the flows of FDI are negatively affected by the exchange rates volatility.

However, (Nyarko & Barnor, 2011) found in their results that there is a negative effect of volatility of exchange rate on the flows of foreign direct investment in the UK. Similarly, (Erdal, 2002) investigated the impact of exchange rate volatility and inflation on FDI in Nigeria. They found a negative impact of the exchange rates volatility and incredibility of inflation on the foreign direct investment, whereas in the findings of (Crowley & Lee, 2003) when the rate risk changes, it negatively effects on the flows of the FDI in entirely sectors in the US. According to (Morrissey & Gorg, 2009) the inflows of the FDI could be adversely effected by the exchange rates volatility, whereas there has been an inverse association found among the results of the FDI and depreciation. (Kandilov & Leblebicioglu, 2011) found that at plant in Colombia; on investment, there is the presence of a strong negatively significant effect on a volatility of a real exchange rate is evident. Whereas in the member countries of EU to Eastern and Central Europe (Arratibel & Zdzienicka, 2011) acknowledged that there is a negatively significant associa (Cushman, 1988) in United States there is the positive relationship among exchange tion is present

of the exchange rates volatility on FDI. According to rate risk and FDI is present. According to (Goldberg & Kolstad, 1995) there is an increase in the shares of production of installed volume abroad relative to the exchange rates movements. As (Baek & Okawa, 2001) documented that the yens appreciation against both the American and Asian currency that results in a rise of FDI by Japan in the sector of manufacturing and other Asian sectors. In the study of (Gorg & Wakelin, 2002) they suggested that an investment or inside abroad or to direct is effected by the exchange rates volatility in United States. Although, in case investment there is a positive relationship found among the outside of the U.S. by the currency appreciation of host country. Therefore, there is a negative relationship found for in Dollar of United States appreciation and foreign direct investment. According to (Gottschalk & Hall, 2008) in Japan the exchange rate risk has a positive relationship to FDI in South Asian countries. Whereas (Osinubi & Amaghionyeodiwe, 2009) concluded in their studies as the domestic currency depreciated, in Nigeria the real Foreign Direct investment increases. As (Dhakal et al. 2010) proved that the exchange rates volatility has a positive effect on FDI in the selected economies of East Asian sample. According to (Takagi and Shi, 2011) with the increased of the exchange rates volatility the FDI increases, however with the decreased in the Japanese currencys depreciation in contradiction of the host countrys currency is Asia. Whereas the research of (Nagubadi & Zhang, 2011) revealed that the positive encouragement of real exchange rates volatility and depreciation of host country of the rate of exchange on bilateral FDI amongst the Canada and United States. As (Dhakal et al., 2010) examined the Asian regions impact of rate of exchange on FDI. They found a positive impact on FDI of the rate of exchange In East Asian economies such as, Malaysia, Indonesia, Philippines, China, South Korea, and Thailand. They used the estimation technique i.e. panel data. Moreover, Chege (2010) took the twenty-six developing market economies for research and examined that how volatility of the exchange rate impacts on all countrys FDI. For this he used a panel data technique for analysis, in his research he demonstrated that the volatilities of the exchange rate had adversarial impact on inward flows of

the foreign direct investment for the above mentioned developing economies. Finally, (Pan, 2003) documented that the negatively insignificant association among the FDI inflows and rate of exchange into China during the time period of 1984 to 1996. The research proposed that MNEs might not be taken out of their earnings in short-term time period hence suggesting that the FDI in developing markets might be for the decisions of the longer run.

An extensive review of both theoretical and empirical literature is well surveyed in (Mackenzie, 1999). Clark, 1973 In the beginning of empirical work, OLS method used for utilizing, that showed negative hypothesis and (Hooper & Kohlagen, 1978) there is negative relationship among the export quantity and volatility. Results show difference due to sample and pattern of research in empirical proof era of 1980s. That's why there is no same method that applied in different countries. Exchange rate risk disturbs the trade it is said by (Thursby & Thursby, 1987) while the studies show the effect of exchange rate on international trade as positively (Mckenzie & Brooks, 1997).

Export and volatility has negative relationship by using the moving average by (Cushman, 1983) of real exchange rate volatility. Cushman's studies in 1983 include spot between absolute difference, found mixed effect Volatility of exchange rate has been measurements turned by researchers explained into three steps. of volatility on export by alternative of current rate and forward measures.

The international trade concluded the risk of exchange rate is detrimental by (Akahtar and Hilton, 1984). Sell of goods and services in which market either foreign or home market decided by producer which is suggested by (De Grauwe, 1988). Some predictions of his sample predict that exporters behaviors affected by local money of exports as well as his uncertainty preferences which is provided by him. Measure of volatility measured in his model as percentage differs of export quantity. Bilateral exports and exchange rate of volatility is a best indicator for the average absolute difference among the last forward rate and current spot rate that is proposed by (De Grauwes study Peree and Steinher, 1989). Exchange rate risk effects the trade (thursby, 1987). Exchange rate effect the international trade positively (Mckenzie and Brooks, 1997). In developing countries many researchers

confirmed that exchange rate volatility has negative effect on export (Arize, 2000) (Dognalar, 2002). However some studies also show positive relationship (Sheny and Youtang, 2012) and some of them show negative relationship (Javed and Farooq, 2009) or no effects at all Hondroyiannis, Swamy, Tavlas and Ulan, 2010.

Cost of production is often measured by comparing the exchange rate between the two countries involved. Studies by (Clegg and Scott-Green, 1999) indicate that to keep the labor cost low in host country, ones home countrys currency must appreciate along with other factors. Thus, with the appreciation in home countrys currency, there is an expected positive effect on FDI moving inward in host country. (Dewenter, 1995; Froot & Stein, 1991; Grosse & Trevino, 1996; Kiyota & Urata, 2004; Wei & Liu, 2001) found evidences of a negative relationship between inward FDI and exchange rate. However, (Pain & Van Welsum, 2003) found controversial results to that of above studies and showed that there is found no long-run relationship between the two.

According to (Akahtar and Hilton , 1984), volatility in exchange rate is destructive to international trade. (Peree and Steinher, 1989) proposed that the average difference between preceding forward rate & current spot rate is a good sign of fluctuating exchange rate on bilateral exports. Some previous studies tried focusing on substitute measures of unstability and the inspection of additional issues but most studies utilized OLS method and scrutinized bilateral and aggregate exports.

The technique of integration determined about the existing of a longer term relation between the relative prices and exchange rate, interest rate and income. Aftab (2002) examined the longer term and shorter term effect of exchange rate deflation into Pakistan's trade presentation. The research used the Johansen's co-integration technique to examine the longer term barter elasticities and the occurrence of Marshall Lerner (ML) condition. The study also explored the shorter term exchange rate subtleties by building an error-correction model to trace the J-curve. For the three-monthly data for time period 1998-2000, the research repeated the fulfilment of the ML condition in the longer term for Pakistan. The outcomes displayed that there was the presence of j-curve phenomenon in the country. The

results showed that the real devaluation of Pak-rupee may be used as a policy tool to progress the trade balance. The effect of exchange rate volatility on export development was examined by (Nish at, 2004). The study used three monthly data for the years 1991-2004 and practical integration and error-correction technique. The research determined with varied outcomes of export growth in Pakistan for dissimilar economies. The instability of exchange rate has negative and significant impact in the longer-term and shorter term for Australia, New Zealand, UK and US. Though Asian states such as Bangladesh and Malaysia no experiential relation observed. Azid et al. (2005) studied whether extreme volatility or instable of exchange rate systems take marked things on industrialized sector of Pakistan. The outcomes found by impulse answer permitted that exchange rate volatility has no significant influence on industrialized production. As result its a major worry to policy creators in respect to the cost of adopting flexible exchange rate system.

2.2 Exchange rate without volatility and FDI

According to a study conducted by Larue and Mutunga (2006) exchange rate has negative relationship with foreign direct investment. This implies if exchange rate between the home and host country fluctuates, the FDI is affected accordingly. With the appreciation of the host currency the FDI inflow will be diminished as the MNEs will experience loss of investment in such countries. Bahrumshah & Soon (2012) investigated the bilateral exchange rate effect of Malaysia and its 14 trading partners. In this study they argued that exchange rate is actually established as a result of purchasing power parity (PPP), the prices in the pair countries. They identified the results being varied. Sample period is divided into parts, that is, before and after crises years. The results were such that PPP held for exchange rate between the Malaysia and its partner countries in pre-crisis period. However, the results showed weak evidence to prove the PPP due to 1997 currency crises. They concluded with point that the base currency may not matter

at all for the case of Malaysia. This implies that bilateral exchange rate may not affect the FDI decisions as it holds for long term instead of transition or shock.

Exchange rate is relative that means taking two host countries into consideration for one source country. By devaluing the exchange rate against the source country relative to the other host country makes expectation to increase the FDI inflow to the former host country. The FDI inflow is the function of exchange rate of the host country. For this validation of inferences Japanese FDI in manufacturing industries of China and ASEAN-4 (Malaysia, Indonesia, Philippine and Thailand) is examined. The results showed that the relation between FDI and exchange rate is multidirectional. It also showed that the devaluation of Chinese Yuan decreases FDI inflow into the ASEAN-4. Similarly the cumulative devaluation of Chinese Yuan has been switched the Japanese FDI from the aforementioned ASEAN-4 to China (Xing, 2006b & Xing & Wan, 2006 cited in Khan Sattar & Rehman, 2012).

Other researcher has analyzed the relationship of exchange rate and FDI. Their findings demonstrated that higher FDI should be led by depreciation. If you compared local firms in terms of foreign firms then book value is enhanced by the depreciation. When the book value increases then it tends to raise the buying behavior that is the indication of higher inflows of FDI (Stein & Froot, 1991). (Yuqing, 2004) examined the E.R and foreign direct investment in the economy of China. His results showed that there is a strong correlation among bilateral exchange rate and direct investment of Japanese in China. Furthermore, another study has been conducted on FDI and E.R, this study comprises the expectation on exchange rate and volatility of exchange rate as an effective variables. This study's results indicate Positive (negative) correlation of devaluation (appreciations) of E.R and inflows of FDI.

(Coleman and Tettey, 2008) researched the impact on FDI of exchange rate. They originated that inflows of FDI has been negatively affected by the exchange rate. Their analysis demonstrates that overvaluation of the currency could be led by the policies that are inappropriate that will be the cause of decreasing the inflows of FDI. Long run relationship has been found among E.R and FDI while studying

the relationship among FDI and E.R. The outcomes demonstrate among E.R and FDI, the relationship is two ways causality (Rashid and Hafeez, 2002).

(Khan et al. 2012) examined that in an open economy exchange rate is the most important factors it has been direct effect on macroeconomic factors such as GDP and FDI. Economists, policy maker, and investors concentrated on countrys exchange rate and then they invest their money in particular concerned country. They thought that in foreign trade competitive advantage has been created when exchange rate increases. While increasing the exchange rate of the economy, the exports of the domestic goods going to be cheaper and it will raise exports demand that means demand for the foreign goods raises and the demand of import will go down. FDI will be affected and ultimately countrys GDP is affected by all the above mentioned factors.

Dennis, Lainciz, & Zhu (2008) investigated the exchange rate effect for the Japanese FDI flow into five Asian countries. They showed that decrease in exchange rate (appreciation of currency) of host country against export partner would result in loss of investment in the host country. They have also explained that whenever the intentions are such that the production in the host country would be re-exported to the home country then the appreciation would result in increased FDI. However the depreciated local currency and lower variable rate of exchange attract the FDI. Chowdhury and Wheeler (2008) demonstrated in their paper that exchange rate has effect on FDI such that FDI can either be increased or decreased with the appreciation and depreciation of the exchange rate between the countries. That implies that magnitude and the direction are affected by exchange rate. However, the increase and decrease depends on multiple factors like wealth elasticity, the specific countrys value and the relevance of the FDI. In the same paper they also argue that exchange rate affects FDI in two ways; when FDI is substitute of trade and when cost of production in host country is low. When the exchange rate is decreased (currency appreciation) the FDI is increased, because of good purchasing power of people now. On the other hand, when the exchange rate is decreased (currency depreciation) FDI is increased due to the fact that decreased production costs in the host country.

Udomkerdmongkol, Morrissey and Gorg (2009) studied US FDI flow to sixteen emerging economic countries and found empirically that devaluation of the currency of these countries against US dollar accelerated FDI. However, the expected devaluation of the currency has discouraged the FDI into these countries.

Froot and Stein (1991) have investigated some different results of exchange rate and FDI. They have stated in their paper that FDI is not effected by exchange rate. In addition, they have explained that acquisition of assets in host country can be managed by foreigners well instead of the investors who have the opportunity to borrow at that rate in the host country. So, exchange rate does not matter for them to invest in the host country.

2.3 Bilateral exchange rate and FDI

For an economy like Pakistan exchange rate is playing a handy role in foreign trade with FDI and eventually the GDP. Exchange rate instability effects on macroeconomic variables specifically the foreign trade is researched more often after later part of 1970s once the exchange rate shifted to flexible system from fixed . The theory clarifies that high exchange rate instability decreases trade by generating risk from export trade about future profits. With the help of forward markets handling the expenditures timings and revenues. The exports may decrease the risks in the shorter-run. exchange rate volatility might be affecting trade not directly by impelling firms investing choices in the longer-run. Real exchange rate is critical to control FDI (foreign direct investment). Goldberg, (1997) lectured that foreign directly investing bilateral real exchange rate effects the advance nations. Lesser limiting models of the equilibrium exchange rate, such as the traditional Mundell Fleming model (Mundell, 1963) or generalized portfolio balance (Branson and Buiter, 1983) accept that yield isn't settled at the level of full work, and propose that the present record adjust decides the equilibrium exchange rate. As it were, the exchange rate, reasonably than assumed to be constant, is linked to the relative output levels. The empirical implication of this hypothesis is that the real

exchange rate should be co-integrated with the relative levels of domestic and foreign output. The empirical suggestion on interface between exchange rate and FDI are based on the truth that there is a sharp rivalry for FDI among countries. The exchange rate policy could expressly or verifiably fill in as an instrument to fortify a country's FDI competitiveness. Xing (2006b) studied the FDI-exchange rate connection in respect of one FDI source and two host countries. It concentrated on the impact of trade rates on relative FDI inflows between the two host nations. The hypothetical examination appears expressly that relative FDI inflows are a component of relative genuine trade rates. In specific, in the event that one host nation downgrades its money against that of the source nation more than alternate does, FDI into the previous nation will be required to increment with respect to the next nation. This hypothetically surmising is analysed by the examination, with Japanese FDI in assembling ventures of China and ASEAN-4 (Indonesia, Malaysia, Philippines and Thailand). The outcomes bolster the hypothetical conclusion proposing that genuine cheapening of the Chinese Yuan undercut FDI into ASEAN-4. The hypothetical and exact outcomes additionally recommended that the connection between trade rates and FDI is multidimensional. The conversion scale approaches of one FDI have nation impacts not just its own FDI inflows yet in addition significantly influences FDI into different nations veiling for FDI from a similar source.

Theoretically, it is not surity that the exchange rate must have an impact on FDI decisions because expenses of setting up a firm and incomes from the venture are named in a similar money, yet most writing expect that the real exchange rate is fluctuated and that it impacts the domestic price of FDI and the genuine estimation of incomes exchanged to the nation of origin. Cushman (1985), Froot and Stein (1991), Klein and Rosengreen (1994), Bloningen (1997), Caves (1989) and Kogut and Chang (1996), taking a gander at various eras and distinctive source nations, all find that FDI inflows into the USA increment with a fall in the estimation of the dollar. However, Froot and Stein find that it holds for the assembling division, and Bloningen finds that a gratefulness in the two-sided US Dollar-Yen genuine swapping scale prompts an expansion in acquisitions of high R&D firms in

the assembling part, while for nonmanufacturing low R&D businesses, this impact is substantially weaker and not noteworthy. A clarification could be that green field speculations don't include any procurement of firm specific resources and might be along these lines less delicate to conversion standard levels (Pain & Van Welsum 2003). Taking a gander at interests in the administration part, Tomlin (2008) finds that energy about the dollar prompts more capital inflows into the US benefit industry. In like manner, Dewenter (1995) and Stevens (1998) find that a valuation for the dollar prompts more inflows by and large. Chakrabati & Scholnick (2002), in looking at the impacts of US dollar trade rates on FDI inflows in US dollar terms from the US to OECD have nations for an example of 20 OECD nations over the period from 1982 to 1995, locate no hearty impacts (see likewise Udomkerdmonkol et al. 2006). In this manner, albeit most investigations affirm the presence of the negative correlation between the level of the dollar exchange rate and the flow of FDI into the US by looking at certain groups of countries, industries and periods of observation, it is unclear how robust these results are.

Xing (2006) and Xing and Wang (2006) push an extra angle by taking a gander at the impact of levels of exchange rate if creation in the host nation is mostly utilized as a fare stage. They find that interest in China is emphatically identified with the deterioration of the Yuan, occupying, diverting investment from alternative locations in Asia. Revolving to variability, theoretical influences indicate that the relation between exchange rate volatility and FDI could go either way. Aizenman & Marion (2001) argued that vertical FDI is reserved rather than encouraged by increasing exchange rate volatility but that level FDI, which is unavoidable in industrialized countries, can be engaged by exchange rate vulnerability since it makes chances to move creation to nations with more invaluable exchange rates. On account of vertical FDI, high conversion standard unpredictability can postpone venture in light of the fact that there is a possibility the speculation can be made at a more positive swapping scale later. Normally, the choice estimation of holding up increments in vulnerability (Dixit & Pindyck 1994, Rivoli & Salorio 1996, Dunning 1988, Bloningen 1997), so expanding vulnerability builds

the likelihood that financial specialists will pick the choice of deferring speculation. Goldberg & Kolstad (1995) and Sung and Lapan (2000) also push that by taking part in FDI firms purchase a contrasting option to move creation in light of conversion scale changes and, since this choice is decidedly connected with the changeability of the exchange rate, more volatility should actually lead to more FDI. Goldberg & Kolstad (1995), taking a gander at two-way two-sided FDI streams between the US, Canada, Japan and the United Kingdom over the period from 1978 to 1991, affirm that higher unpredictability has a significant positive effect on the ratio of outward FDI in four of six cases. Other people who find comparable outcomes are Cushman (1985, 1988, 2001), Stokman & Vlaar (1996), Dewenter (1995) for US related streams, and De Mnil (1999) for a more extensive example of OECD nations in a gravity model of two-sided FDI flows. Again, in accordance with the hypothetical contentions, exact confirmation is blended. While Campa (1993) finds a negative influence of volatility of the US Dollar on the quantity of non-manufacturing exchanges by Japanese financial specialists in the US, just constrained impacts are found by Campa & Goldberg (1999) and Lafrance & Tessier (2001) for FDI to Canada, Crowley & Lee (2002) for respective streams in a board of 18 OECD nations, and Grg & Wakelin (2002) for the level of internal and outward FDI to the US from 12 OECD nations. Russ (2007) contends that the effect of fluctuation on venture relies upon whether unpredictability is driven by stuns in the home or host nation. Constrained confirmation can likewise be expected to non-straight responses of venture to an expansion in unpredictability. Limited studies have been found on the expectation to check the effect of exchange rate while the exchange rate as not evident. According to some early research inconsistently found a negative relationship among the flows of FDI volume and the currency expected higher values of host country for US and the 5 other emerged countries (Cushman, 1985, 1988). These outcomes yet not are certain since they involve an exacting theory and joint test are made. (McCulloch, 1989) the first thing is the exchange rate follow arbitrary walk and the other is expectation be inelastic. Though these hypothesis contain many implication. In arbitrary walk theory, exchange current rate is perfectly elastic to the expectations as a result FDI

is not affected. On the other hand, (Frankel & Froot, 1987) proof that current spot rate is inelastic to future spot rate, namely; expectation of the future exchange rate up to the current level do not update by economic agent. Takagi (2011), work on data study concluded that reduction tend to be follow by outlook of more depreciation in the short period however through the outlook of reasonable appreciation in the long period, and during the period of sharp instability the ability for mean reversion increased. (Chakrabarti & Scholnick, 2002), Exchange rate expectations have been updating by small and large exchange rate shocks so they economic agents may react in different ways. Although the comparatively adequate literature on exchange rate outlook, (Jongen et al., 2008) recommended the value of exchange rate outlook for portfolio and new economic decisions. (Pain et al., 2003) attempt relation with FDI flow however it was incomplete. According to (Udomkerdmongkol et al., 2009) he introduces exchange rate expectation in the study of FDI flow from developed to rising market economies.

While the end of Bretton Woods in 1973 and the control to suspended exchange rates, there is increase in the instability of the Real Exchange Rate (RER), with major effects on economic growth, principal movements and worldwide trade (Baig, 2001; Hviding et al., 2004). This was important in the emerging countries, were economic liberalization and the ending of exchange controls in huge fluctuations of real exchange rates (Reinhart et al., 2002; Corden, 2002). Stancik, (2007) has recognized a lot of factors, which put in to real exchange rate misalignment. Among those, the level of production, prices increase, and the directness of an economy, interest rate, conjugal and overseas money supply, the exchange rate system and central bank independence were important determinants of exchange rates instability. The level of collision vary and dependent on a particular countrys economic condition. Hence, the countries have a venerable effect on these factors during the transition process, which in retreat will affect the monetary policy decision.

(Juthathip 2009) showed that the real exchange rate is resolute by 5 key essential variables that are average to long-run essential output differentials, term of trade, directness, net foreign assets and government payments on other variables such as

output gap may be integrated in some countries where these factors take part in formatting the real exchange rate.

(Gorgea et al., 2008) the determinants of the real exchange rate have been introduced by a good survey of the literature, where they discussed the factors which drive the real exchange in long-run. The (Ballassasamuelson effect, government expenditure, the term trade, the directness amount, overseas capital flows were included as determinants, of the facton nominal exchange rate system, this has an impact on real exchange rate. (Clark and Macdonald 1998) found that the equilibrium real exchange rate is resolute as a task for both vectors of long-run economic fundamentals and the interest rate differential.

(Fang et al. 2013) observe the asymmetric effects of the exchange rate instability on monthly mutual exports from 8 Asian countries (Japan, Korea, Malaysia, the Philippines, Singapore, Indonesia, Taiwan and Thailand) to the United states using the forceful conditional correlation vicariate (GARCH 1,1)-M model. The data are monthly for the period from 1979 to 2003. For all the countries, overseas income positively affects exports and extensively with contemporaneous, 1-month-lagged or 2-month-lagged effects. Exchange rate fall exhibits the normal positive effect but prove irrelevant in two countries. Exchange rate instability produces major cause on export of every country harmful and constructive. Taiwan, Indonesia and Japan take action harmfully to exchange rate threat for the period of depreciation. During appreciation, the Philippines and Korea take action harmfully to the exchange rate threat and positively in appreciation. During depreciation, Malaysia exhibits an optimistic exchange rate. These findings strongly affect the exchange rate risk on exports irregularly. The irregular reply may due to the factors such as the love of depreciation, fear of appreciation, fear of floating, original sin, the US dollar invoicing, the exporter asymmetric risk perception and lack of foreign exchange market intervention. Accordingly, the steadiness of the exchange rate can be considered by policy makers and the method of controlling export growth is depreciation. (Grier & Small wood, 2014) examine the impact of exchange rate instability on international trade in twenty seven countries (19 emerging countries, namely Venezuela, Peru, Mexico, Ecuador, Chile, Brazil, Argentina,

Thailand, Singapore, the Philippines, Malaysia, Korea, Indonesia, South Africa, Nigeria, Morocco, Pakistan, India, Turkey and 8 developed countries, namely the UK, the US, Switzerland, Sweden, Norway, Japan, Denmark and Canada). The record are review for the era from 1979:1 to 2007:4. The consequence show the real exchange rate instability harmfully effect the international trade a number of fewer developed countries and the real exchange rate instability tend to link with real currency appreciation.

On international trade the impact of exchange rate instability has been examined by the panel data analysis. (Hall et al) study the impact of exchange rate instability on export of developing market economies (Turkey, Thailand, South Africa, Singapore, the Philippines, Korea, Israel, Hungary, Brazil, Argentina) and other emerging countries (Venezuela, Paraguay, Pakistan, Morocco, Malawi, Guyana, Ecuador, Dominican republic, Costa Rica, Colombia, Bolivia) using panel data study for the time from 1980 to 2006 and from 1980 to 2005 respectively. The comprehensive method of time-varying-estimator and moments estimator is used. The comprehensive method of moments estimator considers the endogeneity of the advisory variables comprises the estimating the coefficients that are acceptable to vary due and the removing and the identifying the condition biases from which the coefficient has been affected. Exchange rate instability is articulated by the 8-quartor affecting typical deviation of the real effective exchange rate. For other emerging countries, the consequence exposes that exchange rate instability to have major negative impact on exports. The study concludes that the effects of exchange-rate instability on exports may reduce by the open capital markets of developing economies compared with those in other emerging countries.

The source of exchange rate instability can be from the financial side and or from the real side of an economy. Exchange rate steadiness is pivotal for the effectiveness of financial junction in familiar currency area. The lower exchange rate instability leads to the better ability of two countries to divide a general currency area. The minor exchange rate instability leads to the larger the capacity of two countries to divide a shared currency. (Giannellis and Papadopoulos, 16) observe the cause of exchange rate instability four 4 central and Eastern European countries (Hungary,

Poland, Slovak Republic and Czech Republic) and 4 European Economic and Financial Union countries (France, Spain, Italy, Ireland, the facts are from 1980 to 1998 and for the euro area, the facts are from 1980 to 2007. The outcome show that for France and Italy through the pre-Economic and Financial time, Exchange rate instability came from the financial side and the real side of economy. For Spain, exchange rate instability broadcast is from the interest rate disparately from exchange rate and from exchange rate to the stock market. Besides, there is proof of mutual instability spill over effects between exchange rate and the interest rate disparity. These consequences maintain the overseas exchange rate market development in Spain had been prejudiced by the monetary and real factor. In favour of Ireland, exchange rate instability is determined through the real side of the economy. The revise implies that monetary unsteadiness boot exchange rate unpredictability. As result unpredictability can be condensed by stabilize the monetary side of an economy.

Since regard the collision of the level of exchange rate, (Stein and Froot 1991) in their decisive article propose that if there are defective capital market the level of exchange rate may control FDI. Capital market imperfections represent that MNEs attribute a less cost to internal attractive than the cost of capital the external enhancing source should be paid by them. Though, depreciation of the swarm country currency in opposition to the home currency increases the virtual wealth of foreigners and therefore may raise the magnetism of the virtual assists of foreigners and then may raise the magnetism of the host state for FDI as foreign capable to obtain resources in the host country comparatively reasonably. (Froot & Stein observed the study with study-level data on United State internal FDI for 1970s and 1980s provide hold in favour of their speculative influence. (Blonigen, 1997) as well as essential law of (Froot & Stein) model be with the purpose of cost of the benefit purchase in foreign countries and the income generate be understood through the same money. So therefore, as investors must not be disturbed about the cost of resources however somewhat simply about the price of return it is not obvious why the exchange rate system must work in the manner described by (Stein and Froot). On the other hand, (Blonigen) point out that in the matter

of FDI by achievement the cost of the benefit and its arrival could not be in the equivalent money in which purchasing is involve (firm-specific)resources of investor in a foreign currency. These (firm-specificassets) production in the home country can be transferred and return can be generated in other countries. Blonigen consequently argued to the exchange rate action be able to collide on FDI during achievement since it involve income in currencies other than asset is purchased by this. He finished few consummations for this theory using study on the number of Japanese acquisitions in the USA for the time 1975 to 1992.

Therefore, the study on the relation between FDI and the level of the exchange rate is two opposing prediction. Primarily, the cost of assets and returns generated is focused (Froot & Stein, 1991) (Blonigen, 1997) leads to model predicting that depreciation of the host country currency are predicted to raise FDI in flows. By means of an extra production based hypothetical approach (Campa (1993), on the other hand, it is suggested that exchange rate levels can control firms hope of upcoming portability: the appreciations of the host country currency lead to raise inward FDI which is suggested by this model.

The hypothetical connection amongst economic growth and financial development can be followed back to dependency and modernization theories (Adams, 2009)). The modernization theories suggested that financial development could be supported by FDI under the rule that the growth needs capital investment (Adams, 2009). But, new growth theories underlines the part of the transfer of the technology by the FDI in light of the fact that emerging economies needs essential foundation, for example, political stability, financial markets that are liberalized and socio-economic strength (Calvo and Sanchez-Robles ,2002), (Adams, 2009). Aside from the transfer of the technology, FDI likewise goes with it hierarchical and administrative aptitudes, the expertise of the marketing and the access of market by the advertising systems of the network of multinational companies (Balasubramanyam, et al., 1996), (Kumar & Pradhan, 2002), (Adams, 2009). As (Nath, 2005) has contended that FDI shows the two-fold function by adding to accumulation of capital and through expanding absolute factor profitability.

In 2002, Markusen indicated Horizontal & Trade investment are alternatives. As Moore in 1993 said firms shall invest in Foreign countries when production cost would be offset by international savings which leads to avoid the transportation costs, non-tariff & tariff impediments though trade and FDI are complementary. Trade-FDI relation can provide product life cycle plan (Vernon in 1966). Provisional alibi between the trade & FDI is blended. They do point to an integral relations for the exports along with FDI As (Safarian & Hejazi 2001; Koo, 2002 & Cornell Marchant) for Japan poon US & Pantulu indicate in 2003for east Asian countries trade creation along advanced industrialized nations (UK France & Germany) support to this Hypothesis to FDI-trade aids compatibility theory by (Pain and Wakelin, 1998), (Horst, 1972),(Lipsey & Blomstro, 1989).

A Huge market, Growth of it prospects better, development degrees are high, by capita growth of GDP are taken into account as investors considers to locate in internationally Countries provide chances allowing the MNEs ownership Advantages to exploit them and be beneficial for economical scale. FDI functions on size of the market for FDI- receiving countries (1980) Davidson. (Wei & Liu, 2001) argued on size of market significance locational decisions on two main reasons of MNEs. 1st, and sensible economical option when production succeeds level on which average cost of market is larger than exporting average cost for production in the market. 2nd capture size of market of hosting countries to effect demand & scale. Final goods production are to take place at hosting country. A lot empirical theories are supported on positive relation to the hypothesis of Market size & FDI of host country by (Grosse & Trevino, In 1996 1996 Svensson & Braunerhjelm) argued change deficiency demand form and impetus FDI outward to aid this theory.

Point of view from Macroeconomics, across borderrs FDI of capital flows is a particular form, from origin to host countries, which found the balance of payments. Capital flows & revenues stocks are variables obtained through investments. As microeconomic explains the investment acroos boundaries nationally as an investor sees also examines the concequences to investors, to origin ocountry and host country, of operations of Multinational corporatons rather than stock and investment flows (Lipsey, 2001).

Late observational investigations propose that the conduct of the genuine swapping scale is inferable from the disappointment of building up the law of one value (Engel, 1993, 1999; Rogers what's more, Jenkins, 1995). These investigations find that separation and fringes assume essential parts in the disappointment of building up the law of one value, which thus turns out to be a piece of the source of genuine swapping scale developments (Engel and Rogers, in 1996).

The scholarly writing neither hypothetically nor exactly closes regardless of whether the solidness of the trade showcase upgrades universal exchange. There are a substantial number of hypothetical and observational investigations that examine the connection between conversion standard instability and global exchange (see, for instance, (McKenzie, 1999; Clark et al., 2004). As introduced in McKenzie (1999), there are hypothetical models supporting both negative and positive connections between them. Observational examinations don't give obvious outcomes, either; a large portion of the experimental outcomes display a negative relationship, however this relationship isn't generally strong. Furthermore, there has been found a trivial negative or either positive relationship while using other methods of estimation and methods include instrument variable estimation and/or use of country effects which are fix. Prior factual studies investigated vast hypotheses and are put through robustness checks. In some of the studies there was performed a long time analysis in series and used a vast number of countries on sample basis.

Many different kinds of mercurial measures are involved in literature and further, mercuriality is often decomposed into its expected and unexpected part when GARCH model is used. The congenital relationship between exchange rate un stability and trade is directed when using instruments. Studies also take into account the impact of un stability on trade considering the comparison between developed and developing countries. Studies focus at scrutinizing the effect of exchange rate differences and hedging instruments among different countries through examining the effect of exchange rate un stability on international trade. (Clarke et al, 2004)¹, recently, collate the effect of un stability on trade in distinguished goods with that comparable goods.

Prior studies by (Hooper and Kohlagen, 1978) attempted to use different measures of unsatbility which tried to catch unanticipated changes in exchange rate, however these studies utilized the fundamental estimation techniques namely OLS. During early 1980s, vast studies attempted to measure un stability and inspection of issues that were not considered before according to (Cushman, 1983). Regardless of different studies and inclusion of different aspects, the effects of un stability on exports are still ambiguous.

There is a vast study on this topic. Both theoretical and factual studies reveal unclear effect of exchange rate uncertainty on exports. In 1999, Makenzie, also did an extensive review of the theoretical and factual literature. However, the main arguments survived in this section where the emphasis was on key aspects related to this study. OLS methodology was used in early factual studies and that was in favour of negative hypothesis by (Clar, 1973) and it also favoured trivial relationship between volatility and export quantity by (Hooper and Kohlagen, 1978).

H1: bilateral exchange rate has positive impact on FDI.

2.4 Miscellaneous Studies

Wei and Liu (2001) suggest that geographic distance is one of the important attributes in determining the location for international production as accessibility of market play a crucial role for firms to decide to invest abroad. According to Bevan and Estrin (2004) distance involves the measurement of transaction cost while making investment decision in any foreign country. Geographic juxtaposition is the contributing factor for making foreign direct investments according to Wei (2004) and Davidson (1980) as it reduces managerial and informational uncertainty, lowers carrying and monitoring costs hence leading to lower risks for multinationals. This is the reason as well why multinationals prefer investing in host neighboring countries. Studies about geographic distance are also mixed while taking it as a detriment for foreign investment. Some researchers like Wei

(1995), Grosse and Trevino (1996), Frenkel, Funke, and Stadtmann (2004) and Gao (2005) go in contradictions with above studies and find a negative connection between foreign investments and geographic distance. On the other hand Wei and Liu (2001) and Pan (2003) were unable to confirm this.

In Indian economy, relationship among FDI and GDP has been investigated by (Chakroborty and Basu, 2002). The findings demonstrate the two way relationship of causality among GDP and FDI. However, more prominent effect has been found to FDI from GDP. The findings of (Hsiao and Shen, 2003) also demonstrate the two way relationship among GDP and FDI. Some other researchers had analyzed the relationship among economic freedom, FDI and economic growth (Marta and Balanca, 2003).

Another research has been conducted over the duration of 1960 to 1995 by (Levine, 2005), he examine the relationship among the FDI and the growth of the economy. The findings demonstrate a positive relationship among the growth and FDI of the economy. Moreover, it is also demonstrated that FDI and growth has been increased by the good economic policies. Over the time period of 1972 to 2005, the relationship among GDP and FDI has been analyzed and results demonstrates that in increasing the growth rate of the economy, FDI plays an important role however inflows of the FDI did not take part in the technology improvement of the host country (Arshad, 2007). (Falki, 2008) has examined the impact of FDI on GDP on Pakistani economy; he has taken the time duration of 1990 to 2006. He demonstrates the positively significant relationship among FDI and GDP in his findings.

Some researchers have conducted a research to check the variables of macroeconomic effect on FDI of Pakistan (Arfan & Abdullah, 2013). The main variables that have been included in their research are Inflation, political stability, GDP, import and export. The outcomes of their research demonstrate that import/export and GDP has positively significant effect on the inflows of the FDI of Pakistan. Whereas, the other variables are political stability and inflation have not positively significant effect on the inflows of Pakistan.

In 1980s FDI has major variations. Though the United States proceeded with its part of a substantial capital exporter, that likewise turned into a goal for increasing mounts of outside capital. Japans part as a source nation for long haul capital tightened upward, through both an expansion in merger and securing movement in industrialized nations and by expanded green field interests in creating nations. With extended privatization programs in progress foreign direct investment also regained prominence in Latin America and surged in many emerging market economies. The resultant current experiential and theoretical research on FDI has been to a great extent arranged toward clarifying the merger and securing wonder in industrialized countries [for illustration, see Klein & Rosengren (1994) and the gathering of papers in Froot (1993)]. While the South East Asian experience likewise has gotten some consideration as of late as in the accumulations of papers in Ito and Krueger (1996), there has been next to no deliberate examination of FDI action in creating nations or the part of cash developments in this context. Existing exact investigations of FDI into creating nations either absolutely archive directional examples or contrast watched streams and some all-inclusive construct benchmarks which are based with respect to nation qualities. A case of the main gathering of studies is Kohsakas (1996) cautious following of levels and synthesis of capital streams to Latin America and Asia. There are examples of the below average of studies incorporate work utilizing gravity models. Eaton & Tamura (1994, 1996), for example, relate the reciprocal exchange and venture streams of the United States and Japan with different districts to transportation costs (distance between countries), market size (population), overhead investment costs (human capital), and per capital GNP. Frankel (1993) and Frankel and Wei (1993) likewise utilize gravity models to analyze the regionalism in exchange streams of the United States and Japan, among different nations. These investigations contend that regionalism possesses large amounts of exchange and speculation streams, even after models represent nation propensities and highlights. The United States is all the more firmly connected with Latin America, while Japan has \$unexplained# profound connections to whatever remains of Asia. As opposed to these investigations, our experimental work is not directly concerned with whether excessive bilateral

or regional linkages are observed in United States and Japanese transactions with Latin America or Southeast Asia. Instead, by examining the (time series) interactions between trade, FDI, and exchange rates, we provide stylized facts on the rich channels through which particular exchange rate movements strengthen or weaken international linkages.

Mostly emerging nations such as Pakistan professed FDI as a rising feature. As FDI inflows make new openings for work within the nation, it likewise covers the hole winning between present day method for creation and conventional methods for generation and it additionally presented better approaches for creation. Modernizations theory interprets FDI as growth factor because growth requires investment (Adams, 2009).

The theories of growth focus on the technology transfer through FDI (Calvo & Robles, 2002). In contrast to positive impact of FDI, if it is not properly managed it can reduce employment by dismissing the local workers, due to modern method of production it can rule out the domestic firms. FDI inflows if not properly monitored it can affect the local business by providing product at cheap prices. The theory of dependence recommends that FDI can create impact on growth and earnings because FDI has the ability to produce the monopolies in the nation (Chase & Bornschier, 1985). In booming economies it is not easy for the investors to force out the local business. So at that situation FDI serves more positive effect on the economy. But in fluctuating economy government has to make proper planning to protect home business. Increasing competition is not always better for the local business.

Chapter 3

Data and Methodology

3.1 Data

The data set comprises of eight countries of South Asia i.e. Pakistan, India, Bangladesh, Sri Lanka, Nepal, Bhutan, Afghanistan and Maldives for the time period 2004 to 2016. The data have been gathered from different sources. The data is basically a panel data which is the combination of cross section and time series data. Data have been taken from IFS, WBI and IMF that contains different data of economics of different countries.

3.2 Empirical Model

The prior objective of the current study is to estimate the impact of bilateral exchange rate on FDI. Our approach consists of estimation of statistical results to capture the effect of bilateral exchange rate on FDI in the South Asia countries. The empirical technique used here is the application of gravity model that is in line with the theories of international trade and investments (Williams & Mullen, 2011 & Nicita, 2013).

The basic variants of FDI between two countries are gross domestic product (GDP), Exchange rate (ER), population (POP) of individual country and distance (Dis) between them. These variables are incorporated in the following equation,

$$FDI_{ijt} = \alpha_0 + \beta_1 Source\ GDP_t + \beta_2 Source\ POP_t + \beta_3 Host\ GDP_t + \beta_4 Host\ POP_t + \beta_5 DIST_{ij} + \beta_6 BEXR_{ijt} + Z_{ijt} \quad (1)$$

In equation the term FDI_{ijt} is the investment activities between the source country (i) and host country (j) in the year (t). $Source\ GDP_t$ and $host\ GDP_t$ are the gross domestic products of each country in year (t). $Source\ POP_t$ and $host\ POP_t$ are the populations of each country at time (t). Similarly, $DIST_{ij}$ is the distance between the two countries and $BEXR_{ijt}$ is the bilateral exchange rate between the two countries in the year (t). The term Z_{ijt} is the matrix of all control variables that include source and host country trade openness, and source and host country FDI openness.

Moreover, the gravity model also includes dummy variables that indicate the variables of common language, religion, border etc. These effects are captured by fixed effect model. For this, the variables are added in the sample for every pair of countries and for every year. So, together this will estimate the time invariant as well as individual invariant variables as specified in the above equation. After taking log the equation appears, containing country fixed effects (Z) and other specific variables, as follows,

$$\ln FDI_{ijt} = Z_{ijt} + \beta_1 \ln GDP_{it} + \beta_2 \ln POP_{it} + \beta_3 \ln GDP_{jt} + \beta_4 \ln POP_{jt} + \beta_5 \ln BEXR_{ijt} + \varepsilon_{ijt} \quad (2)$$

This is the fixed effect model where time invariant variables, for instance, distance are included. But here the problem of endogeneity and time invariant factors arises, as the dependent variable may be correlated with the error term. To provide solution to this problem, the dynamic model approach is used. In this, to avoid correlation problem with error term, lagged value of dependent variable is included

as explanatory variable in equation. In formulating equation the common practice of adopting first differenced specification approach is used.

$$\begin{aligned} \Delta \ln FDI_{ijt} = & \beta_1 \Delta \ln FDI_{ijt-1} + \beta_2 \Delta \ln GDP_{it} + \beta_3 \Delta \ln POP_{it} + \\ & \beta_4 \Delta \ln GDP_{jt} + \beta_5 \Delta \ln POP_{jt} + \beta_6 \Delta \ln BEXR_{ijt} + \varepsilon_{ijt} \end{aligned} \quad (3)$$

Taking the first differenced specification approach, the problem of endogeneity and also the country specific effect is reduced as it may be correlated with error terms. Similarly, the GMM model is useful where the concept of instrument variable is applied. The instruments are used for endogenous variables as instruments vanish the correlation effect of endogenous variables with error terms.

3.3 Measurement of Variables

3.3.1 Dependent Variable

Inward FDI is the dependent variable which is measured as a dollar amount of FDI received by the country in a particular year. FDI inflow is affected by various variables naming exchange rate, price level (Bianco & Loan, 2017), inflation rate (Udoh & Egwaikhide 2008), technology gap, competition (Sjoholm, 2007) and political environment (Deseatnicov & Akiba, 2016), however here in this study the impact of bilateral exchange rate is focused to be studied. Exchange rate has negative relationship with foreign direct investment. This implies if exchange rate between the home and host country fluctuates, the FDI is affected accordingly (Larue and Mutunga, 2006). FDI can be diverted from one country to the other based on the relative exchange rate; taking two host countries into consideration for one source country. By devaluing the exchange rate against the source country relative to the other host country makes expectation to increase the FDI inflow to the former host country (Khan Sattar & Rehman, 2012). The relative FDI flow specifically one FDI source and two host countries is further clarified that

the hypothetical examination appears expressly that relative FDI inflows are a component of relative genuine trade rates. In specific, in the event that one host nation downgrades its money against that of the source nation more than alternate does, FDI into the previous nation will be required to increment with respect to the next nation (Xing, 2006b).

It is argued that FDI inflow is actually established as a result of purchasing power parity (PPP), the prices in the pair countries. This implies that bilateral exchange rate may not affect the FDI decisions as it holds for long term instead of transition or shock.

Inflows of FDI has been negatively affected by the exchange rate. Overvaluation of the currency could be led by the policies that are inappropriate that will be the cause of decreasing the inflows of FDI (Coleman & Tettey, 2008). Long run relationship has been found among exchange rate and FDI while studying the relationship among FDI and exchange rate. Rashid and Hafeez (2002) confirmed that among exchange rate and FDI, the relationship is two-way-causality.

3.3.2 Independent variable

3.3.2.1 GDP

GDP is the gross domestic product per capita in dollar. The two forms of GDP are Nominal GDP and Real GDP. Nominal GDP is the one which is measured at current market price of goods and services. Real GDP is the measure of domestic products at a fixed price from the base year (Richard T. Froyen, 1983). GDP has a positive association with FDI and also there is causal relationship between the two variables (Chakroborty & Basu, 2002).

3.3.2.2 Population

Pop is the variable denoting population of specific country (i) at a particular year (t). It is empirically proved that population has a positive role in FDI inflow (Mullen & William, 2011).

3.3.2.3 Distance

Dis denotes distance between the two partner countries. It is calculated as the distance between the capital of the source and host country in km. It is argued that gravity distance has a negative relationship with the variable of FDI. FDI inflow increases when Dis between the two countries decreases (Mullen & William, 2011).

3.3.2.4 Bilateral exchange rate

Bexr denotes Bilateral exchange rate and is measured price of domestic currency per unit of foreign currency. Bilateral exchange rate impacts the macroeconomic variables like, trade, capital flows, FDI, inflation, international reserve, GDP and remittances, etc. Increase in exchange rate can be a source of competitive advantage in cross border trade. It stimulates demands for goods due to the inexpensive nature of exchange of currency. It also discourages imports. Bilateral exchange rate has a negative relationship with foreign direct investment (Larue & Mutunga, 2006).

Chapter 4

Results and Findings

4.1 Descriptive statistics

Descriptive statistics of South Asia is presented in table 1; it is panel data that is the combination of cross sectional and time series data. Data has been taken from software known as IFA that contains different data of economics of different countries. The data represents the South Asia for the time period of 2001 to 2012.

TABLE 4.1: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
fdiji	1,587	3.69183	2.611734	-0.71335	11.16337
gdpi	3,180	13.23036	2.330409	7.721526	16.98907
gdpj	3,180	14.3052	1.457501	8.730222	17.26509
popi	3,180	4.604927	2.558775	-1.20397	7.208378
popj	3,180	2.68203	2.297315	-3.91202	7.208378
distij	3,180	8.640639	0.646349	4.107106	9.737228
bexrij	3,180	-1.82854	2.798966	-8.13534	7.324925

Note: sfdi represents the foreign direct investment of source country. Gdpi and gdpj represents the gross domestic product of source and host country. Popi and popj represents the population of source and host country. Distij represents the distance between two countries. Berrij is the bilateral exchange rate of south Asian countries.

The above table shows the descriptive statics of South Asian countries, the mean value 3.69183 of fdiji shows that the source country receives from the host country at a particular time. Sta.dev. 2.611734 value shows that FDI fluctuates from mean value by 261%. The mean value 13.23036 of gdpi demonstrates that the source country receives from host country at specific time duration. Sta.dev. 2.330409 shows that FDI fluctuates from mean value by 233%. The mean value 14.3052 of gdpj demonstrates that the source country receives from host country at specific time duration. Sta.dev. 1.457501 shows that FDI fluctuates from mean value by 145%. The mean value 4.604927 of popi demonstrates that the source country receives from host country at specific time duration. Sta.dev. 2.558775 shows that FDI fluctuates from mean value by 255%. The mean value 2.68203 of popj demonstrates that the source country receives from host country

at specific time duration. Sta.dev. 2.297315 shows that FDI fluctuates from mean value by 229%. The mean value 8.640639 of *distij* demonstrates that the source country receives from host country at specific time duration. Sta.dev. 0.646349 shows that FDI fluctuates from mean value by 64%. The mean value -1.82854 of *bexrij* demonstrates that the source country receives from host country at specific time duration. Sta.dev. 2.798966 shows that FDI fluctuates from mean value by 279%. For *fdiji* minimum is recorded -0.71335 while maximum 11.16337, for *gdpi* minimum 7.721526 and maximum 16.98907 and for *popi* minimum -1.20397 and maximum 7.208378, for *distij* minimum 4.107106 while maximum 9.737228, and for *bexrij* minimum -8.13534 while maximum 7.324925 is recorded.

4.2 Correlation matrix

TABLE 4.2: Correlation matrix

Variable	Fdiji	Gdpi	Gdpj	Popi	popj	Distij	bexrij
Fdiji	1						
Gdpi	0.2018	1					
Gdpj	0.1698	0.7303	1				
Popi	0.1123	0.7917	0.5524	1			
Popj	0.08	-0.1214	0.1328	-0.1625	1		
Distij	-0.0679	0.0975	0.2624	0.1139	-0.174	1	
Bexrij	-0.0076	0.1598	0.103	0.1203	0.0229	-0.0485	1

Note: fdiji represents the foreign direct investment of source country. Gdpi and gdpj represents the gross domestic product of source and host country. Popi and popj represents the population of source and host country. Distij represents the distance between two countries. Bexrij is the bilateral exchange rate of south Asian countries.

Table 2 shows the correlation variables with each other. The correlation demonstrates the strength and direction of association of variables. Fdiji is positively correlated with Gdpi, Gdpj, Popi and Popj and negatively correlated with distance (distij) between two countries and the bilateral exchange rate (bexrij). That means FDI increases with the increase in Gdpi, Gdpj, Popi, Popj. However, FDI increases with the decrease of Distij and Bexrij. Gdp is positively correlated with Pop, Distij, Bexrij. This means Gdp of the country increases with increase of population, distance between the countries and bilateral exchange rate.

4.3 FDI and Bilateral Exchange Rate

Table (3) shows Regression (OLS) results of the variables where the dependent variable is foreign direct investment into the source country (i). In Model 1 all control variables along with interest variable are estimated. All variables are significant at 1 percent level except FTA and Com:Lng which are not significant at all. In Model (2) POPj is excluded from the model due to multicollinearity problem. The estimated Model (2) shows that GDP, Dis, Colony and FTA are significant variables. The variables are significant at 1 percent level except FTA which is significant at 5 percent level.

The Models show that GDP, POP, Colony and FTA are positively associated with FDI while Dis and Bexr are negatively related to the FDI into the source country. Country with more domestic production and more population would have more FDI into the country. However, countries having long distance with host country and home country with strong currency would have less FDI into the country. Similarly, countries having colonies would have more FDI into the country and also FTA increases the FDI into the country.

The negative relationship of Bexr with FDI is not in line with the theory and it means increase in FDI with the appreciation of currency. Whenever the intentions are such that the production in the host country would be re-exported to the home country then the appreciation of currency would result in increased FDI (Dennis, Lainciz and Zhu, 2008).

Distance is the factor that make foreign markets difficult to understand (Johanson and Vahlne, 1977). The prime reason is that with the increase in distance, firms (MNEs) would find it difficult to gain knowledge of the consumers in market. This would expose them to a competitive disadvantage over local firms. The increase in distance also increase transportation costs and create a hurdle for firms to invest in the country with large distance (Bailey, 2015).

TABLE 4.3: Bilateral Exchange rate and FDI (OLS Model)

VARIABLES	M1	M2
gdpi	1.934***	0.568***
	0.0594	0.0269
popi	1.255***	
	0.0513	
distij	-0.370***	-0.368***
	0.0842	0.0812
bexrij	-0.0765***	0.0239
	0.02	0.0215
Colonyij	1.734***	2.597***
	0.214	0.201
FTAij	0.0823	0.336**
	0.139	0.152
Com:lng	-0.141	-0.269
	0.486	0.544
Constant	-13.63***	-4.307***
	0.889	0.383
Observations	1,587	1,587
R-squared	0.433	0.259

Note: Robust coefficients are given along with standard errors, *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. *gdpi* represents gross domestic product of source country. *Gdpj* represents gross domestic product of host country. *Popi* represents population of source country. *Popj* represents population of host country. *Bexrij* is the bilateral exchange rate of the host and source country.

In Model (2) it is evident that FTA is positively related to FDI. FTA generally reduces tariffs, Quotas effects and other trade barriers. The positive FTA is explained that it increases vertical FDI (different processes of production in different countries and it involves trading of intermediate and final goods). FDI diffuses technologies into the country and FTA facilitates the process (Moon, 2009; Reed, Lira, Lee & Lee, 2016).

The variable of Colony has positive relationship with FDI. FDI is increased into the countries of same colonies. Countries having the integrated and same colonial system tend to have a lot of similarities. Among them some are institutional, linguistic and cultural similarities. These similarities are thought to facilitate the development of international institutions across them (Svedberg, 1981).

The OLS Model works better when there is not a problem of heterogeneity, times fixed effect and country fixed effect in the data. These problems cannot be resolved with OLS Model. To solve these problems, Fixed Effect Model is used. It addresses these problems in the data.

4.4 Fixed effect Model: Bilateral exchange rate and FDI

Table (4) shows the fixed effect models where the fdi is dependent variable and all other variables (Fdi_{-1} , gdp_i , pop_i , $bexrij$) are independent variables. In model I, all explanatory variables are included. Fdi_{-1} and gdp variables are significant at 1 percent and 5 percent level respectively. In model II, pop_i is excluded due to multicollinearity problem as pop_i is strongly correlated with gdp_1 . Model 2 presents the same results where the Fdi_{-1} and gdp variables are significant at 1 percent and 5 percent level.

The results show that GDP has positive significant relationship with FDI. It does show that FDI increases with the increase in GDP. These results are in accordance with Arfan and Abdullah (2013). It is noted that distance among countries is a significant concern in the gravity models, and is used as a cost of transportation's.

TABLE 4.4: Fixed Effect Model

VARIABLES	Fixed	Fixed
gdpi	0.0870**	0.0849**
	0.0295	0.0293
popj	0.00569	
	0.0161	
bexrij	-0.019	-0.018
	0.0161	0.0151
Fdi-1	0.838***	0.838***
	0.0254	0.0254
Constant	-0.498	-0.456
	0.365	0.348
Observations	1,269	1,269
R-squared	0.797	0.797
Number of year	12	12
Houseman Test	0.0012	0.0016
F value	699.31***	927.84***
Country FE	YES	YES
Year FE	YES	YES

*Note: Robust coefficients are given along with standard errors, *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. *gdpi* represents gross domestic product of source country. *Gdpj* represents gross domestic product of host country. *Popi* represents population of source country. *Popj* represents population of host country. *Bexrij* is the bilateral exchange rate of the host and source country.*

proxy and invariant of duration. Therefore, it is used in this research as a fixed

effect of country. Furthermore, other variables of country specific are probably being in operations. Institutional forces, political, and arrangement of cultural would be included that might influence FDI.

Since the fixed effect model does not respond the endogeneity, fixed effects, and non-stationarity problems. That is why Arellano and Bond (1991) is followed to solve these problems. The GMM approach is used to eliminate the endogeneity, fixed effects, and/or non-stationarity problems. Arellano and Bond (1991) reported that fixed effects, examination of endogeneity related facts and problems that are non-stationary are explained by the GMM. This examination is consistent in differenced residuals in absence of serial correlation. It is preceded by using the instruments for endogenous variables' lagged levels.

GMM approach is fitted; the results are presented in Table 4 and explained here. When the time frame is small, despite the potential problems these results are considered as asymptotically efficient. The lagged value of FDI continue to show statistically significant and positive impact that confirm the endogeneity problem. FE estimator might not be fitting for the fundamental dynamic model as lagged FDI signify to an endogenous illustrative variable. The analytic investigations executed in aggregation with this GMM model are in support of our technique. Moreover, the GMM model is basically used to intensify the efficiency.

4.5 GMM Model: Bilateral exchange rate and FDI

Table 4 shows the GMM model where the fdi is dependent variable and all other variables (Fdi_{-1} , $gdpi$, $gdpi_{-1}$, $popi$, $bexrij$) are independent variables. In model (1), all explanatory variables are included. All explanatory variables are significant except $Bexr$. The Model 1 also shows that lag gdp has significant positive impact on FDI. The results show that overall GDP has significant relationship with FDI. It does show that FDI increases with the increase in GDP.

In Model II all variables are included except POP due to multicollinearity problem. All variables are significant at 1 percent level except Bexr which is significant at 5 percent. After resolving endogeneity issue bilateral exchange rate shows significant impact on FDI. However, the sign is positive unlike previous models.

TABLE 4.5: GMM Model

VARIABLES	M1	M2
gdpi	2.840***	2.633***
	0.9987	0.9949
gdpi-1	2.799**	2.766***
	1.0515	1.0529
popi	2.729**	
	1.3534	
bexrij	0.118	0.3861**
	0.2163	0.1908
fdi-1	0.241***	0.252***
	0.0304	0.0299
Constant	-10.932	4.773
	9.1479	4.8068
Observations	1,587	1,587
R-squared	0.892443	0.892003
Durbin Value	2.17557	2.19087
J stat	0.045017	0.035975
P value of J stat	0.83197	0.84956

Note: Robust coefficients are given along with standard errors, gdpi represents gross domestic product of source. Gdpi represents gross domestic product of host country. Popi represents population of source country. Popj represents population of host country. Bexrij is the bilateral exchange rate of the host and source country.

The positive relationship of Bexr with FDI is in line with the theories that strong

currency discourages FDI into the country while weak currency motivates FDI into the country. Exchange rate affects FDI in two ways; when FDI is substitute of trade and when cost of production in host country is low. When the exchange rate is increased (currency depreciation) the FDI is increased, because of good purchasing power of people now. On the other hand, when the exchange rate is decreased (currency depreciation) FDI is increased due to the fact that decreased production costs in the host country (Dennis, Lainciz and Zhu, 2008).

Finally, the results are interpreted such that the countries with more GDP, more POP and strong currency would have more FDI into the country.

So the overall representation of the findings that rises is the relationship between the FDI and the bilateral exchange rate of South Asian countries; in accordance with the economy of the South Asian countries, is not evidently different as the more extensive global patterns.

Chapter 5

Conclusion

This research study examined the impact of bilateral exchange rate on foreign direct investment. South Asian countries are selected for study as they are developing economies. The time period considered for the study is from 2004 to 2016. First of all OLS model is used to estimate the results. Secondly, fixed effect model is applied to address the heterogeneity, time invariant and country invariant effect. Finally, GMM technique (a dynamic model) is used to address the problem of endogeneity in data. However, models show inconsistent results of bilateral exchange rate.

The negative relationship of Bexr with FDI is not in line with the theory and it means increase in FDI with the appreciation of currency. Whenever the intentions are such that the production in the host country would be re-exported to the home country then the appreciation of currency would result in increased FDI (Dennis, Lainciz and Zhu, 2008). However, the positive relationship of Bexr with FDI is in line with the theories that strong currency discourages FDI into the country while weak currency motivates FDI into the country. Exchange rate affects FDI in two ways; when FDI is substitute of trade and when cost of production in host country is low. Thus, because of good purchasing power of people and decreased production costs in the host country encourage FDI into the country (Dennis, Lainciz and Zhu, 2008).

Distance is the factor that make foreign markets difficult to understand (Johanson and Vahlne, 1977). The prime reason is that with the increase in distance, firms (MNEs) would find it difficult to gain knowledge of the consumers in market. This would expose them to a competitive disadvantage over local firms. The increase in distance also increase transportation costs and create a hurdle for firms to invest in the country with large distance (Bailey, 2015).

FTA is positively related to FDI. FTA generally reduces tariffs, Quotas effects and other trade barriers. The positive FTA is explained that it increases vertical FDI (different processes of production in different countries and it involves trading of intermediate and final goods). FDI diffuses technologies into the country and FTA facilitates the process (Moon, 2009; Reed, Lira, Lee & Lee, 2016).

The variable of Colony has positive relationship with FDI. FDI is increased into the countries of same colonies. Countries having the integrated and same colonial system tend to have a lot of similarities. Among them some are institutional, linguistic and cultural similarities. These similarities are thought to facilitate the development of international institutions across them (Svedberg, 1981).

So, the overall results and findings show that the relationship between the FDI and the bilateral exchange rate of South Asian countries are in accordance with the economy of the South Asian countries. It is also evident that the results are not different from the more extensive global patterns.

5.1 Policy implications

This study has been completed considering emerging economies (South Asia). The exchange rate in these economies is rather lower that can be availed by MNEs (foreign investors) to invest in these countries. Similarly, the study can help the policy makers of these countries to enhance FDI into the country as FDI boosts economy of the country.

5.2 Future research and limitation

1. This study has considered South Asian countries that are counted for developing economies. However, results can be compared with the data analysis of developed economies.
2. The study has considered nominal exchange rate whereas real exchange rate can be tested in further investigations.

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