Asian Development Policy Review
ISSN(e): 2313-8343
ISSN(p): 2518-2544
DOI: 10.18488/journal.107.2019.71.43.51
Vol. 7, No. 1, 43-51

URL: www.aessweb.com

LINKING MECHANISM OF INWARD FDI AND BILATERAL EXCHANGE RATE

Samra Tabassam[1]
Maisam Ali[2+]

[1]*Management Science Department Capital university of Science and Technology Islamabad, Pakistan*
[2]*Lecturer at International Islamic University Islamabad, H-10 Islamabad, Pakistan*
Email: ali.maisam5@gmail.com

(+ Corresponding author)

Article History
Received: 21 October 2018
Revised: 27 November 2018
Accepted: 31 December 2018
Published: 13 February 2019

Keywords
Bilateral exchange rate
FDI inflow
GMM
GDP.

JEL Classification:
E52, F14, F21, F31.

ABSTRACT

This research study examines the impact of the bilateral exchange rate (BEXR) on FDI inflow into the South Asian countries, i.e. Pakistan, India, Bangladesh, Sri Lanka, Nepal, Bhutan, Afghanistan, and the Maldives. Panel data technique is used to investigate the results while using the data from 2004 to 2016. Moreover, static panel data technique cannot 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 BEXR is negatively related (when significant) to FDI inflow. Similarly, the static panel model showed that BEXR has a 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 BEXR has a positive relationship with FDI inflow. The positive relationship of BEXR 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. The exchange rate in emerging economies (South Asia) 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 the economy of the country.

Contribution/ Originality: The study contributes in the existing literature by including South Asian countries for analysis. In the current study, the bilateral exchange rate is taken into consideration. This study is the first attempt, with a new data set, that will help to know the impact of bilateral exchange rate on FDI inflow.

1. INTRODUCTION

Foreign direct investment (FDI) has been a focus for several decades; it is categorized as international trade in certain studies and a mere export in others. Over time countries' relationship developed and started transactions across the border. Importantly, the motive was absolute and relative advantages of the countries in production (theories of absolute and relative advantages) (Rugman *et al.*, 2006). Across the 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). With the technological development business practices advanced with greater pace and international traders gained more knowledge and awareness in the field (Lundin *et al.*, 2007).

Electic theory developed by Dunning (1988) a collection of three different theories, stated that three factors motivated FDI inflow; Ownership, Location, and Internalization. Collectively, technological, economic, political, social and geographical differences determine FDI inflow into the country (Nocke and Yeaple, 2008; Denisia, 2010). Empirics show that MNEs 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). Moreover, statistics show that FDI inflows have reached the figure of $916 billion by 2005 over the world. Interestingly, it was also evident that more than half of the FDI inflows were received by developing countries. It is noteworthy to know the factors influencing FDI activity; among them, the exchange rate is the factor which has received much attention due to its prime importance (Goldberg and Klein, 1997).

The relationship of FDI inflow with the exchange rate is practically proven to be positive, negative (Lee, 2015) as well as a mixed trend (Chaudhary *et al.*, 2012). Some researchers have worked on exchange rate volatility (see Cavallari and d'Addona (2013)) while others have worked on the relative exchange rate (Baharumshah and Soon, 2012). Still, others have focused fixed regime for the exchange rate to predict the relationship. However, 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. The bilateral exchange rate fluctuation affects the FDI inflow into the country; its variability, ultimately, affects the overall economy of the country.

This study includes South Asian countries, i.e. Pakistan, India, Bangladesh, Sri Lanka, Nepal, Bhutan, Afghanistan, and the Maldives. Several studies have been found in the literature that have focused on fixed exchange rate regime where Dollar or Euro has been taken as a reference currency of exchange. In the current study the bilateral exchange rate is taken into consideration. Its importance can't be ignored as huge capital inflow has been done into the countries under investigation. This study is the first attempt that will help to know the impact of bilateral exchange rate on FDI, with a new data set.

The study shows mixed results; negative as well as positive. The *Ordinary least square Model* has shown a negative relationship of the bilateral exchange rate with FDI inflow. The negative relationship is not in line with the theory and it infers an increase in FDI inflow into the host country with the appreciation of currency of the host country. Whenever the intentions are such that the production in the host country would be re-exported to the home country, the appreciation of host country currency would result in increased FDI inflow (Dennis *et al.*, 2017). However, the positive relationship of the bilateral exchange rate with FDI inflow is in line with the theories that strong currency discourages FDI into the country while weak currency motivates FDI inflow. In one line, the good purchasing power of investors and decreased production costs in the host country encourage FDI into the host country (Dennis *et al.*, 2017).

The rest of the study is organized into the following sections. In Section one Introduction and comprehensive literature is included, Section two includes data source, variables, and methodology, in Section three results and key findings are discussed and Section four comprises conclusion and policy implications.

2. DATA AND METHODOLOGY

2.1. 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 period 2004 to 2016. The data have been gathered from different sources. The data are basically a penal data which are the combination of cross section and time series data. Data have been gathered from IFS, WBI, and IMF that contains different data of economics of different countries.

2.2. Empirical Model

The prior objective of the current study is to estimate the impact of bilateral exchange rate on FDI inflows. Our approach consists of the estimation of statistical results to capture the effect of bilateral exchange rate on FDI

inflow in the South Asian countries. The empirical technique used is the application of the gravity model that is in line with the theories of international trade and investments (Mullen and Williams, 2011; Nicita, 2013).

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

$$FDI_{ijt} = Source\ GDP_t + Source\ POP_t + Host\ GDP_t + Host\ POP_t + DIST_{ij} + BEXR_{ijt} + Z_{ijt} \quad (1)$$

In equation, the term FDI_{ijt} is the investment activities between the host country (i) and source country (j) in the year (t). host GDP_t and Source GDP_t are the gross domestic products of each country in year (t). host POP_t source POP_t and are the populations of each country at the 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 the common language, religion, border etc. These effects are captured by the fixed effect model. For this, the variables are added in the sample for every pair of countries and for every year. Thus, together this will estimate the time-invariant as well as country invariant variables as specified in the above equation. After taking log the general equation appears, containing country fixed effects (Z) and other specific variables, as follows,

$$lnFDI_{ijt} = Z_{ijt} + \beta_1 lnGDP_{it} + \beta_2 lnPOP_{it} + \beta_3 lnGDP_{jt} + \beta_4 lnPOP_{jt} + \beta_5 lnBEXR_{ijt} + \varepsilon_{ijt} \quad (2)$$

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 arise, as the dependent variable may be correlated with the error term. To provide a solution to this problem, the dynamic model approach is used. In this, to avoid the correlation problem with error term, the lagged value of the dependent variable is included as an explanatory variable in the equation. In formulating equation the common practice of adopting first-differenced specification approach is used.

$$\Delta lnFDI_{ijt} = \beta_1 \Delta lnFDI_{ijt-1} + \beta_2 \Delta lnGDP_{it} + \beta_3 \Delta lnPOP_{it} + \beta_4 \Delta lnGDP_{jt} + \beta_5 \Delta lnPOP_{jt} + \beta_6 \Delta lnBEXR_{ijt} + \varepsilon_{ijt} \quad (3)$$

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.

2.3. Measurement of Variables

Inward FDI is the dependent variable which is measured as a dollar amount of FDI received by the host country in a particular year. FDI inflow is affected by various variables naming exchange rate, price level (Bianco and Loan, 2017) inflation rate (Udoh and Egwaikhide, 2008) technology gap, competition (Sjöholm, 2014) and political environment (Deseatnicov and Akiba, 2016) however, here in this study the impact of bilateral exchange rate is focused to be studied.

GDP is the gross domestic product per capita in the dollar. The two forms of GDP are Nominal GDP and Real GDP. Nominal GDP is the one which is measured at the current market price of goods and services. Real GDP is the measure of domestic products at a fixed price from the base year (Froyen and Waud, 1983). GDP has a positive association with FDI inflow and, also, there is a causal relationship between the two variables (Chakraborty and Basu, 2002). POP is the variable denoting population of the specific country (i) at a particular year (t). it is empirically proved that the population has a positive role in FDI inflow (Mullen and Williams, 2011).

DIST denotes the 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 inflow. FDI inflow increases when the DIST between the two countries decreases (Mullen and Williams, 2011). BEXR denotes bilateral exchange rate and is measured as the ratio of host currency per dollar to the home currency per dollar. Bilateral exchange rate impacts the macroeconomic variables like trade, capital flows, FDI, inflation, international reserve, GDP and remittances, etc. increase in the exchange rate can be a source of competitive advantage in cross border trade. It stimulates demands for goods (export) due to the inexpensive nature of the exchange of currency; however, it discourages imports. The bilateral exchange rate has an inconclusive relationship with foreign direct investment (Larue and Mutunga, 1993).

3. RESULTS AND FINDINGS

3.1. Descriptive Statistics

Table (1) shows the descriptive statistics of South Asia. The data represent the South Asian countries for the period of 2004 to 2016.

Table-1. Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
FDI_i	1,587	3.69183	2.611734	-0.71335	11.16337
GDP_i	3,180	13.23036	2.330409	7.721526	16.98907
GDP_j	3,180	14.3052	1.457501	8.730222	17.26509
POP_i	3,180	4.604927	2.558775	1.20397	7.208378
POP_j	3,180	2.68203	2.297315	3.91202	7.208378
$DIST_{ij}$	3,180	8.640639	0.646349	4.107106	9.737228
$BEXR_{ij}$	3,180	-1.82854	2.798966	-8.13534	7.324925

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.

The above table shows the descriptive statics of South Asian countries, the mean value 3.69 of FDI_i shows capital inflow that the host country receives from the source country at a particular time. The mean value 13.23 of GDP_i demonstrates that the host country receives from source country at a specific time duration. The mean value 14.31 of GDP_j demonstrates the production of the source country at a specific time duration. The mean value 4.60 of POP_i demonstrates that the host country population at a specific time duration. The mean value 2.68 of POP_j demonstrates population of source country at a specific time duration. The mean value 8.64 of $DIST_{ij}$ demonstrates the distance between the host country and source country. The mean value -1.83 of $BEXR_{ij}$ demonstrates exchange rate between host and source country at a specific time duration. The variation in the exchange rate is noted to be 279 percent indicating a huge gape for FDI inflow.

3.2. Correlation Matrix

Table 2 shows the correlation variables with each other. The correlation demonstrates the strength and direction of association of variables. FDI_i is positively correlated with GDP_i, GDP_j, POP_i and POP_j and negatively correlated with distance ($DIST_{ij}$) between two countries and the bilateral exchange rate ($BEXR_{ij}$). That means FDI

inflow increases with the increase in GDP_i, GDP_j, POP_i, POP_j. However, FDI increases with the decrease of $DIST_{ij}$ and $BEXR_{ij}$.

Table-2. Correlation Matrix

Variable	FdI_i	GDP_i	GDP_j	POP_i	POP_j	DIS_{ij}	$BEXR_{ij}$
FdI_i	1						
GDP_i	0.2018	1					
GDP_j	0.1698	0.7303	1				
POP_i	0.1123	0.7917	0.5524	1			
POP_j	0.08	-0.1214	0.1328	-0.1625	1		
$DIST_{ij}$	-0.0679	0.0975	0.2624	0.1139	-0.174	1	
$BEXR_{ij}$	-0.0076	0.1598	0.103	0.1203	0.0229	-0.0485	1

Note: This table shows the correlation of variables with each other. FDIi represents the foreign direct investment inflow into the host country. GDPi and GDPj represent the gross domestic product of host and source country. POPi and POPj represent the population of the source and the host country. DISTij represents the distance between the two countries. BEXRij is the bilateral exchange rate of South Asian countries.

3.3. FDI and Bilateral Exchange Rate

Table (3) shows Regression (OLS) results of the variables where the dependent variable is a foreign direct investment into the host country (i). In Model 1 all control variables along with the interest variable are estimated. All variables are significant at 1 percent level except FTA and CL which are not significant at all. In Model (2) POP_i is excluded from the model due to multicollinearity problem. The estimated Model (2) shows that GDP, DIST, Colony, and FTA are significant variables. The variables are significant at 1 percent level except for FTA which is significant at 5 percent level. The Models show that GDP, POP, Colony, and FTA are positively associated with FDI while DIST and BEXR are negatively related to the FDI into the host country. The country with more domestic production and more population would have more FDI into the country. However, host country having long distance with the home country and currency would have less FDI inflows. Similarly, the country having common colonies would have more FDI inflow; also, FTA increases the FDI into the country.

The negative relationship of BEXR with FDI is not in line with the theory: the increase in FDI inflow with the appreciation of the currency. Whenever the intentions are such that the production in the host country would be re-exported to the home country, the appreciation of currency would result in increased FDI (Dennis *et al.*, 2017).

Distance is the factor that makes 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 of the farther market. This would expose them to a competitive disadvantage over local firms. The increase in the distance also increases transportation costs and create a hurdle for firms to invest in the country with large distance (Bailey and Li, 2015). 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 *et al.*, 2016). The variable of Colony has a positive relationship with FDI inflow. FDI is increased into the countries with 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, time fixed effect and country fixed effect in the data. These problems cannot be resolved with OLS Model. However, these problems can be resolved by applying the Fixed Effect Model which increases the reliability of the data. Table (4) shows the fixed effect models where the FDI_i is the dependent variable and all other variables; FDI_{-1}, GDP_i, POP_i, and $BEXR_{ij}$ are independent variables. In Model 3, all explanatory variables are included. FDI_{-1} and GDP_i variables are significant at 1 percent and 5 percent level respectively. In Model 4, POP_i is excluded due to multicollinearity problem as pop_i is strongly correlated with GDP_i. Model 4 presents the same results where the FDI_{-1} and GDP_i variables are significant at 1 percent and 5 percent level.

Table-3. Bilateral Exchange rate and FDI (OLS Model)

VARIABLES	Model 1	Model 2
GDP_i	1.934***	0.568***
	0.0594	0.0269
POP_i	1.255***	
	0.0513	
$DIST_{ij}$	-0.370***	-0.368***
	0.0842	0.0812
$BEXR_{ij}$	-0.0765***	0.0239
	0.02	0.0215
$Colony_{ij}$	1.734***	2.597***
	0.214	0.201
FTAij	0.0823	0.336**
	0.139	0.152
CL	-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 the gross domestic product of source country. POPi represents the population of the source country. BEXRij is the bilateral exchange rate of the host and source country. COLONYij represents a common colony of the host country with source country. FTAij represents Free trade agreement. CL denotes common language.

The results show that GDP has a positive significant relationship with FDI inflow. It does show that FDI inflow increases with the increase in GDP. These results are in accordance with Ullah *et al.* (2014). It is noted that distance between the countries is a significant concern in the gravity model, and it is used as a proxy for transportation cost.

Table-4. Bilateral Exchange and FDI (Fixed Effect Model)

VARIABLES	Model 3	Model 4
GDP_i	0.0870**	0.0849**
	0.0295	0.0293
POPi	0.00569	
	0.0161	
$BEXR_{ij}$	-0.019	-0.018
	0.0161	0.0151
FDI_{i-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 a gross domestic product of source country. POPi represents the population of the host country. BEXRij is the bilateral exchange rate between the host and source country.

Arellano and Bond (1991) method are widely followed Since the fixed effect model does not respond the endogeneity and non-stationarity problems. The GMM approach is followed to eliminate the endogeneity and 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 continues to show statistically significant and positive impact; that confirms 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. Table 5 shows the GMM model where the FDI is dependent variable and all other variables; FDI_{-1}, GDP_i, GDP_{i-1}, POP_i, $BEXR_{ij}$ are independent variables. In Model 5, all explanatory variables are included. The explanatory variables are significant except BEXR. The Model 5 also shows that lag GDP has a significant positive impact on FDI inflow. The results show that overall GDP has a significant relationship with FDI. It does show that FDI inflow increases with the increase in GDP. In Model 6 all variables are included except POP due to multicollinearity problem. The variables are significant at 1 percent level except for BEXR which is significant at 5 percent. After resolving endogeneity issue bilateral exchange rate shows significant impact on FDI inflow. However, the sign is positive, unlike previous models.

Table-5. Bilateral Exchange and FDI (GMM Model)

VARIABLES	Model 5	Model 6
GDP_i	2.840***	2.633***
	0.9987	0.9949
GDP_{i-1}	2.799**	2.766***
	1.0515	1.0529
POP_i	2.729**	
	1.3534	
$BEXR_{ij}$	0.118	0.3861**
	0.2163	0.1908
FDI_{i-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 the gross domestic product of the host. POPi represents the population of the host country. BEXRij is the bilateral exchange rate between the host and source country.

The positive relationship of BEXR with FDI inflow is in line with the theories that strong currency discourages FDI into the country while weak currency motivates FDI inflows. Exchange rate affects FDI inflow in two ways; when FDI is a substitute of trade; when the cost of production in the host country is low. When the exchange rate is increased, the FDI inflow is increased, because of good purchasing power of investors now. Moreover, when the exchange rate is increased (currency depreciation) FDI inflow is increased due to the fact that decreased production costs in the host country (Dennis *et al.*, 2017). Finally, the results are interpreted such that the countries with more GDP, more POP and depreciated currency would have more FDI inflow into the country. Overall, representation of the findings that rises is the relationship between the FDI and the bilateral exchange rate of South Asian countries. These findings are in accordance with the economy of the South Asian countries, and it is not evidently different from the more extensive global patterns.

4. CONCLUSION

This research study examined the impact of bilateral exchange rate on foreign direct investment inflow. South Asian countries are selected for the study, which essentially provides an opportunity for the investigation of the FDI inflow pattern. The time period considered for the study is from 2004 to 2016. Primarily, the OLS model is

used to estimate the results. Secondly, the fixed effect model is applied to address the heterogeneity, time-invariant and country invariant effects. Finally, GMM technique (a dynamic model) is used to address the problem of endogeneity in data. However, models show inconsistent results. The negative relationship of BEXR with FDI is not in line with the theory, and it means an increase in FDI inflow with the appreciation of host 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 *et al*., 2017). 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 a substitute of trade and when the cost of production in the host country is low. Thus, because of good purchasing power of investors and decreased production costs in the host country encourage FDI into the country (Dennis *et al*., 2017). Overall results and findings show that the relationship between the FDI inflow 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.

The exchange rate in emerging economies (South Asia) 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 inflow boosts the economy of the country.

Funding: This study received no specific financial support.
Competing Interests: The authors declare that they have no competing interests.
Contributors/Acknowledgement: Both authors contributed equally to the conception and design of the study.

REFERENCES

Arellano, M. and S. Bond, 1991. Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. The Review of Economic Studies, 58(2): 277-297. Available at: https://doi.org/10.2307/2297968.

Baharumshah, A.Z. and S.-V. Soon, 2012. Mean reversion in bilateral real exchange rates: Evidence from the Malaysian ringgit. Applied Economics, 44(22): 2921-2933. Available at: https://doi.org/10.1080/00036846.2011.568406.

Bailey, N. and S. Li, 2015. Cross-national distance and FDI: The moderating role of host country local demand. Journal of International Management, 21(4): 267-276. Available at: https://doi.org/10.1016/j.intman.2014.11.002.

Bianco, S.D. and N.C.T. Loan, 2017. FDI inflows, price and exchange rate volatility: New empirical evidence from Latin America. International Journal of Financial Studies, 5(1): 1-17. Available at: https://doi.org/10.3390/ijfs5010006.

Brana, S., 2015. Author's accepted manuscript interactions : Introduction to the special issue. International Economics, 145: 1-6. Available at: https://doi.org/10.1016/j.inteco.2015.11.005.

Cavallari, L. and S. d'Addona, 2013. Nominal and real volatility as determinants of FDI. Applied Economics, 45(18): 2603-2610. Available at: https://doi.org/10.1080/00036846.2012.674206.

Chakraborty, C. and P. Basu, 2002. Foreign direct investment and growth in India: A cointegration approach. Applied Economics, 34(9): 1061-1073. Available at: https://doi.org/10.1080/00036840110074079.

Chaudhary, G.M., S.Z.A. Shah and M.M.M. Bagram, 2012. Do exchange ratevolatility effects foreign direct investment? Evidence from selected Asian economies. Journal of Basic and Applied Scientific Research, 2(4): 3670-3681.

Denisia, V., 2010. Foreign direct investment theories: An overview of the main FDI theories. European Journal of Interdisciplinary Studies, 2(2): 104-110.

Dennis, B.N., C.A. Laincz and L. Zhu, 2017. Which exchange rates matter for FDI? Evidence for Japan. Southern Economic Journal, 75(1): 50-68.

Deseatnicov, I. and H. Akiba, 2016. Exchange rate, political environment and FDI decision. International Economics, 148(C): 16-30. Available at: https://doi.org/10.1016/j.inteco.2016.05.002.

Dunning, J.H., 1988. The theory of international production. The International Trade Journal, 3(1): 21-66.

Froyen, R.T. and R. Waud, 1983. Demand variability, supply shocks and the output-inflation tradeoff (No. 1081). National Bureau of Economic Research, Inc.

Goldberg, L.S. and M.W. Klein, 1997. Foreign direct investment, trade and real exchange rate linkages in developing countries (No. w6344). National Bureau of Economic Research.

Johanson, J. and J.-E. Vahlne, 1977. The internationalization process of the firm—a model of knowledge development and increasing foreign market commitments. Journal of International Business Studies, 8(1): 23-32. Available at: https://doi.org/10.1057/palgrave.jibs.8490676.

Larue, B. and J. Mutunga, 1993. The gravity equation, market size, and black market exchange rates. International Economic Journal, 7(2): 61-75. Available at: https://doi.org/10.1080/10168739300000030.

Lee, J.W., 2015. Dynamic relationships between exchange rates and foreign direct investment: Empirical evidence from Korea. Asian Economic Journal, 29(1): 73-90. Available at: https://doi.org/10.1111/asej.12048.

Lipsey, R.E., 2001. Foreign direct investment and the operations of multinational firms: Concepts, history, and data (No. w8665). National Bureau of Economic Research.

Lundin, N., P. He, J. Qian and F. Sjöholm, 2007. FDI, market structure and R&D investments in China (No. 708). IFN Working Paper.

Moon, J., 2009. The influence of free trade agreement on foreign direct investment: Comparison with non-FTA countries. Unpublished Manuscript. University of California.

Mullen, J.K. and M. Williams, 2011. Bilateral FDI and Canadian export activity. The International Trade Journal, 25(3): 349-371. Available at: https://doi.org/10.1080/08853908.2011.581611.

Nicita, A., 2013. Exchange rates, international trade and trade policies. International Economics, 135-136: 47-61. Available at: https://doi.org/10.1016/j.inteco.2013.10.003.

Nocke, V. and S. Yeaple, 2008. An assignment theory of foreign direct investment. The Review of Economic Studies, 75(2): 529-557.

Reed, R., C. Lira, L. Byung-Ki and J. Lee, 2016. Free trade agreements and foreign direct investment: The role of endogeneity and dynamics. Southern Economic Journal, 83(1): 176-201. Available at: https://doi.org/10.1002/soej.12136.

Rugman, A.M., S. Collinson and R.M. Hodgetts, 2006. International business. Pearson Education.

Sjöholm, F., 2014. Gap, competition and spillovers from direct foreign investment: Evidence from establishment data. The Journal of Technology: 37–41. Available at: https://doi.org/10.1080/00220389908422611.

Svedberg, P., 1981. Colonial enforcement of foreign direct investment. The Manchester School, 49(1): 21-38. Available at: https://doi.org/10.1111/j.1467-9957.1981.tb00170.x.

Udoh, E. and F.O. Egwaikhide, 2008. Exchange rate volatility, inflation uncertainty and foreign direct investment in Nigeria. Botswana Journal of Economics, 5(7): 14-31. Available at: https://doi.org/10.4314/boje.v5i7.60304.

Ullah, I., M. Shah and F.U. Khan, 2014. Domestic investment, foreign direct investment, and economic growth nexus: A case of Pakistan. Economics Research International: 1-5. Available at: https://doi.org/10.1155/2014/592719.