The Determinants Shaping Inward FDI in Indian Economy

Riya Shah,

Doctoral Scholar,
Institute of Management, Nirma University, India.

ABSTRACT

The study shows various determinants of inward foreign direct investment (FDI) in Indian economy after the Liberalisation, Privatisation and Globalization policy in 1991-92 to 2016-17. Log linear regression model has been used and the method of least squares has been applied to determine the relation. Empirical results revealed that market size and trade openness are important determinants for FDI. Policy regarding allowing foreign investors to acquire shares in Indian company has significant effect on FDI. The study also measure the assumptions of the least square method including stationarity, autocorrelation, multicollinearity, heteroscedasticity indicating that the results are efficient, consistent and unbiased.

Keywords: Foreign direct investment, Multicollinearity, Heteroscedasticity, Autocorrelation, Ordinary Least Square model.

INTRODUCTION:

The question regarding why a firm prefer to establish foreign value adding activities when it can export directly to foreign firms is somewhat answer by World Bank as," Foreign direct investment are the net inflows of investment to acquire a lasting management interest (10% or more of voting stock) in an enterprise operating in an economy other than of the investor." Foreign direct investment (FDI) is summation of equity, long term and short term capital and reinvestment of the earnings in the balance of payment.

All the prior literature available has accentuated either firm specific variables or Industry specific variables while explaining trends in FDI. However in recent times, researchers now interested in the spatial aspects of FDI and the practical implication on the multinational enterprises having business in foreign market. The Location aspect of FDI stalks from the fact that most of the countries compete to attract a major inward FDI therefore changes that can be made by host countries are become very much important to attract more and more FDI.

According to Dunning (2009) location variables like availability of natural resources, price and quality of natural resources, physical infrastructure that facilitated resources to be exploited, government restraints and other investment inducements tended to be the key influences of FDI location decisions in the 1970s. But in recent years these types of factors are playing less important role. Dunning (2009) argues that macroeconomic and macro-organisational policies practiced by the host government have an increasingly significant role as location decision variables held for MNEs in the 1990s.

According to Vasconcellos and Kish (1998) in their study of cross-border acquisition, macroeconomics variable are playing an important part in explaining aggregate FDI trends over time. Though, given the prospective importance of the properties of macroeconomic variables on inward FDI, it is conceivably amazing that host country macroeconomic factors have received relatively little academic attention. As rightly said by Dunning (2009) that the lack of research on this aspect was due to economists were either satisfied with the prevailing explanation for inward FDIs or they are disinterested in the subject.

Inward Foreign Direct Investment:

India in one of the most populated counties after China among all other counties in the world. According to NASDAQ Report (2017) India is the only trillion-dollar economy to rank among the top five fastest growing

economies in the world. Indian economy is expected an average annual growth of 7.73% during 2017-19, backed by strong macroeconomic fundamentals, robust domestic demand, favourable demographics, ample resources and a proactive government.

India is a land of opportunities for investors and is appropriately referred to as the bright spot against a backdrop of the muted global economy. Additionally, the route of investing as a Foreign Portfolio Investor opens a wider spectrum to invest in the sub-continent. The major reason for becoming world's fastest growing economy is because of resource seeker and market seeker investors, cheap labour availability and huge market for the consumer goods which attract the foreign countries to invest.

India is a particularly good case study to examine given the changing trends of inward FDIs over the past one decade. Figure 1 gives the inward FDI in India. We can see that there was marginal growth in FDI from the year 2005. During 2014–15, U.S, Mauritius, Singapore, Japan, and Netherlands are major investors in India. Government is also taking several initiatives and quick actions to increase the inward FDI. On 25 September 2014, Government of India launched "Make in India" initiative in which 25 sectors were released with relaxed norms. Some of major sectors for Foreign Direct Investment are Infrastructure (100% FDI under automatic route is permitted in construction sector for cities and townships), Automotive (FDI in automotive sector was increased by 89% from April, 2014 to February, 2015), Manufacturing (100 percent FDI under automatic route in the metals and mining sector), Pharmaceutical (100% FDI is permitted in pharmaceutical sector), Service (FDI in service sector was increased by 46% in 2014–15. FDI limit in insurance sector was raised from 26% to 49% in 2014), Railways (100% FDI is allowed under automatic route in most of areas of railway, other than the operations, like High speed train, passenger terminal, mass rapid transport systems, railway electrification etc.), Chemicals (100% FDI is allowed in Chemical sector under automatic route), Textile (During year 2013–14, FDI in textile sector was increased by 91%) and Airlines (FDI up to 49% permitted under automatic route).

An auxiliary analysis of FDI trends in Table 1 recommends that inward FDI is punctuated by fluctuations over the past one decade. It is clear from the table that that after 1991 when government open up the economy by introducing new model of economic reforms known as Liberalisation, Privatisation and Globalisation model, FDI in India begun to rise steadily. After a fall in 1999 and again in 2003, FDI began rise between 2004 and 2009. After again one down turn in 2010, FDI again rise up till now. An interesting question is aside from the availability of natural resources as a pull factor, to what extent do macroeconomic factors enlighten the fluctuating patterns of inward FDI in India?

Adopting the location-specific advantage framework that skews FDI inwards, this study makes an important contribution by deviating away from the traditional importance on natural resources, firm specific and industry specific factors. It offers fresh insights with regard to macroeconomic policy influences on the location decisions of FDI in India.

The next section reviews the relevant theoretical literature and hypotheses in terms of the relationship between macroeconomic factors and inward FDI. Section three outlines the methodology of the study. Section four presents and discusses the results, and section five provides a final summary and conclusion.

LITERATURE REVIEW:

There are many theories which try to explain the inward FDI. In international economics, FDI gain lot of importance after the World War II. Major work was done by Dunning in his eclectic paradigm theory (1973, 1980, 1991; 1998) in which he provides a conceptual framework that can be used to explain FDI. The paradigm states that a country's propensity to entice inward FDI is a collective function of three variables including the ownership advantages, location-specific advantages and general performance indicators. The ownership specific advantage embodied in a firm's resources and capabilities and can be in form of a monopoly with limited natural resources, technological advancement, trademarks, patents, economies of scale. The location-specific advantages comprising of tangible and intangible resources, these country specific advantages can be classified as economic benefits, political advantages and social advantages; and the third is internalisation offers a framework for assessing different ways or strategies by which multinational enterprises can exploit their power. Company needs the organisational forms by which firms combine their ownership advantages with location advantages to maintain and improve their competitive positions. All these three combined advantages motivate firms to invest overseas.

Here, the focus is on location-specific advantages. Location advantages are country-specific factors that may affect a firm's market potential and market risk. Dunning has provided five Location-specific variables which are;

 1) The export/import ratio: it is measured by the ratio of value of exports to value of imports of host countries (as a measure of a country's ability to produce particular products).

2) Relative market size: it is value of industry sales in the U.S. divided by value of industry sales in the host countries.
3) Relative wage: is average hourly compensation in the U.S. divided by average hourly compensation in the host countries for all employees
4) Relative export shares of U.S. and host a country which is another measure of country performance.
5) Comparative market growth of U.S and host countries.

Chakrabarti (2001) studied the relation between inward FDI and other variables like tax, wages, openness, exchange rate, tariff, growth and trade balance. He concluded that the relation between FDI and these variables is highly sensitive to small alterations in the conditioning information set. He argued that the underlying theory does not provide a definite prediction for the direction of the effect of a particular variable on FDI which makes it more complicate.

Kiymaz (2009) & Boateng et al., (2014) both studied the macro-economic factors on cross border mergers and acquisitions. According to them the market potential and market risk can be assessed using various macroeconomic factors comprising gross domestic product (GDP), interest rate, capital market indicators, exchange rate and inflation.

Tolentino (2010) examined the relationships between home country-specific macroeconomic factors and outward FDI flows of China and India by using multiple time-series data from 1982 to 2006, and from 1980 to 2006 respectively. He stated that the external or environmental factors are crucial to a firm's competitive advantage as they provide the framework on which a firm takes its decisions. FDI should be focussed to a country in which the investing organisation would be able to benefit from a new market which provides a favourable economic environment and reduces cost as well as risk and enriches its competitive advantage. In same year, Azam & Lukman (2010) examined various economic factors effecting foreign direct investment (FDI) inflows into Pakistan, India and Indonesia during 1971 to 2005. The empirical results revealed that market size, external debt, domestic investment, trade openness, and physical infrastructure are the important economic determinants of FDI.

Hypotheses Development:
The hypothesis based on macroeconomic factors influencing inward foreign direct investments are discussed below.

Market Size:
Market size is one of the most significant determinants of inward FDI. The larger the market-size of a host country in terms of the GDP, the greater the inward FDI into that country (Uddin & Boateng, 2011). This can also be measured by GDP per capita, or the population of middle-income group in the economy. According to Charkrabarti (2001) a large market is essential for the efficient exploitation of resources and to gain economies of scale which result in to increase in FDI as the market size grows. According to Khchoo & Khan (2012) there is positive relation between FDI and the level of GDP while using the panel data estimator for the period 1982 to 2008.

This is because as markets increase in size the demand within the economy will increase and, in order to meet the demand in that economy FDI also increases. A higher GDP imply better market opportunities and better attractiveness for FDI. An increase of the GDP growth rate characterises a dynamic economy that may be more attractive to investors. Many researchers have found out that a large market size provides more opportunities for sales and profits to foreign firms, and therefore attracts FDI (Schneider & Frey, 1985; Wang & Swain, 1995; Fedderke & Romm, 2006; Moosa & Cardak, 2006).

H1: The relationship between Indian GDP and inward FDI will be positive.

Trade Openness:
Trade openness is the ratio of the sum of exports and imports to total GDP at the current price. Many researchers argue that liberal trade openness generate positive investment climates (Liu et al., 2001; Jordaan, 2004; Mina, 2007). The impact of openness on FDI depends on the type of investment. If there is a restriction for imports by the host country, the amount of FDI necessary to capture the market increases. In that context, there may be a negative relation between trade openness and inward FDI (Wheeler & Mody, 1992). In the context of this study, we expect that if the market is more open, investors can easily approach the host market. Trade openness is expected to advance a business-friendly economic environment and increase investment which leads to further inward FDIs. In this case, there may be a positive relation

between trade openness and inward FDI.
H2: The relationship between trade openness in India and inward FDIs will be positive.

Infrastructure:
Infrastructure includes the enormous variety of things which are required for business. It includes power and electricity, telecommunication facilities, road facilities, railway facilities and institutional development. The impact of infrastructure can be captured by different proxies like annual gross fix capital formation, per capita electricity consumption, per capita energy usage, telephone lines per 1000 people etc. Khachoo and Khan(2012) studied the variable power consumption as a proxy for infrastructure and concluded that infrastructure is one of the main determinants of FDI. Infrastructure facilities increase the productivity of the investments and therefore may stimulates inward FDIs into the country. There were mix results on the impact of infrastructure facilities on inward FDIs. Many researches show the positive impact (Asiedu, 2002; Kumar, 2002). In contrast, Countries with poor infrastructure try to attract more and more FDI to the construction sector by providing incentives in infrastructure related projects. In that case, there can be a negative relation between FDI and infrastructure. For this study, we expect that there is positive impact of infrastructure facilities on inward FDI.
H3: The relationship between infrastructure and inward FDIs will be positive.

Exchange Rate:
According to Tolentino (2010) there are two channels through which exchange rates impact FDI. First is the wealth effect channel and second one is relative production cost channel. The relative wealth of foreign investors in comparison to domestic investors increases following the currency depreciation. From the point of view of foreign investors all production inputs like land, labour, machines, and assets, in the host country become cheaper following the depreciation, which finally encourage them to acquire more domestic assets. A depreciation of the host country currency reduces local production costs, in terms of foreign currency, which raises the profit of export-oriented FDI. Higher profits naturally attract further inward FDI. Chakrabarti (2001) found that the real exchange rate produces a positive effect when it is combined with openness, domestic investment and government consumption. He also argues that the effect become negative when domestic investment is excluded. According to Froot & Stein (1991) there is positive correlation between dollar depreciations and inward FDI, For Indian context we expect that the appreciation of exchange rate leads to negative impact on inward FDI.
H4: The appreciation of the Indian exchange rate leads to a decrease in inward FDIs.

Interest Rates:
Interest rates are one of the significant determinants of the location choice of inward FDI (Billington, 1999). According to Culem (1988) the low interest rates of host countries has a significant role to play in attracting inward FDI as the low interest rate attracts investor by the way of cost advantage. On contrary Jeon and Rhee (2008) contrast the view and suggested that higher interest rates in host country makes foreign investments more attractive as they lead to profitable investments. According to Boateng et al. (2015) there is negative relation between inward cross border investments and interest rates. For this study we expect that there is positive impact of interest rate on the FDI as investors can earn more return.
H5: The relationship between interest rates and inward FDIs in India will be positive.

Apart from the above independent variables, the study also analyse the effect of policy changes on the foreign direct investment. For that two policy changes are taken in to consideration. The first policy change was from 1995-96 onwards which include the acquisition of shares of Indian companies by non-residents. under Section 6 of FEMA, 1999.
In 1999-2000, Foreign Investment Implementation Authority (FIIA) was set up. This body was formed for providing a single point interface between government machinery (including state authorities) and foreign investors. So, in this backdrop two dummy variables were added which shows the presence and absence of the policy for the given time frame.

RESEARCH METHODOLOGY:

Sources of Data:
The data of dependent variable that is foreign direct investment to India and data on the macroeconomic variables as independent variables, including the per capita GDP, import and export for trade openness, fixed

capital formation as proxy of infrastructure, interest rate and exchange rate are obtained from the Handbook of statistics published by Reserve bank of India.

Data Description and Methodology:
The study is based on secondary time series data from 1991-92 to 2016-17. The analysis of various factors affecting inward FDI was been done with the help of linear regression models. The ordinary least square (OLS) method was used as an analytical technique. The data was transformed in to log form to yield continuous compounding series and due to non-linearity. The analysis was been done by a statistical software named EViews. The symbolic form of the log linear regression model is given as follow:

$$\ln FDI = \alpha_0 + \alpha_1 \ln(GDP) + \alpha_2 \ln(TO) + \alpha_3 \ln(CF) + \alpha_4 \ln(ER) + \alpha_5 \ln(IR) + d_1 + d_2 + \varepsilon_1 \quad (1)$$

According to equation (1), FDI is a positive function all the independent variables. So, FDI is positively related to market size measured by per capita gross domestic product of India, trade openness, infrastructure measured by capital formation in India, exchange rate measured as Real Effective Exchange Rate (REER) as it adjusted for inflation, Interest rate measured as the rate of fixed deposit in India for more than 5 years. Where

FDI = Foreign Direct Investment
GDP = Gross domestic product as proxy of Market size
TO = Trade Openness (Imports + Exports/GDP)
CF = Capital formation as proxy of Infrastructure
ER = Exchange rate
IR = Interest rate
d1 = Dummy variable for acquisition of shares by NRI
d2 = Dummy variable for FIIA
ε = Error term

The explanatory variables and error term will follow the least square assumptions.

EMPIRICAL RESULTS:

Test of Stationarity:
While using the time series data, it is very important to detect the presence of stationarity in the series. A unit root test is used for the proposition that in an autoregressive statistical model, the autoregressive parameter is one. If the variables are not stationary, the standard assumptions for asymptotic analysis will be invalid. The mean, variance and co-variance of the series should not change with the change in time. Non-stationary time series cannot be used to generalize the research for other time period. Here, the presence of the unit root is analysed with the help of Augmented Dickey Fuller test.

AFD statistic reported in Table 2 shows that the null hypothesis of a unit root test for FDI is rejected and the series is stationary in nature. All the independent variables are non-stationary at level form and stationary at first difference. So, the order of integration in all the independent variable is one.

Test of multicollinearity:
Multicollinearity means the presence of perfect or exact linear relationship among the independent variables of the model. There are several tests that can detect the multicollinearity. Here, Variance Inflation Factors (VIFs) is used to measure the level of collinearity between the regressors in an equation. It detects how much of the variance of a coefficient estimate of a regressor has been exaggerated because of collinearity with the other regressors.

The centered VIF means the ratio of the variance of the coefficient estimate from the equation divided by the variance from a coefficient estimate with only that regressor and a constant. Here, in Table-3 the centered VIF of Capital formation is highest which shows the collinearity is present. Also from Table-4 which is the correlation matrix of the regressors we can see that, capital formation as the highest correlation with per capita gross domestic product as well as Trade openness.

So, to remove the effect of multicollinearity, Capital formation as the proxy of infrastructure is been dropped as it is highly correlated with other regressors. After dropping the variable, again same analysis was been done and the results have shown that all values of VIF do not exceed 10 and there is no multicollinearity.

After dropping the variable, the regression equation has been calculated. The estimated regression equation is;

$$\ln FDI = 2.006 \ln GDP + 2.0199 \ln TO + 0.8943 \ln ER - 0.6981 \ln IR + 1.2775 d_1 - 0.2843 d_2 + \varepsilon$$

The result of Table- 5 shows that the market size, trade openness and the policy of the acquisition of shares of Indian companies by non-residents under FEMA, 1999 have been found statistically positively significant at 5% level of significance. However, the exchange rate has been showing insignificant positive relation with inward

FDI. Interest rate has been found insignificant with unexpected signs but it does not mean that it is not important to determine inward FDI. The second policy is not showing any significance in determining the inward FDI. The R squared value is 0.9426 which indicate that the model explains 94.26% of the variability to the response data around its mean. F-statistic is also showing significance at 5% level of significance.

Normality Test:
Normality test can be done in different ways like histogram of residuals, normal probability graph and Jarque-Bera test. Here, the histogram of the residuals is been taken and the Jarque-Bera test is been done. Apart from that skewness and kurtosis is also one of the important determinants of Normality of data.
The histogram of residuals from Figure-2 suggest that the residuals of are normally distributed which is one of the key assumptions of the OLS. The data have kurtosis of 3.32 and skewness of -0.14. The probability is 0.9054 which shows that we can not reject the null hypothesis that the data follows normal distribution.

Test of Autocorrelation:
To test the assumption of autocorrelation, Breusch- Godfrey(BG) test is been used. The null hypothesis suggests that there is no serial correlation of any order. The first step of BG test is the estimation the regression equation using OLS and obtains the residuals of the same. The subsequent step is to regress the residual on the independent variables to obtain R-square from the auxiliary regression.
Here, the length of lag is very significant but it cannot be specified a priori. From Table-6 the result of BG test shows that we cannot reject null hypothesis as the p value is 0.0571 which is more than 5% level of significance. So, there is no serial correlation of any order.

Test of Heteroscedasticity:
One of the important assumption of linear regression model is the variance of disturbance term should be constant.
$$E(u_i^2) = \sigma^2 \quad i=1,2,\ldots,n$$
Homoscedasticity also known as homogeneity of variance indicates that the variance is equal. Nevertheless, using the usual testing procedure regardless of having heteroscedasticity can draw ambiguous inferences. So, it is significant to test the heteroscedasticity. Breusch-Pagan-Godfrey Test is useful for detecting the presence of heteroscedasticity.
$$\text{The null hypothesis indicate that } \alpha_2 = \alpha_3 = \ldots = \alpha_m = 0$$
The result from Table-7 displays that the probability of F test and Chi-square test shows that we can not reject the null hypothesis of having homoscedasticity in the error variance at 5% level of significance. The major drawback of this test is the sample size, the BPG test is asymptotic or large sample test and by taking only 26 observations, the test is sensitive to the assumption of normally distributed disturbance term.

CONCLUSION:

The test for multicollinearity suggest to drop the capital formation as the proxy of infrastructure as it has high correlation with per capita gross domestic product and trade openness. After dropping that variable, the study shows that there is a positive relationship between per capita gross domestic product and foreign direct investment. The trade openness is also positively affecting the foreign direct investment. So, form all the determinants shaping inward foreign direct investment, market size and trade openness shows the significance. Other factors like exchange rate, interest rate and infrastructure shows insignificant result. The policy for acquisition of shares of Indian companies by non-residents has significant positive relation with inward foreign direct investment. The test of normality suggests that the data is normally distributed. The residuals have homoscedasticity and there is no serial correlation.

LIMITATION OF STUDY:

According to Huang et. al (1998) the data will most likely have majorly three problems; the period under consideration is too short; the data are non-stationary and the data represent non linearity. However, the first two are related as shorter period data appear to be non-stationary.
So, by taking the logarithm value for analysis lead to conclude the result for the particular period under consideration only as the data taken for analysis is non-stationary in nature. The result can not be generalised due to non-stationarity which is there because of less observations.
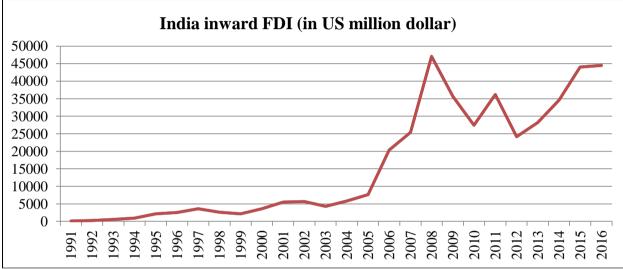
REFERENCES:

Asiedu, E. (2002). On the Determinants of Foreign Direct Investment to Developing Countries: Is Africa Different?. *World Development*, *30*(1), 107-119. doi: 10.1016/s0305-750x(01)00100-0

Azam, M., & Lukman, L. (2010). Determinants of Foreign Direct Investment in India, Indonesia and Pakistan: A Quantitative Approach. *Journal of Managerial Sciences*, *4*(1).

Billington, N. (1999). The location of foreign direct investment: an empirical analysis. *Applied Economics*, *31*(1), 65-76. doi: 10.1080/000368499324561

Boateng, A., Hua, X., Nisar, S., & Wu, J. (2015). Examining the determinants of inward FDI: Evidence from Norway. *Economic Modelling*, *47*, 118-127. doi: 10.1016/j.econmod.2015.02.018

Boateng, A., Hua, X., Uddin, M., & Du, M. (2014). Home country macroeconomic factors on outward cross-border mergers and acquisitions: Evidence from the UK. *Research In International Business And Finance*, *30*, 202-216. doi: 10.1016/j.ribaf.2013.08.001

Chakrabarti, A. (2001). The Determinants of Foreign Direct Investments: Sensitivity Analyses of Cross-Country Regressions. *Kyklos*, *54*(1), 89-114. doi: 10.1111/1467-6435.00142

Clegg, J., & Dunning, J. (1991). Explaining International Production. *The Economic Journal*, *101*(409), 1594. doi: 10.2307/2234914

Culem, C. (1988). The locational determinants of direct investments among industrialized countries. *European Economic Review*, *32*(4), 885-904. doi: 10.1016/0014-2921(88)90051-7

DUNNING, J. (1973). The Determinants Of International Production 1. *Oxford Economic Papers*, *25*(3), 289-336. doi: 10.1093/oxfordjournals.oep.a041261

Dunning, J. (1980). Toward an Eclectic Theory of International Production: Some Empirical Tests. *Journal of International Business Studies*, *11*(1), 9-31. doi: 10.1057/palgrave.jibs.8490593

Dunning, J. (1998). Location and the Multinational Enterprise: A Neglected Factor?. *Journal of International Business Studies*, *29*(1), 45-66. doi: 10.1057/palgrave.jibs.8490024

Dunning, J. (2009). Location and the multinational enterprise: A neglected factor?. *Journal of International Business Studies*, *40*(1), 5-19. doi: 10.1057/jibs.2008.74

Fedderke, J., & Romm, A. (2006). Growth impact and determinants of foreign direct investment into South Africa, 1956–2003. *Economic Modelling*, *23*(5), 738-760. doi: 10.1016/j.econmod.2005.10.005

Froot, K., & Stein, J. (1991). Exchange Rates and Foreign Direct Investment: An Imperfect Capital Markets Approach. *The Quarterly Journal Of Economics*, *106*(4), 1191-1217. doi: 10.2307/2937961

Gopinath, M., Pick, D., & Vasavada, U. (1999). The Economics of Foreign Direct Investment and Trade with an Application to the U.S. Food Processing Industry. *American Journal of Agricultural Economics*, *81*(2), 442. doi: 10.2307/1244593

Huang, N., Shen, Z., Long, S., Wu, M., Shih, H., & Zheng, Q. et al. (1998). The empirical mode decomposition and the Hilbert spectrum for nonlinear and non-stationary time series analysis. *Proceedings Of The Royal Society A: Mathematical, Physical And Engineering Sciences*, *454*(1971), 903-995. doi: 10.1098/rspa.1998.0193

JEON, B., & RHEE, S. (2008). The Determinants of Korea's Foreign Direct Investment from the United States, 1980-2001: An Empirical Investigation of Firm-Level Data. *Contemporary Economic Policy*, *26*(1), 118-131. doi: 10.1111/j.1465-7287.2007.00061.x

Jordaan, J. (2004). *Foreign Direct investment and neighbouring influences* (Doctoral dissertation). University of Pretoria.

Khachoo, A. Q., & Khan, M. I. (2012). Determinants of FDI inflows to developing countries: a panel data analysis.

Kiymaz, H. (2009). The impact of country risk ratings on U.S. firms in large cross-border acquisitions. *Global Finance Journal*, *20*(3), 235-247. doi: 10.1016/j.gfj.2009.09.001

Kumar, N. (2002). *Globalization and the quality of foreign direct investment*. Oxford Univ Pr.

Liu, X., Wang, C., & Wei, Y. (2001). Causal links between foreign direct investment and trade in China. *China Economic Review*, *12*(2-3), 190-202. doi: 10.1016/s1043-951x(01)00050-5

Mina, W. (2007). The location determinants of FDI in the GCC countries. *Journal of Multinational Financial Management*, *17*(4), 336-348. doi: 10.1016/j.mulfin.2007.02.002

Moosa, I., & Cardak, B. (2006). The determinants of foreign direct investment: An extreme bounds analysis. *Journal of Multinational Financial Management*, *16*(2), 199-211. doi: 10.1016/j.mulfin.2005.07.002

Schneider, F., & Frey, B. (1985). Economic and political determinants of foreign direct investment. *World Development*, *13*(2), 161-175. doi: 10.1016/0305-750x(85)90002-6

Tolentino, P. (2010). Home country macroeconomic factors and outward FDI of China and India. *Journal of*

International Management, *16*(2), 102-120. doi: 10.1016/j.intman.2010.03.002

Uddin, M., & Boateng, A. (2011). Explaining the trends in the UK cross-border mergers & acquisitions: An analysis of macro-economic factors. *International Business Review*, *20*(5), 547-556. doi:10.1016/j.ibusrev.2010.11.003

Vasconcellos, G., & Kish, R. (1998). Cross-border mergers and acquisitions: the European–US experience. *Journal of Multinational Financial Management*, *8*(4), 431-450. doi: 10.1016/s1042-444x(98)00041-3

Wang, Z., & Swain, N. (1995). The determinants of foreign direct investment in transforming economies: Empirical evidence from Hungary and China. *Weltwirtschaftliches Archiv*, *131*(2), 359-382. doi: 10.1007/bf02707440

Wheeler, D., & Mody, A. (1992). International investment location decisions. *Journal of International Economics*, *33*(1-2), 57-76. doi: 10.1016/0022-1996(92)90050-t

FIGURES:

Figure 1: Annual inward FDI in India
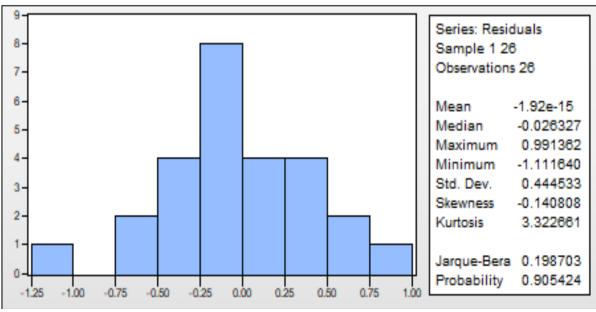

Source: UNCTAD Database

Figure 2: Histogram and descriptive statistic of residuals

Source: E-views

TABLES:

Table 1: Share of inward FDI in India, 1991 – 2016 (As a % of Asia and worldwide FDI activities)

Year	World FDI	Asia FDI	India FDI	India FDI as % of World FDI	India FDI as % of Asia FDI
1991	153972.596	24354.9669	75	0.0487	0.3079
1992	162923.674	33358.7836	252	0.1547	0.7554
1993	220110.092	56250.8253	532	0.2417	0.9458
1994	254920.089	68444.7015	974	0.3821	1.4230
1995	341527.481	81703.9038	2151	0.6298	2.6327
1996	388819.192	97331.0966	2525	0.6494	2.5942
1997	481490.476	108287.255	3619	0.7516	3.3420
1998	690690.434	93554.777	2633	0.3812	2.8144
1999	1076318.36	115397.953	2168	0.2014	1.8787
2000	1360253.81	142797.637	3587.98975	0.2638	2.5126
2001	772782.639	122701.253	5477.63762	0.7088	4.4642
2002	594929.304	95773.2605	5629.67108	0.9463	5.8781
2003	558863.86	131408.128	4321.07644	0.7732	3.2883
2004	697169.929	177797.032	5777.8072	0.8288	3.2497
2005	958515.769	224921.3	7621.76871	0.7952	3.3886
2006	1411171.08	292959.211	20327.7639	1.4405	6.9388
2007	1909234.41	358388.565	25349.8918	1.3278	7.0733
2008	1499132.8	378847.377	47102.4173	3.1420	12.4331
2009	1190005.98	321519.062	35633.9395	2.9944	11.0830
2010	1383779.3	410424.174	27417.0767	1.9813	6.6802
2011	1591146.07	425656.747	36190.456	2.2745	8.5023
2012	1592598.33	401176.814	24195.7669	1.5193	6.0312
2013	1443229.89	421499.941	28199.446	1.9539	6.6903
2014	1323863.41	460315.675	34582.1007	2.6122	7.5127
2015	1774000.74	523641.495	44064.1292	2.4839	8.4149
2016	1746423.5	442664.794	44485.6246	2.5472	10.0495

Source: Authors' own calculation based on data available from UNCTAD's database for FDI statistics Absolute figures are in million US Dollar.

Table 2: Augmented Dickey Fuller test

Variables	Logarithmic series	First difference	Level of Integration
lnFDI	-3.55 (0.015)		I(0)
lnGDP	-1.58 (0.77)	-4.09 (0.019)	I(1)
lnTO	-2.02 (0.28)	-4.10 (0.004)	I(1)
lnCF	-0.54 (0.89)	-4.28 (0.002)	I(1)
lnER	-2.15 (0.23)	-6.45 (0)	I(1)
lnIR	-2.51 (0.13)	-7.68 (0)	I(1)

Source: Calculated by author

Table 3: Variance Inflation Factors

Variable	Coefficient variance	Centered VIF
lnGDP	11.32071	159.5214
lnTO	1.957943	18.75386
lnCF	6.321239	265.9278
lnER	10.5117	3.06408
lnIR	0.605781	2.773765
d1	0.187511	2.764042
d2	0.236932	4.78977

Source: Calculated by Author

Table 4: Correlation matrix of independent variables

Parameter	lnGDP	lnTO	lnCF	lnER	lnIR	d1	d2
lnGDP	1						
lnTO	0.89 (0)	1					
lnCF	0.99 (0)	0.93 (0)	1				
lnER	0.74 (0)	0.58 (0.0017)	0.72 (0)	1			
lnIR	-0.63 (0.0006)	-0.55 (0.0033)	-0.64 (0.0004)	-0.39 (0.0493)	1		
d1	0.63 (0.0005)	0.61 (0.0008)	0.65 (0.0003)	0.24 (0.2457)	-0.55 (0.0037)	1	
d2	0.75 (0)	0.73 (0)	0.78 (0)	0.46 (0.0185)	-0.77 (0)	0.73 (0)	1

Source: Calculated by author

Table 5: Least square regression result

Variable	Coefficient	Std. Error	t-Statistic	Prob.
lnGDP	2.006738	0.846864	2.3696	0.0286*
lnTO	2.019971	0.746847	2.7046	0.014*
lnER	0.894369	3.143196	0.2845	0.7791
lnIR	-0.698178	0.739945	-0.9435	0.3572
d1	1.277599	0.414594	3.0815	0.0061*
d2	-0.284356	0.470797	-0.6039	0.553
C	-21.39003	10.56426	-2.0247	0.0572
R-squared	0.942693	F-statistic	52.09098	
Adjusted R-squared	0.924596	Prob(F-statistic)	0	

Source: Calculated by author

Table 6: Breusch- Godfrey test results

F-statistic	3.403583	Prob. F(2,17)	0.0571

Source: Calculated by author

Table 7: Breusch-Pagan-Godfrey test results

F-statistic	2.555837	Prob. F	0.055
Obs*R-squared	11.61236	Prob. Chi-Square	0.0712
Scaled explained SS	7.201731	Prob. Chi-Square	0.3026

Source: Calculated by author