International Journal of Management and Applied Science, ISSN: 2394-7926 Volume-4, Issue-2, Feb.-2018
http://iraj.in

DETERMINANTS OF FOREIGN DIRECT INVESTMENT IN SRI LANKA

[1]PIRIYA MURALEETHARAN, [2]T.VELNAMBY, [3]B.NIMALATHASAN

[2,3]Professor
[1,2,3]DEPARTMENT OF ACCOUNTING, FACULTY OF MANAGEMENT STUDIES AND COMMERCE
E-mail: [1]piriyamuraleetharan@yahoo.co.in

Abstract - This study focuses on empirical analysis to find out the role of international trade volume, gross domestic product, infrastructure, interest rate, exchange rate and rate of inflation in foreign direct investment in SriLanka. The analysis based on time series data for the period 1978 to 2015. This study uses ADF tests to find out stationary of the variables and Ordinary Least Square techniques have been used for the estimation. However positive impact on real gross domestic product, Interest rate, Exchange Rate and Infrastructure Quality but not significant impact of inflation rate and International Trade Volume. Furthermore, foreign direct investment and trade are considered vital elements that improve the influence of foreign Direct Investment. If suitable policies are formulated then Exchange rate can be enhanced by FDI at a large scale. Single digit inflation is essential condition for a growing economy like SriLanka.

Keywords - Foreign Direct Investment, Exchange Rate, Inflation, GDP and Interest rate

I. INTRODUCTION

Foreign Direct investment (FDI) refers to long term participation by one country to another country. It usually involves participation in management, joint-venture, transfer of technology and expertise. This is used to measure the number of foreign firms that owns productive assets such as factories, land and mines. Growth in FDI can be associated with growth in the overall economy.

Foreign direct investment can play a significant role in achieving rapid economic growth in developing countries such as Sri Lanka by bridging the gap between domestic savings and investment, and bringing the latest technology and management know-how from the developed countries. Hence, it can easily be understood why many developing countries seek new ways to attract FDI inflows. Some developing countries have been successful in attracting FDI while others have not. The reason for this lies in how a country handles the factors that determine FDI inflows. Identifying the factors that determine FDI inflows into a country is a complex problem.

There are many theories which attempt to explain the determinants of FDI. However, Dunning's research work (1977, 1981) provides a comprehensive analysis based on ownership, location and the internationalization (OLI) paradigm. It is also called an eclectic theory and has remained the dominant analytical framework for accommodating a variety of operationally testable economic theories of the determinants of FDI and the foreign activities of Multinational enterprises (MNEs) (Dunning, 2000). United Nations Conference on Trade and Development (UNCTAD, 1998) also refers to Dunning's OLI paradigm and confirms that FDI usually goes to the countries where it is possible to combine the ownership advantages with the location specific advantages of the host countries through the internationalization of foreign investments.

Sri Lanka is one of the developing countries that need FDI as its capacity to allocate its own funds for development is very low due to its lower level of domestic savings. The investment favorable policies adopted by the successive governments over the past three decades did result in FDI inflows into Sri Lanka. However, the growth of FDI inflows into Sri Lanka has performed below the government's post-war expectations. Despite the rapid growth of infrastructure, sound macroeconomic conditions, favorable investment climate and huge government support for FDI inflows, Sri Lanka has still failed to attract a significant amount of FDI inflows compared to its South Asian neighbors.

The importance of FDI to Sri Lanka arises in light of the dismal performance of previous policies that emphasized more attraction of FDI in Sri Lanka (Sahoo et al, 2014). Although many relevant investment policy reforms have been introduced in Sri Lanka, the institutions and investment authorities supporting FDI were weak, fragmented and uncoordinated.

Their services are quite basic, mainly focusing on short term benefits. There were hardly any initiatives for targeted, comprehensive and sustained support specifically to facilitate upward mobility of FDI in Sri Lanka. As a result, in Sri Lanka, FDI has performed below expectations. This situation is likely to worsen as competition intensifies with ongoing globalization. It is in line with the above argument that this paper intends to identify the determinants of FDI in Sri Lanka.

II. STATEMENT OF THE PROBLEM

It is now widely acknowledged that FDI has potential benefits that can accrue to developing countries. FDI

is important as it brings financial resources, new technologies, improves the efficiency of the existing technology, increases competition in host countries economies. FDI is also said to contribute to growth in a substantive manner because it's more stable than other forms of capital flows. The government of Sri Lanka has made efforts through institutional and legal framework, forums and promotional campaigns to encourage FDI. Sri Lanka's FDI record over the years has not been impressive. Although Sri Lanka was among one of the most favored destination for FDI in the 1977s in Asia, it is now among the countries with very low levels of FDI. This study would provide information about the erratic trend of FDI inflow in Sri Lana and also be useful to provide strategies to arrest the erratic movement of FDI. Specifically, this study was undertaken to explore the answers to the following research question.

What are the factors determine the foreign direct investment?

What is the impact of those factors on foreign direct investment?

III. OBJECTIVES OF THE STUDY

The primary objective of this study is to identify the determinants of Foreign Direct Investment in Sri Lana. And sub objectives are

- To investigate the impact of that factors on foreign direct investment.
- To investigate the relationship of that factors with foreign direct investment.

IV. LITERATURE REVIEW

Many empirical studies have found that market size (GDP, GNP) have a positive effect on inward FDI (Nonnemberg & Mendonça, 2004; Root & Ahmed, 1979). As per Chakrabarti (2001)'s synopsis, almost all studies have found a consistent positive effect of market size on FDI inflows.

Majority of empirical studies have found that market growth rate (GDP growth, GNP growth) have a positive effect on inward FDI (Billington, 1999, Suliman & Mollick, 2009) while handful of studies have found the growth rate to be insignificant as a FDI determinant (Nigh, 1985). Athukorala (2003) examined the two-way relationship between FDI and GDP in the context of Sri Lanka. His econometric results indicate that GDP growth rate and FDI is positively related. He shows that GDP growth rate influence FDI directly but the direct influence of FDI inflows on GDP growth is weak. Using Engle-Granger method to see the direction of causality, he shows that the direction of causation is from GDP growth to FDI but not from FDI to GDP growth.

The presence of physical infrastructure is considered as a key determinant of FDI (Loree & Guisinger, 1995). Infrastructure helps to increase the productivity of both domestic and foreign investments, and therefore, can stimulate FDI inflows. Some studies have highlighted that infrastructure is much more crucial for developing countries than developed countries for attracting FDI (Wheeler & Mody, 1992; Kumar, 2001). Importance of infrastructure is increasingly recognised by developing countries, and therefore, infrastructure development has become a main agenda in developing countries.

Although not many empirical studies have given considerable attention to the effect of infrastructure on FDI flows, it has been a common practice to include variable representing the level of infrastructure as an explanatory variable in studies investigating determinants of FDI. Empirical studies that have included infrastructure as an explanatory variable have relied on an array of measures to represent the level of infrastructure in a country. Most frequently used measure is the telephone lines per capita (see, for example, Loree & Guisinger, 1995; Kinoshita & Campos, 2004; Asiedu, 2002; Suliman & Mollick, 2009). Alternatively, some studies have relied on transportation infrastructure measures such as road density or railway density (Loree & Guisinger, 1995) while others have used the share of transportation, energy and communication expenditures in GDP (Erdal & Tatoglu, 2002). The level of infrastructure in the host country has been a significant determinant of FDI inflows in majority of these studies (Loree & Guisinger, 1995; Erdal & Tatoglu, 2002) while it has been insignificant in some of the studies (Kinoshita & Campos, 2004).

Interest rate is another significant determinant of FDI inflows. Low interest rate provides a cost advantage for investors. Some of the surveyed studies have found a negative relationship between interest rates and FDI inflows (Boateng, 2015; Koojaroenprasit, 2013). On the other hand, some other studies found that higher interest rates in the host country make foreign investments more attractive as they lead to profitable investments, and hence a positive relationship between interest rate and FDI inflows is also reasonable (Cevis & Camurdan, 2007; Jayasekara, 2014). Thus, the impact of interest on FDI inflows is inconclusive.

Rate of inflation reflects the economic stability of an economy. Usually, a high rate of inflation (economic instability) reduces the return on investment. Some of the surveyed studies have found negative relationship between inflation rate and FDI inflows (Boateng 2015; Cevis & Camurdan, 2007). In contrast, Jayasekara (2014) has found a positive relationship between the rate of inflation and FDI inflows.

The purpose of this research is to identify the determinants of FDI and discuss their direction of

effect on FDI inflows into Sri Lanka for the period of 38 years from 1978-2015.

V. CONCEPTUALIZATION

The research design choice of this study is analytical, which focuses on the determinants of foreign direct investment in Sri Lanka. This study will consider the possible explanatory variables and their proxies and discuss their direction of effect on FDI inflows into Sri Lanka.

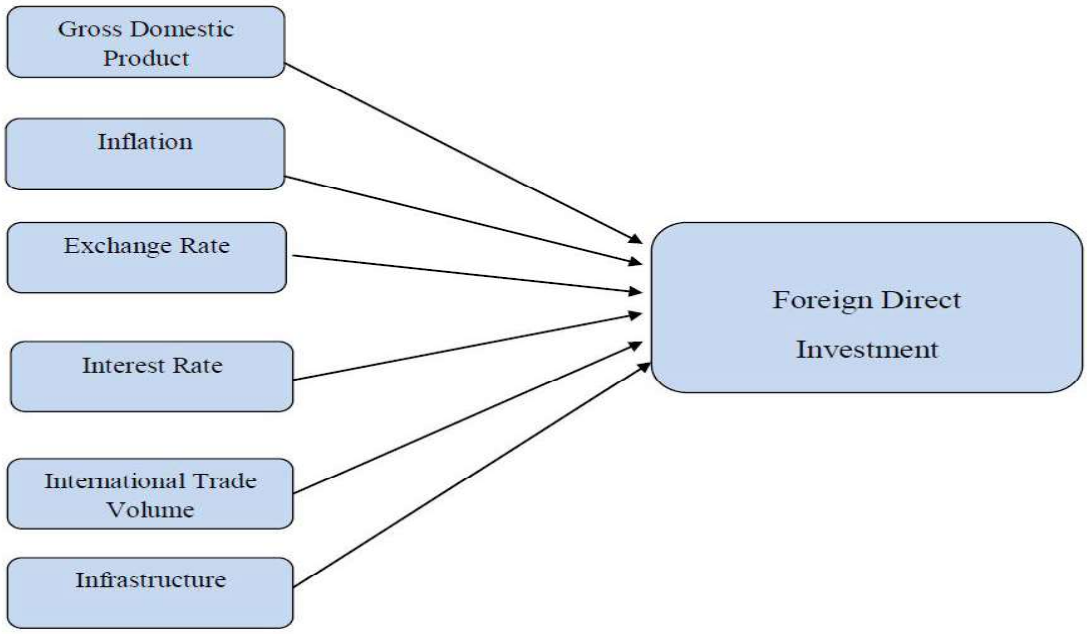

Figure1: Conceptual framework

Method of Analysis

Foreign direct investment inflows (FDI) in Sri Lanka by employing the time series analysis. The study uses annual data from 1978 to 2015. The results confirm the existence of long run equilibrium between the FDI and six explanatory variables, namely gross domestic product, exchange rate, infrastructure, rate of inflation, interest rate, international trade volume.

In this study, different methods of statistical processing have been applied. E-view 8 software programmed exclusively applicable to statistical processing is used for processing the data. Statistical analysis, in addition to the usual descriptive statistical methods such as means, medians and standard deviation are used to analyze the data.

Regression analysis involves identifying relationship between a dependent variable and one or more independent variables. This study use the Least Squares (LS) regression, which was originally designed in work by Carl Friedrich Gauss (1975), is used for empirical analysis since it provides optimal estimates of co integrating regressions.

Model specification

$FDI= \beta_0+\beta_1 GDP+ \beta_2 INFR + \beta_3 INF+ \beta_4 EXR +\beta_5 ITV+ \beta_6 LIR+e$ ……. (1)

Where,

$\beta 0, \beta 1, \beta 2, \beta_3\ \beta_5\ \beta_6$ are the regression co-efficient

FDI = Foreign Direct Investment
GDP = Gross Domestic Product
INF = Inflation Rate
INT = Interest rate
EXR = Exchange Rate
ITV = International Trade Volume
INFR = Infrastructure Quality

Research Hypotheses

The conceptual framework presented above will be used to develop the testable hypothesis for the study.

H_1: There is a significant impact of determinant variables on foreign direct investment

H_2: There is a significant relationship between determinant variables and foreign direct investment

VI. PRESENTATION AND ANALYSIS OF DATA

This scientific study used all relevant data for making contemplated comparisons and analysis. The computed variables for the last 38 years are presented. The term analysis refers to the computation of certain measures along with searching for patterns of relationship that exist among data-groups. Thus, in the process of analysis, relationships or differences supporting or conflicting with original or new hypotheses should be subjected to statistical tests of significance to determine with what validity data can be said to indicate any conclusions.

Descriptive statistics of the variables

Descriptive statistics are used to describe the basic features of the data in a study. Descriptive statistics provide a useful summary of security returns when performing empirical and analytical analysis.

	FDI	GDP	EXR	INF	INFR	INT	ITV
Mean	287.3389	3801.492	67.27895	10.59211	6.068421	14.30789	69.04211
Median	174.6500	3246.750	57.15000	9.800000	1.620000	14.30000	72.05000
Maximum	955.9000	8622.800	135.9000	26.10000	49.00000	20.20000	88.60000
Minimum	14.74000	1372.500	15.60000	0.900000	0.310000	6.400000	46.40000
Std. Dev.	299.1157	2083.518	39.52418	5.565550	9.268989	3.760418	11.58050
Skewness	1.094610	0.862281	0.245946	0.747556	2.862018	-0.168164	-0.478491
Kurtosis	2.899288	2.657719	1.595918	3.563801	13.12101	2.024551	2.202548

Table 1: Descriptive Statistics of the Variables

In the above table observations have been used for analyzing minimum, maximum, mean and standard deviation for each variable. The Foreign direct investment (FDI) for the selected periods have average is 287.34 and std.deviation 299.12. Gross Domestic Product (GDP) average is 3801.49, std.deviation is 3801.49. Average of Lending Interest Rate (LIR) over the period is 14.29, and std.deviation 3.77. Exchange Rate (EXR) on average 67.27 and the std.deviation is 39.52. Inflation Rate (INF) on average over the period 10.59, std.deviation is.57. International Trade Volume (ITV) average for the selected period is 69.05 and std. deviation 11.59. Infrastructure (INFR) average for the selected period is 6.07and std.deviation is 9.27.

Unit Root Test:

The empirical section primarily examines the stationary conditions of the data applying the augmented Dickey –Fuller (1979) test and the Phillips-Parron (1988) test. Dickey and Fuller stretched the procedure of their test proposing an augmented version that contained more lagged term of endogenous variable to eradicate the autocorrelation. The three considerable forms of the ADF test are described as follows:

Variable	Level	1st difference	2 nd difference
FDI	0.4862	0.000	
EXR	0.9657	0.4657	0.0388
GDP	1.000	0.1023	0.000
INF	0.0020		
ITV	0.8200	0.001	
INFR	1.000	0.1230	0.0370
INT	0.3090	0.001	

The outcomes of the tests are illustrated in the tabular form. Series has a unit root as it is non-stationary. In conclusion FDI, ITV and INT show that variable is stationary at 1st difference. But EXR, GDP and INFR are in stationary at 2nd difference.

Correlations analysis

The correlation matrix is used to find out the relationship between the independent and dependent variable. Here, dependent variable foreign direct investment is correlated with independent variables gross domestic product, lending interest rate, infrastructure, inflation rate, international trade volume an exchange rate. The following tables reveal the association between the dependent and independent variables.

	FDI	EXR	GDP	INF	INFR	INT	ITV
FDI							
EXR	0.830012	1.000000					
	0.0000	-----					
GDP	0.907508	0.958057	1.000000				
	0.0000	0.0000	-----				
	-0.310060	-0.406516	-0.442448	1.000000			
INF	0.0582	0.0113	0.0054	-----			
INFR	0.698536	0.756050	0.834178	-0.364262	1.000000		
	0.0000	0.0000	0.0000	0.0246	-----		
	-0.351338	-0.524255	-0.551501	0.552120	-0.468004	1.000000	
INT	0.0305	0.0007	0.0003	0.0003	0.0030	-----	
	-0.540009	-0.464597	-0.610834	0.369080	-0.610049	0.625268	
ITV	0.0005	0.0033	0.0000	0.0226	0.0000	0.0000	----------

*Correlation is significant at the 0.05 level

Table 2: Correlation Analysis

In the above table indicates the relationship between determinants variables and foreign direct investment. From the output, it can be found that, the correlation coefficient between Gross Domestic Product (GDP), Interest Rate (INT), Exchange Rate (EXR), Inflation Rate (INF), International Trade Volume (ITV) and Infrastructure (INFR) the significant level is less than 0.05.So the result notes that there is a significant and positive and negative relationship between all variables on FDI. Therefore hypothesis (H_2) was accepted.

Regression Analysis

The Table indicates that a number of macroeconomic variables, GDP, inflation rate, exchange rate, international trade volume, interest rate and infrastructure quality impact the Sri Lankan FDI inflows. The following table presents the result of the least square model.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-627.8078	187.9843	-3.339682	0.0022
EXR	-5.042125	1.892844	-2.663782	0.0121
GDP	0.274660	0.043011	6.385863	0.0000
INF	3.095791	3.784009	0.818125	0.4195
INFR	-8.996689	3.493975	-2.574915	0.0150
INT	14.67167	6.908769	2.123630	0.0418
ITV	0.320712	2.576201	0.124490	0.9017
R-squared	0.899107	Mean dependent var		287.3389
Adjusted R-squared	0.879579	S.D. dependent var		299.1157
S.E. of regression	103.7983	Akaike info criterion		12.28760
Sum squared resid	333996.6	Schwarz criterion		12.58926
Log likelihood	-226.4644	Hannan-Quinn criter.		12.39493
F-statistic	46.04260	Durbin-Watson stat		2.450052
Prob(F-statistic)	0.000000			

Table 3: Least square Results for Foreign Direct Investment and its determinants.

The above table explained that study has generated a series of all variables with log and then applied Dynamic OLS technique. Results show that the value of adjusted R^2 is 0.8795.The result reveals that only 87.95 % of the change in foreign direct investment is explained by the determinants of FDI. Durbin Watson test shows a value of 2.4500 which shows that there is no positive autocorrelation among the variables. Results indicate that variables show the expected signs. But have positive impact on real gross domestic product, Interest rate, Exchange Rate and Infrastructure Quality but not significant impact of inflation rate and International Trade Volume. So the hypothesis H_1 was accepted.

CONCLUSION

The objective of this study was to develop an empirical framework to identify the determinants of FDI inflows in Sri Lanka by using time series data for the period of 1978– 2015. The empirical analysis of the Sri Lankan data reveals that Gross Domestic Product has a positive relationship with FDI inflows into an economy and it is significantly impact on FDI. Economic policies that enhance the growth of gross domestic product should be harnessed. The government through various policies document should continue to show commitment to generation of high and positive real GDP rate.

Policy incentives and macroeconomic variables have a high explanatory power. This means that the government should give more incentives to the investors so as to attract them. Sri Lankan government has to consider developing policies to improve the international trade volume, gross domestic product, infrastructure, interest rate, exchange rate and rate of inflation. Trade liberalization and reduction in trade barriers have turn out to be the important economic policies in developing countries like Sri Lanka, to motivate domestic economy, generate employments for growing population and searching for new technology foreign direct investment plays a crucial role.

REFERENCES

[1] Asiedu, E. 2002. On the Determinants of Foreign Direct Investment to Developing Countries: Is Africa Different? World Development, 30(1): 107-19.
[2] Athukorala, P.-c. 2006. Outward-oriented Policy Reforms and Industrialisation: The Sri Lankan Experience. Journal of South Asian Development, 1(1): 19-49.
[3] Billington, N. 1999. The location of foreign direct investment: an empirical analysis. Applied Economics, 31(1): 65-76.
[4] Boateng A., Hua X., Nisar S., Wu J. (2015). Examining the determinants of inward FDI: Evidence from Norway. Economic Modelling, 47, 118–127.
[5] Cevis I., Camurdan B. (2007). The economic determinants of foreign direct investment in developing countries and transition economies. The Pakistan Development Review, 46(3), 285–299. Chakrabarti, A. (2001) the Determinants of Foreign Direct Investment: Sensitivity Analyses of Cross-Country Regressions, KYKLOS, 54, 89-114.
[6] Erdal, F. & Tatoglu, E. 2002. Locational Determinants of Foreign Direct Investment In An Emerging Market Economy: Evidence From Turkey. Multinational Business Review (St. Louis University), 10(1): 21.
[7] Jayasekara S.D. (2014). Determinants of foreign direct investment in Sri Lanka. Journal of the University of Ruhuna, 2(4), 4–13.
[8] Kinoshita, Y. & Campos, N. F. 2004. Estimating the Determinants of Foreign Direct Investment Inflows: How Important are Sampling and Omitted Variable Biases?: Bank of Finland (BOFIT) - Institute for Economies in Transition.
[9] Koojaroenprasit S. (2013). Determinants of foreign direct investment in Australia. Australian Journal of Business and Management Research, 3(8), 20–30.
[10] Kumar, N. 2001. Infrastructure Availability, Foreign Direct Investment Inflows and Their Export-orientation: A Cross-Country Exploration. New Delhi: Research and Information System for Developing Countries.
[11] Loree, D. W. & Guisinger, S. E. 1995. Policy and Non-Policy Determinants of U.S. Equity Foreign Direct Investment. Journal of International Business Studies, 26(2): 281- 99.
[12] Nigh, D. 1985. The Effect of Political Events on United States Direct Foreign Investment: A Pooled Time-Series Cross-Sectional Analysis. Journal of International Business Studies, 16(1): 1-17.
[13] Nonnenberg, M. and Mendonca, M (2004), "The Determinants of Direct Foreign Investment in Developing Countries", IPEA, available at: http://ssrn.com/abstract=525462. O'Donnell, G. (1978),
[14] Suliman, A. H. & Mollick, A. V. 2009. Human Capital Development, War and Foreign Direct Investment in Sub-Saharan Africa. Oxford Development Studies, 37(1): 47-61.
[15] Wheeler, D. & Mody, A. 1992. International investment location decisions: The case of U.S. firms. Journal of International Economics, 33(1–2): 57-76.

★★★