



IMPACT OF INFLATION RATE, EXCHANGE RATE AND INTEREST RATE ON FOREIGN DIRECT INVESTMENT IN SRI LANKA

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ABSTRACT

Foreign Direct Investment have main role that affect the macroeconomics performance of any leading country. The objective of this research was to investigate whether uncertainty or fluctuations in Impact of Inflation rate, exchange rate and Interest rate on FDI in Srilanka. This Study was based on secondary and time series data. For this purpose 38 years data of Inflation Rate, Exchange rate and Interest Rate on FDI for the period of 1978 to 2015 was collected from the Central Bank report of Srilanka. The tests of Correlation and regression analysis were applied through Eview software to check the relationship between Inflation rate, Exchange rate and Interest rate on FDI. The correlation results showed that there is positive significant relationship between Exchange rate and Foreign Direct Investment while in regression analysis the value of R-square = 0.679 which shows that the independent variable Exchange has 67% impact on dependent variable Foreign Direct Investment and research model is accurate. 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 interest rate, exchange rate and rate of inflation. This will enhance the FDI inflows into Sri Lanka.

Keywords: Foreign Direct Investment, Inflation Rate Exchange Rate, Interest rate.

Introduction

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. 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.

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.

Statement of the problem

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.

What is the impact of Inflation rate, exchange rate and interest rates on foreign direct investment?

Objectives of the study

- To investigate the impact of that factors on foreign direct investment.
- To investigate the relationship of that factors with foreign direct investment.
- To determine the relative importance of the determinants on FDI inflow in Sri Lanka

Literature review

Jayasekara (2014) investigated the determinants of Foreign Direct Investment in Sri Lanka and evaluates the attractiveness of India, Sri Lanka, Bangladesh and Pakistan for foreign direct investment during the period of 1975-2012. Fully modified least squares (FM-OLS) regression model was fitted to estimate the determinants of foreign direct investment. Attractiveness of the selected countries for foreign direct investment was evaluated using an index. Empirical results revealed that GDP growth rate, inflation, infrastructure quality, lending interest rate, labour force, exchange rate, and corporate income tax were significant determinants of FDI in Sri Lanka during the period of 1975 -2012.

Kalaichelvi Ravinthirakumaran, E.A. Selvanathan, Saroja Selvanathan and Tarlok Singh (2015) examined the determinants of foreign direct investment inflows (FDI) in Sri Lanka by employing the Autoregressive Distributed Lag (ARDL) model. The study uses annual data from 1978 to 2012. The results confirm the existence of a long run equilibrium between the FDI and five explanatory variables, namely trade openness, GDP growth rate, infrastructure, wage and rate of inflation. Trade openness, GDP growth and infrastructure have a positive impact while the rate of inflation has a negative impact on FDI as expected. Sri Lanka should develop and introduce policies that increase the level of trade openness, GDP growth and infrastructure and that the maintain the low level of inflation.

Vijayakumar, Sridharan, and Rao (2010) implemented an examination concentrating on the FDI towards BRICS countries using data from the period of 1975-2007. The study finds out that market size, labor cost, infrastructure, currency value and gross capital formation as the potential determinants of FDI inflows of BRICS countries. The economic stability and growth prospects (measured by inflation rate and industrial production respectively), trade openness (measured by the ratio of total trade to GDP) seemed to be the insignificant determinant of FDI inflows of the BRICS countries.

Naveed Shahzad & Muhammad Zahid (2011) investigated the various economic factors which were effect Foreign Direct Investment (FDI) inflow into Pakistan from 1991 to 2010. In this study the researcher has taken five independent variables which are Gross Domestic Product, Interest Rate, Domestic Investment, Inflation Rate and Tax Rate, and one dependant variable which is Foreign Direct Investment.

Wijeweera & Mounter, (2008) said that the long-run effects on Sri Lanka's FDI inflows from changes in key macroeconomic variables of interest. Findings indicate that, of the five variables considered, the wage rate is the most important determinant of inbound FDI to Sri Lanka. However, other major economic indicators such as GDP, exchange rates, interest rates, and the level of external trade should also be given due consideration in policies

designed to attract FDI inflows.

Factors such as gross domestic product, trade openness, quality of infrastructure, and exchange rate, inflation rate, interest rate have repeatedly appear as determinants of FDI in previous studies (Wheeler & Moody, 1992) Proceeding section provides a review of these FDI determinants

FDI inflows to a particular country can be influenced by its level of exchange rate, expected changes in the level of the exchange rate, volatility of exchange rate, and the exchange rate regime (Blonigen, 2005). Both theory and empirical studies mostly favour a negative relationship between a country's exchange rate level and inward FDI, depreciation of host country's currency can augment FDI inflows and appreciation of host country's currency can deter FDI inflows.

Blonigen (1997) examined that plains the negative relationship between host country's exchange rate level and inward FDI with the use of cheap asset hypothesis. Under cheap asset hypothesis, it is assumed that FDI flows reflect undervalued host country assets . A relative depreciation of the host country's currency can make host country assets cheap. However, the main opposition against this premise comes from the fact that the relative depreciation of the host country's currency will also lower the expected nominal returns of the purchased assets in terms of home currency (Blonigen, 2005; Blonigen, 1997).

Benassy-Quere, Fontagne, & LahrEche-Revil (2001) revealed that empirically established the negative relationship between host country's exchange rate level and inward FDI. However, the effect of exchange rate on FDI is likely to depend on firm characteristics, type of FDI, motive of investing firms and characteristics of the industry in which FDI takes place (Blonigen, 2005) Chen, Rau & Lin (2006) propose that depreciation of a host country's currency tends to stimulate cost-oriented FDI and to deter market-oriented FDI and has found evidence for this premise by conducting a panel study using data on Taiwan's outward FDI into China over the period 1991-2002.

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 (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 in contrast, Jayasekara (2014) has found a positive relationship between the rate of inflation and FDI inflows.

Khan et al. (2012) studied the impact of interest rate, exchange rate and inflation on stock returns of KSE 100 index. The results shown while that impact of interest rate

and inflation is insignificant, the exchange rate has significant impact on stock returns of KSE 100 index. In a different study by Raju and Gokhale (2012) using a time series data between 1992 and 2010 in India found absence of any long term association between the nominal exchange rate and foreign direct investment.

Gyntelberg, Loretan, & Subhanij (2012) revealed that higher returns in the stock market relative to a reference stock market are associated with net sales of equities by the investors and a depreciation of the Thai baht, and Net purchases of Thai equities lead to an appreciation of the Thai baht. This implies that foreign investors do not appear to hedge the foreign exchange risk related to their stock market positions.

Agrawal (2010) examined the relationship between Nifty returns and Indian rupee-US Dollar Exchange Rates found a negative relationship between these two variables. Another study by Dhakal, Nag, Pradhan, and Upadhyaya (2010) studied the impact of exchange rate on FDI among a sample of East Asian countries such as China, Indonesia, Malaysia, the Philippines, South Korea, and Thailand - countries that have continued to attract considerable foreign direct investment (FDI) inflows while also experiencing a great deal of volatility in exchange rates.

Gunasekarage, Pisedtasalasai, and Power (2010) explained that share price index does not have any influence on macro-economic variables except for the Treasury bill rate. In support of this argument, another study by Busse, Hefeker, and Nelgen (2010) using comprehensive data set with bilateral direct investment flows and establishes the influence of the de-facto exchange rate regime for FDI flows, found a strong and significant effect from fixed rates on bilateral FDI flows in developed economies, but no significant effect for developing countries.

Data collection

In order to fulfill the objectives of the study, this analysis will be use the annual time series data for the period 1978–2015 on FDI, exchange rate, interest rate and rate of inflation. In this study, the data will be collected by using the secondary sources of various issues of Annual Reports and Economic and Social Statistics Reports of the Central Bank of Sri Lanka and World Development Indicators.

Method of Analysis

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 and OLS model and correlation are used to analyze the data.

Various tests are then employed to determine if the model is satisfactory. If the model is deemed satisfactory, the estimated regression equation can be used to predict the value of the dependent variable given values for the independent variables.

Model specification

$$FDI = \beta_0 + \beta_1 INF + \beta_2 EXR + \beta_3 INT + e \dots\dots\dots (1)$$

Where,

$\beta_0, \beta_1, \beta_2, \beta_3$ are the regression co-efficient

FDI = Foreign Direct Investment

INF = Inflation Rate

EXR = Exchange Rate

INT = Interest rate

Research Hypotheses

The based on the objectives above will be used to develop the testable hypothesis for the study.

H₁: There is a significant impact of inflation rate, exchange rate and interest rate on foreign direct investment

H₂: There is a significant relationship between inflation rate, exchange rate and interest rate and foreign direct investment

Table: 1 Descriptive Statistics of the Variables

Variable	Mean	Std.Dev.	Min	Max	Pro
FDI	5.0201	1.2429	2.6905	6.8626	0.303
INF	2.1885	0.6747	-0.0811	3.2636	0.000
EXR	4.0013	0.6929	2.7453	4.9122	0.220
INT	2.6221	0.2884	1.8485	3.0056	0.218

The above table shows the generally used descriptive statistics consisting of mean, maximum, standard deviation among other known measures of dispersion. For the measures, the minimum and maximum values help in checking outliers in the data. FDI has a high standard deviation of 2.6905 and this indicates that there is high variability in the data. Inflation rate have the lowest standard deviation of 0.6747 indicating a high degree of its reliability on its contribution towards explaining variations in FDI. Interest rate has a low standard deviation of 0.2884 and this indicates that there is low variability in the data. Exchange rate has the second highest standard deviation of 0.6929 and this indicates that there is high variability in the dependent variable.

Correlations analysis

Correlation is concern describing the strength of relationship between two variables. . A Correlation coefficient analysis is important to avoid multicollinearity between the variables. Correlation can be explained as a single number which is the coefficient which describes the extent of relationship between two variables. It shows the strong positive correlation, strong negative correlation, positive correlation and negative correlation for each and every variable. In this study the correlation co-efficient analysis is under taken to find out the relationship between selected variables and foreign direct investment. It can be said that what relationship exist among variables.

Here, dependent variable foreign direct investment is correlated with independent variables interest rate, inflation rate and exchange rate.

The following tables reveal the association between the dependent and independent variables.

Table 2: Correlation Analysis

	LOG FDI	LOG EXR	LOG INF	LOG INT
LOG FDI	1.0000			

LOG EXR	0.88615	1.000		
	0.000	-----		
LOG INF	-0.31103	-0.3772	1.000	
	0.057	0.0196	-----	
LOG INT	-0.32465	-0.4833	0.6001	1.000
	0.0467	0.0021	0.0001	-----

*Correlation is significant at the 0.05 level

The correlation coefficient between Exchange Rate (EXR) and FDI is 0.88615 and the significant level is less than 0.05. So the result notes that there is a significant and positive relationship between EXR and FDI. The correlation coefficient between Interest Rate (INT) and FDI is -0.324656 and the significant level is less than 0.05. The results also describe that there is a significant and negative relationship between INT and FDI. The correlation coefficient between Inflation Rate (INF) and FDI is -0.31103 and the significant level is greater than 0.05. So the result indicates that there is an insignificant and negative relationship between INF and FDI. So H_2 hypothesis was accepted

Multicollinearity is a situation where the explanatory variables are highly correlated. In the table above exchange rates and FDI show the presence of multicollinearity with a value 0.88615. All the other variables have values far less below 0.8 meaning that no strong relationship exists between the variables and that there is no multicollinearity

Model Estimation.

The results of the Ordinary Least Squares (OLS) regression to test the developed research hypotheses

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

Variables	Coefficient	Standard Error	t-Statistic	P> t
C	-3.4064	1.41112	-2.4139	0.0213
lnINF	-0.0972	0.17754	-0.5478	0.5874
ln EXC	1.6959	0.15796	10.736	0.0000
ln INT	0.7067	0.43931	1.6087	0.1169

F	45.630		Prob>F	0.000
R-Squared	0.8010		Adj R-Squared	0.7834

Based on the above table the Least Square analysis is carried out to find out the impact of selected determinants variables on foreign direct investment. The model summary gives the R values for assessing the overall fit of the modal, Adj R - Squared between the determinants variables and foreign direct investment is 0.7834, which shows the 78.34% of FDI is determined by the Interest Rate, Exchange Rate, Inflation Rate as well as balance 21.64% of FDI is decided by other factors. An F-Statistic of 45.630 (0.000) shows that the model is correctly specified and this means that the independent variables correctly explains the dependent variable. It is observed that the model is overall fit because the prob (F-statistic) is less than 0.05. This table clearly shows what extent each independent Variable impact on Foreign Direct Investment. So H_1 hypothesis was accepted.

The value for P (significance level) of Interest Rate is 0.1169 which is greater than 0.05 which is insignificant. Therefore it can be concluded that independent variable that is Interest Rate has no significant impact on Foreign Direct Investment. The value for P (significance level) of Exchange Rate is 0.000 which is less than 0.05 which is significance. Therefore it can be concluded that independent variable that is Exchange Rate has significant impact on Foreign Direct Investment. The value for P (significance level) of Inflation Rate is 0.5874 which is greater than 0.05 which is insignificant. Therefore it can be concluded that independent variable that is Inflation Rate has no significant impact on Foreign Direct Investment.

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. Based on review of previous research, we have identified four important determinants that generally determine the FDI inflows. They are inflation rate exchange rate, interest rate. Exchange rate has a significant positive relationship and it is significantly impact on FDI inflow. Exchange rate stability is a major concern for investors. It affects the value of investment as well as the remittance of profits. Interest rate has a statistically significant negative relationship and also has significant impact on FDI inflow. Its mean interest rate contributes to FDI inflow so it is a major determinant factor of FDI in Sri Lanka.

Finally, it can be concluded that there is long run equilibrium between the FDI and explanatory variables. However, inflation rate and international rate volume are not statistically significant impact on FDI. This demonstrates that inflation rate and international trade volume have not been an important factor in attracting FDI in Sri Lanka.

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