

## Evaluation of the Link between Economic Growth and Foreign Direct Investment Inflows of Sri Lanka

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**Abstract - Foreign Direct Investment (FDI) inflow is considered as an influential factor of the economy in developing nations. The major objective of the study is to assess the relationship between FDI and economic growth in Sri Lanka, this study employed descriptive analysis, correlation and regression analysis by using data from 1977 to 2016. The findings of the study indicate the relationship between FDI and economic growth rose strongly after the beginning of the 21st century. Since then, there is a strong positive relationship between FDI and economic growth. In addition, the regression analysis indicates that the existence of the positive impact of FDI on economic growth in Sri Lanka. As a summary of the conclusion, there is a positive contribution of foreign direct investment on economic growth in Sri Lanka. Hence, it is more important to take policy actions to enhance the FDI inflows into Sri Lanka since it gives a positive relationship and positive impact on the economic growth.**

**Keywords - Descriptive Statistics, Economic Growth, Foreign Direct Investment, Gross Domestic Product, Regression Analysis**

### 1. INTRODUCTION AND RESEARCH BACKGROUND

FDI can be defined as investment from one country into another that involves establishing operations or acquiring tangible assets or other businesses. FDI provides the basic infrastructure facilities to the developing countries (host countries) to enhance the entrepreneurial intention and eliminate the poverty in terms of a better standard of living [1]. Since FDIs are very important to developing countries, they try to attract more FDI inflows by creating better investment features. Because of that FDI are always looking for a favorable investment destination to invest in order to earn a higher profit [2].

When considering the Sri Lankan context, Sri Lanka liberalized the economy in 1977 to diminish the trade barriers and restrictions on other international transactions. It was an attempt to open the country for investment opportunities. Since then Sri Lanka had huge FDI inflows. On the other hand, the Gross Domestic Product (GDP) also shows an increasing trend.

There are very few studies based on the Sri Lankan aspect. Mustafa and Santhirasegaram (2012) [3] stated that the FDIs positively and statistically influences to determine economic growth in Sri Lanka. According to Deyshappriya (2010) [4], though the FDI has a positive impact on economic growth in Sri Lanka, its contribution to the economic growth is less compared to other determinants in the growth equation. However, Athukorala (2003) [1], discovered that the FDI inflows do not exert an independent influence on economic growth and the impact of FDI on opportunities for domestic business and economic activities is positive. The same result; the non-significant impact of FDI on the economic growth, was identified by Velampy et al., (2013) [5] in Sri Lanka. Therefore, among the blend results of existing literature, an important question arises; whether the FDI has a positive relationship and a positive impact on GDP in Sri Lanka and it is focused as the research problem of this study.

The general objective of the study is to investigate the contribution of Foreign Direct Investment on economic growth in Sri Lanka. The specific objectives are; (1) to identify the relationship between FDI and economic growth and (2) to evaluate the impact of FDI on economic growth of Sri Lanka.

### 2. MATERIALS AND METHODS

This study used secondary data from 1977 to 2016 from the central bank annual reports of Sri Lanka. Descriptive statistical method and inferential statistics were used as data analyzing method. Under the descriptive analysis part, identified the relationship between FDI and GDP by using figures, univariate analysis; to identify the basic features of the used data. Under the inferential statistics, Pearson correlation analysis was employed to evaluate the relationship between FDI and economic growth. Regression analysis was used to identify the impact of FDI on economic growth. The Augmented Dickey-Fuller test was used to find the stationary of the time series data. The econometric model of the study is specified as follows.

$$Y = \beta_0 + \beta_1 FDI + \beta_2 GFCF + \beta_3 OPR + \beta_4 EMP + u_i \rightarrow (1)$$

Where Y is economic growth, FDI is a foreign direct investment, GFCF represents the gross domestic fixed capital formation, OPR indicates openness ratio and EMP implies the employment rate.

**3. RESULT AND DISCUSSION**

Data analysis part consists of two analytical parts as mentioned in methodology. The first part is descriptive analysis and the second part is inferential statistics.

**3.1 Descriptive Analysis**

*3.1.1 Univariate Analysis*

Under the univariate analysis part, simple descriptive analysis tools; minimum, maximum, mean (average), dispersion (range and standard deviation) were used to describe the basic features of the observations of the study in order to provide simple summaries about the data series and the measures. Table one indicates the basic descriptive statistics.

The minimum economic growth rate (-1.5%) was reported in 2001 and maximum (9.1%) in 2012. The range between maximum and minimum values is 5.17%. However, the standard deviation (1.95) of economic growth rate shows a huge difference from its mean (5.17%). The lowest FDI net inflow (USD -1.2 million) was in 1997, the highest (USD 898.1 million) was in 2016 and the difference indicates as USD 899.3 million. The standard deviation (295.09) is not much far from the average of USD 269.98 million.

Table 1: Descriptive Statistics

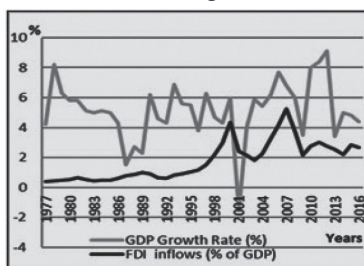
Descriptive Statistics	Economic Growth Rate (%)	FDI Net Inflows (USD Million)
Minimum	-1.5	-1.2
Maximum	9.1	898.1
Mean	5.17	269.98
Range	10.6	899.3
Std. Deviation	1.95	295.09

Source: Prepared by Researcher, 2018

*3.1.2 Relationship between GDP and FDI*

It is more accurate to illustrate the relationship by using figures, which represent the behaviors of both variables during the period of 1977 to 2016.

Figure 1: Relationship between Economic Growth Rate and FDI growth rate



Source: Prepared by Researcher, 2018

Figure one shows the relationship between economic growth and FDI growth rate. Since they both are as percentage values, it is more reliable to discuss the behavior without any doubt. According to figure one, from the years 1977 to 1999, there was not shown a notable relationship between both variables. However, it changes after 1999. Since the end of 1999, both economic growth and FDI present equal changes and both fluctuate in the same direction. It can be seen apparently in the years from 2001 to 2016. Thus, the figure shows the considerable relationship that occurred from the beginning of the 21st century.

**3.2 Inferential Statistics**

*3.2.1 Correlation Analysis*

Table 2: Correlation test results

	Economic Growth Rate	
	Pearson Correlation	Sig. (1-tailed)
FDI	0.948	0.000*
GFCF	0.989	0.000*
OPR	-0.514	0.000*
EMP	0.848	0.000*

Note: \*Correlation is significant at the 0.01 level (1-tailed)

Source: Prepared by Researcher, 2018

The test results of Pearson correlation analysis with one-tailed test of significance is shown in table two. It indicates a strong positive relationship between economic growth and foreign direct investment.

*4.2.2 Regression Analysis*

The Augmented Dickey-Fuller (ADF) unit root test was used to find the stationary of time series data before moving to regression analysis. All the data become stationary at their first difference. Hence, the data from the first difference was used to run the regression analysis.

Table 3: Test results of the regression analysis

Models	Probability value (F Test)	Durbin-Watson 'd' statistics	Variance Inflating Factor (VIF)	Adjusted R Square (%)
Level-Level Model	0.035*	2.506	1.119-1.402	16.9%
Level-Log Model	0.68**	2.572	1.083-2.088	12.9%
Log-Log Model	0.92**	2.626	1.083-2.088	11.1%
Log-Level Model	0.118	2.636	1.119-1.402	9.4%

Note: \*significant at 5%, \*\*significant at 10%

Source: Prepared by Researcher, 2018

According to the results, not all the four models have the goodness of fit, because of that, the adjusted R square values of all the models are lower. In addition, the log-level model is failed to be significant in the F test. But all the models have not autocorrelation or multicollinearity problem; the Durbin-Watson' statistics are close to 2 and VIF values are below to 10. However, with compared to all four models, it is better to select a level-level model, because, it is the only model that the F test is significant at 5% of significant level among the others. As well, the R square value is higher than the other models. Thus, the level-level model is stated as follows.

$$Y_{ti} = -0.347 + 0.012FDI_{ti} + 0.463GFCF_{ti} + 0.309OPR_{ti} - 0.126EMP_{ti} + u_i \rightarrow (2)$$

According to the model, the intercept is -0.347 which explains the value of GDP when other factors being constant. In addition, FDI, GFCF, OPR have a positive impact on the economic growth in Sri Lanka while the EMP has a negative impact.

#### 4. CONCLUSION AND RECOMMENDATION

According to the descriptive analysis, the relationship between FDI and economic growth rose strongly at the beginning of 21st century. The univariate analysis indicates the highest FDI inflows in 2016 when considering the past 40 years. There is a strong positive relationship between FDI and economic growth. Regression analysis showed that there is a positive impact of FDI on the economic growth in Sri Lanka. As a summary of conclusion, there is a strong positive contribution of FDI on economic growth in Sri Lanka.

Among the few studies related to Sri Lankan context, the result of this study reveals an identical outcome; a positive impact of FDI on economic growth with other four investigations of Bogahawatte and Balamurali (2004) [6], Mustafa and Santhirasegaram (2013) [3], Deyshapriya (2010) [4], and Athukorala (2003) [1]. Consequently, Velnampy et al. (2013) [5] identified a negative impact of FDI on economic growth in Sri Lanka, which differ from the present results. There are some suggestions based on the results and findings of this study. Since showing a strong relationship and positive impact, it is better to impose policy action to increase the FDI inflows by increasing the skilled labor force, providing better infrastructure facilities, maintaining the favorable tax rates and interest rate etc.

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