Foreign Direct Investment and Economic Growth in Sri Lanka: A Causality Approach

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Introduction

In recent years, policymakers in developing countries became convinced that foreign direct investment (FDI) is needed to boost economic growth. It is claimed that FDI can create employment, increase technological development in the recipient country and improve the economic condition of the country in general.

Researchers differ in their view of the contribution of FDI to economic growth. Some see FDI as a very important tool for economic growth especially in less developed countries while others claim this is not so.

The main objective of this study is to examine whether there exists a causal relationship between FDI and economic growth in Sri Lanka using the Granger causality method.

Methodology

This study is based on annual data on real GDP, FDI, domestic investment (DI), labour force (LA) and openness of the trade regime covering the period from 1977 to 2006. Data were collected from the annual reports of the Central Bank of Sri Lanka. The effect of trade liberalization on economic growth channels through exports and imports to real gross domestic product (GDP). As reliable data on the capital stock is not available, the ratio of the gross fixed domestic investment to GDP is employed as a proxy variable to represent capital stock. In this study, nationally owned investments are defined as gross fixed domestic investment less net FDI inflows (DI) which is used as a proxy for capital. Openness of trade policy regime (OPENNESS) is represented by a proxy variable defined as the ratio of total merchandise trade in goods (imports + exports) to GDP. LA is the size of the labour force.

The estimation methodology consists of three stages. The first stage is to test for unit roots of the relevant time series variables by using Augmented Dicky-Fuller (1981) (ADF) test and the Phillips-Perron (Phillips and Perron, 1988) test. These tests have been performed to examine the order of integration of variables before employing them in the regression and Granger causality test. In stage two a multiple linear regression model is used to identify factors affecting economic growth. All variables enter into the regression model in log form. In stage three is the Granger causality test is applied to measure the linear causation between FDI and economic growth.

Table 1. Results of the Augmented Dickey-Fuller- Unit Root Test with Trend

Series	Level	1ˢᵗ difference	2ⁿᵈ difference
L(GDP)	-3.38	-2.87	-5.68**
L(FDI)	-2.90	-7.014**	-6.4**
L(DI)	-4.01*	-2.79	-4.7**
L(OP)	-1.85	-4.38*	-7.59**
L(LA)	-3.11	-3.32	-5.33**

Note: * denotes rejection of null hypothesis at the 5% level significance and **denotes rejections of null hypothesis at the 1% level of significance

Table 2. Regression Results

Dependent Variable: Log (GDP)		VIF
Constant	3.143300 (0.3786)	
L(FDI)	0.025526 (0.02242)	9.8
L(DI)	1.262971* (0.07497)	9.5
L(LA)	1.224996* (0.15939)	7.6
L(OP)	0.695140* (0.11059)	5.4

R^2 =0.94%
DW=1.876702
F –Statistics=2633.763
Note : The numbers in the parenthesis are standard–errors.*indicates that the coefficients are significant at the 5% level.

Table 3: The Granger causality test.

Direction	Lag	F-Statistic	P
L(FDI) to L(GDP)	1	0.58986	0.449
L(GDP) to L(FDI)	1	10.404*	0.003

Note: * denotes rejection of null hypothesis at the 5% significance level.

Empirical results show that all variables are stationary in second difference (Table 1) and suggest that the estimated coefficient for FDI does not significantly contribute to economic growth though positively related. Other variables such as DI, OPENNESS, and LA significantly influence economic growth at the 5% significance level.[6]

Based on the Granger causality test, the null hypothesis that FDI does not cause economic growth is not rejected at the 5% level of significance. The second null hypothesis that economic growth does not cause FDI is rejected at the 5% level of significance, which indicates there is one-way causation from economic growth to FDI.

Discussion

Empirical evidence of recent studies is mixed. For e.g. Frimopong (2006) found no causality between FDI and economic growth. The results of the present study are similar to those previously found for Sri Lanka by (Athukorala and Karunarathna, 2004).[7]

Conclusions

This study finds that FDI is not a significant determinant of economic growth but economic growth is necessary to attract FDI. Other variables such as DI, OPENNESS, and LA contribute positively to economic growth. The finding that FDI does not cause economic growth and economic growth causes FDI is puzzling and may arise due to following reasons.

Firstly, we used aggregate data which are in monetary values and these data results shows only a statistical relationship. Some impacts of FDI in Sri Lanka quantitatively such as, knowledge acquisition technology, international image can not be measured and it may take a considerable time before these variables affect economic growth. Secondly, the extent of FDI inflows to Sri Lanka is relatively small and that may have contributed to the lack of significance impact on economic growth. Thirdly, there may be other factors that influence the relationship between FDI and economic growth, for example, firm level production and the value addition of firm to domestic value addition. Other possible reasons include the small sample size, the use of net FDI instead of gross FDI and the possibility of cointegration.

Future research in this area may be able to remedy these limitations and also analyze the causal link in a multivariate VAR system to take account of other vital determinants of FDI and economic growth.

References

Athukorala, P.P.A.W and Karunaratna, R.M. (2004) The Impact of Foreign Direct Investments on Economic Growth in Sri Lanka, *Sri Lankan Economic Journal*, 5, 88-119.

Phillips, P.C.B. and Perron, P. (1988) Testing for Unit Root in Time Series Regression. *Biometrica* 75, 335-346.

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[6] The Durbin-Watson (DW) test for autocorrelation in the error term indicates that there is no autocorrelation (value=1.87).Variance inflation factors (VIF) of all explanatory variables are less than 10, indicating that there is no severe multicollinearity among the explanatory variables.

[7] Our contribution to the literature beyond Athukorala and Karunarathne (2004) is in using a longer time period and including additional variables (e.g. labour force) in our analysis.