Causal Links between Trade Openness and Foreign Direct Investment: The Long-run and Short-run Analysis of Sri Lanka

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Introduction

In general, foreign direct investment (FDI) inflows play an increasingly strong impetus for economic development and progress of countries. It is considered as one of the major factors of growth in countries like Sri Lanka, India, and Bangladesh. According to Omisakin et.al. (2009), FDI serves as an important source of funds supply for domestic investment, thus promoting capital formation in the host country. FDI clearly brings investment finance and can contribute to employment. Technology and skills transfer, pioneering of new industries and export markets, formation of new clusters as anchor investors and creation of linkages with, and associated upgrading of competencies of local enterprises are perceived major benefits of FDI (United Nations Conference on Trade and Development, 2004). In the particular case of FDI inflow to Sri Lanka, it can play a major role in the economy. In 2017, net FDI inflows for Sri Lanka were 1,374 million US dollars, an increase from 193 million US dollars in 1998, growing at an average annual rate of 15.34% (Central Bank Annual Report, 2017).

There are many studies showing the relationship between FDI and trade openness for a number of counties. According to Sazali et.al. (2018) trade openness has a positive and significant impact on FDI in Malaysia. Liargovas and Skandalis (2012) found that trade openness contributes positively to the inflow of FDI in developing economies. Athukorala and Karunarathna (2004) found that the direction of causality was not towards FDI to GDP growth and the impact of domestic investment and trade liberalisation have a positive effect on GDP growth. Literature survey revealed the absence of studies on causal links between trade openness and foreign direct investment in Sri

Lanka; hence it is a very important area to reach a high economic growth position in the future.

Objective

The primary objective of this is to examine the causal relationship between trade openness and foreign direct investment in Sri Lanka.

Methodology

This study used trade openness as the main independent variable to examine the causal relationships between trade openness and foreign direct investment, with exchange rate and economic growth as control variables. Secondary data for the period of 1970 -2017 from the Central Bank of Sri Lanka and the World Bank were used for this study. This study was carried out based on a modified neoclassical Solow production function and employed multiple regression analysis. The regression model is developed as suggeded by Sazali et.al. (2018). The functional econometric model is expressed as follow:

$$FDI_t = \beta_0 + \beta_1 EXR_t + \beta_2 GDPP_t + \beta_3 TRP_t + u_t \qquad (1)$$

Where Foreign Direct Investment Inflows (FDI) is used an endogenous variable and the independent variables are Exchange Rate (EXR), GDP Per Capita (GDPP) and Trade Openness (TRP). Here, u is the error term and the subscript t indicates time. Trade openness can be defined as the level of trade which a country is permitted to do with the other country. It includes all kinds of trade linkages. We used the following trade openness formula:

$$TRP = \frac{IMR+EXP}{GDP}$$

Where, IMR- Import Good and Services (Current US$), EXP- Export Good and Services (Current US$), GPP- Gross Domestic Product (Current US$).

ADF unit root test were adopted to test the stationary property of data and the Autoregressive Distributed Lag (ARDL) model developed by Pesaran et al. (2001) was employed to find the long-run and short-run relationship, and long-run adjustment. Bound Tests approach was employed to investigate the existence of a long-run relationship among the variables. The unrestricted

error correction model was employed to test the the short-run dynamics of ARDL model.

Results and Discussion

The Augmented Dickey Fuller (ADF) test confirmed that all the variables are stationary at both level and difference of the variables. Akaike Information Criteria (AIC) suggested the use of ARDL (2, 1, 2, 0) model for this analysis.

Table 1: F -Test for the existence of a long run relationship

F-Bounds test	95% Level of Confidence		90% Level of Confidence	
F- Statistics	Lower Bound	Upper Bound	Lower Bound	Upper Bound
18.97	2.79	3.67	2.37	3.2

In Table 1, calculated F-statistic = 18.97 is higher than the upper bound critical value at 5% level of significance (3.2). Since we confirmed the cointegrating relationship between the variables through the Bounds test, we estimated the long-run relationship among the variables via the ARDL model.

Table 2: Long- run coefficient estimates

Constant	EXR	GDPP	TRP	R^2
-1.601	-515920	1328.77	2.66E+08	0.960
(0.0390)**	(0.0422)**	(0.0000)***	(0.0313)**	

Note: P- values are given in parenthesis. *, **, *** show significance at 1%, 5% and 10% level, respectively.

According to the regression results, the explanatory variable explained approximately 96 per cent of the variation in foreign direct investment inflow in Sri Lanka. As expected by theory and most of the literature (e.g., Athukorala and Karunarathna, 2004; Sazali et.al. 2018) all independent variables in the model are significant implying that variables affect the dependent variable, Foreign Direct Investment Inflows (FDI). Moreover, TRP and GDPP have a positive effect and EXR has a negative effect on Foreign Direct Investment Inflows in the long-run, implying that favourable economic growth and trade openness are advantageous but exchange rate is not advantageous for foreign direct investment inflow in Sri Lanka.

Table 3: Short-run coefficient estimates and error correction representation

Lag Order	ΔFDI	ΔEXR	ΔGDPP	ΔTRP	ETC(-1)
0		-5468665	4682.63	3.610	-0.355
		(0.000)*	(5.381)*	(0.000)*	(-10.254)*
1	0.574		3806.249		
	(5.236)*		(4.088)*		

Note: t-statistics are given in parenthesis. *, **, *** show significant at 1%, 5% and 10% level respectively and test statistics are given in the parenthesis.

Accordingly, as expected, ETC (-1) carries a negative sign, which is highly significant, indicating that there should be an adjustment towards steady state line in the long run equilibrium at the speed of 35.5 % one period after the exogenous shocks.

Conclusion

The results of this study have shown that trade openness, which was the main variable, has a short-run and long-run relationship with FDI inflows in Sri Lanka. All three independent variables in this model, namely, exchange rate, economic growth, and trade openness have statistically significant relationships with FDI inflows in Sri Lanka. This finding is consistent with Sazali et.al. (2018) who investigated the causal links between trade openness and foreign direct investment in Malaysia. Therefore, this study has concluded that a good combination of these independent variables will attract more inflows of FDI into Sri Lanka. But exchange rate appears to discourage FDI inflows in short-run in Sri Lanka. These findings imply that strong open trade policies can help promote FDI inflows to Sri Lanka. In addition, this study had only included three independent variables. In order to have a more conclusive answer, future research should include more independent variables, such as market size, inflation rate, wage rate, and human capital and political instability.

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