Impact of Trade Openness on Economic Growth in Sri Lanka

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Introduction

The long run linkage between trade openness and economic growth is a debatable economic phenomenon in development economics literature. In contrast, there is a greater acceptance among most of the economists, academicians and policy planners that trade openness potentially enhances economic growth. However, some economists believe that trade openness itself does not matter for economic growth since the level of institutional development determines how countries respond to the situation imposed by international competition (Stensnes, 2006). Sri Lanka is a lower middle income country in the region of South Asia which mostly followed protectionist trade policies in the initial phases of economic development due to the excessive protection of domestic industries, foreign competition and protective balance of payments movements. However, Sri Lanka liberalized its trade in 1977, being the first country to open up the economy in South Asia. In addition to that Sri Lanka started to move forward in the direction of intra-regional and international trade by liberalizing its trade policies to some extent. It is with this backdrop, this paper is an attempt to examine the relationship of trade openness and economic growth in Sri Lanka.

Research Objective

The general objective of this research is to identify the long run relationship of trade openness and economic growth in Sri Lanka.

Under this general objective, there are two specific objectives. They are: to identify the statistical significance of trade openness on promoting economic growth in Sri Lanka and to identify the causality between trade openness and economic growth by examining whether the relationship is unidirectional or bi-directional.

Methodology

The operational methodology adopted is the Engle Granger cointegration to capture both long-run adjustments and short-run dynamics between trade openness and real output growth. This study is entirely based on time series secondary data on real GDP and openness (Exports + Imports/ GDP) for the time period spanning from 1960 to 2015 in Sri Lanka. The data were obtained from world development indicators by the World Bank.

First, Augmented Dickey- Fuller (ADF) test is conducted to examine the levels of the integration of two data series. The general specification of the cointegration model can be defined as bellow:

$$y_t = \beta_0 + \beta_1 s_t + u_t \quad (1)$$

Where Y_t: the dependent variable (real GDP), which is integrated of order one, the s_t is independent variable (trade openness) and u_t is the white noise error term. If the residual (u_t) from the above equation is found to be stationary via a unit root test that is, integrated of order zero then there is a co-integrating relationship. Then this suggested to estimate the error correction model to identify the short run dynamics and long-run equilibrium. The error correction model is takes the form as:

$$\Delta y_t = \lambda_0 + \lambda_1 \Delta s_t - \tau(\hat{u}_{t-1}) \quad (2)$$

where, $\hat{u}_{t-1}$ is the error correction term which tell us the speed of adjustment (i.e. in τ %) with which our model returns to equilibrium following an exogenous shock.

Results and Discussion

Table 1 presents the results of ADF unit root test. It indicates that all variables are stationary at their first difference. Since all variables are integrated of the same order cointegration test is possible.

Table 1: ADF unit root test results

Variable	Level	P-value	1st Difference	P-value	Conclusion
LNGDP	-1.8197	0.6816	-7.9777***	0.0000	I (1)
LNOPEN	-0.1999	0.9702	-6.9124***	0.0000	I (1)

Note: *, ** and *** represent significance at 10%, 5% and 1% respectively.

Table 2: The results of the long-run relationship

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant	-11.1936	0.5034	-22.2327	0.0000
LNOPEN	0.7801	0.0225	34.6264	0.0000
R-squared		0.9569		
Adjusted R-squared		0.9561		
F-statistic		1198.91		
Prob(F-statistic)		0.0000		
Durbin-Watson		0.1086		

Note: *, ** and *** represent statistical significance at 10%, 5% and 1% respectively.

It is clearly observable that model is found to be spurious since its R^2 value is greater than the Durbin-Watson test statistics.

Table 3: Augmented Dickey-Fuller Unit Root Test for residual

	t-Statistic	Prob.
Augmented Dickey-Fuller test statistic	-8.5122***	0.0000
Engle-Granger Critical values (K=2)	1% level	-3.92
	5% level	-3.35
	10% level	-3.05

Note: *, ** and *** represent significance at 10%, 5% and 1% respectively.

Table 3 indicates the ADF test statistics with regard to the residual series of the regression model. Results indicate that residual series is

stationary at 1 % level since its test statistics is greater than the Engle-Granger critical values at 1 % level of significance. This implies that there is a long-run relationship between these variables. Additionally, the static long-run relationships between these output growth and trade openness are positive. This concludes that economic growth in Sri Lanka is enhanced by the trade openness owing to the fact of trade liberalization after 1977. After the trade liberalization in Sri Lanka, foreign investors started their businesses in Sri Lanka. Free Trade Zones were established and massive amount of apparel products have been exported to other countries since then. This economic phenomenon has enriched Sri Lankan real output continuously. This articulates that Sri Lanka can further boost its growth by expanding the external trade capacity.

Table 4: The results of the error correction model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant	0.0167	0.0094	1.7731	0.0821
LNOPEN	0.5066	0.0699	7.2397	0.0000
$u_{(-1)}$	-0.1968	0.0692	-2.8408	0.0064
R-squared		0.6595		
Adjusted R^2		0.6464		
F-statistic		50.3741		
Prob(F-statistic)		0.0000		
Durbin-Watson		1.3440		

Note: *, ** and *** represent statistical significance at 10%, 5% and 1% respectively.

Coefficient of error correction term is negative and is statistically significant at 1% level. Value of error correction term is slightly far from zero which highlighted a faster process of adjustment towards equilibrium. In other words the coefficient of the $u_{(-1)}$, -19 % represents the speed at which the dependent variable (LNGDP) returns to the equilibrium after a change in openness. Thus this implies the greater sensitivity between trade openness and economic growth in Sri Lanka.

Table 5: The results of the Granger Causality tests

Null Hypothesis	Obs.	F-Stat.	Prob.
LNOPEN does not GC LNGDP	46	2.3329**	0.0418
LNGDP does not GC LNOPEN		1.8983*	0.0941

Note: *, ** and *** represent statistical significance at 10%, 5% and 1% respectively.

There is a unidirectional relationship from trade openness to economic growth. This implies that trade openness causes economic growth in Sri Lanka and no reverse order at 5 % level of significance whereas there is bi-directional causality at 10 % level of significance. Based on the results, it is highly evident that there is a long run positive impact of trade openness on economic growth in Sri Lanka.

Concluding Remarks and Policy Recommendations

The study examines the long run relationship of trade openness and economic growth in Sri Lanka using Engle-Ganger Cointegration approach and Granger causality test. The study revealed a positive long run relationship between trade openness and economic growth in Sri Lanka. This implies that trade openness promotes economic growth in Sri Lanka. Further, the ECM implies an expeditious adjustment process of real GDP to the changes of trade openness indicating the greater influence of trade openness on economic growth in Sri Lanka. According to the results of Granger causality, a unidirectional relationship exists and it suggests that trade openness promotes the economic growth in Sri Lanka. As policy recommendations, Sri Lanka should focus more on export oriented industries and further liberalize trade policy attracting more FDI to the country.

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