

Relationship between Trade Openness and Economic Growth in Sri Lanka: a Time Series Analysis

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Introduction

Sri Lanka became the first South Asian country to liberalise its economy in 1977, and commenced trading with the rest of the world. Current economic theories emphasise that countries with trade liberalisation receive significant loans and aid from the rest of the world. In the case of a liberalised economy, investment may be financed through both domestic savings and foreign capital flows including FDI. Countries suffering from lower levels of domestic savings and capital face a choice between foreign debt and FDI inflows. Despite the positive influence of foreign debt in terms of capital inflow, repayment bears some risks. Therefore, debt is less preferable than FDI.

For twenty two years (i.e. till 1999), the Sri Lankan trade regime remained amongst the most liberal in South Asia region. Past empirical studies reveal that the Sri Lankan economy largely benefited from liberalisation at the time. Up to 1999, external trade was only affected by import duty. But in 2000, after the Sri Lankan Government introduced a number of additional tariffs, this condition was reversed because of Cess, Port and Airport Development Levy (PAL) and the Special Commodity Levy (SCL).

Research Problem and Research Objective

There are many studies researching the net outcomes of trade openness. Empirical findings indicate that trade openness has a positive and significant effect on economic growth of a given country, while some researchers argue that trade openness fails due to a combination of external and internal inconveniences. As such, there is a need to examine the relationship between trade openness and economic growth in Sri Lanka. The general objective of this study is to examine the relationship between trade openness and economic growth in Sri Lanka during 1977- 2015. Two hypotheses are used to test this relationship.

Null Hypothesis $H_0 = \beta_1 \leq 0$

Alternative Hypothesis $H_A = \beta_1 > 0$

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Null hypothesis reflects that trade openness has no positive relationship with the economic growth of Sri Lanka. The alternative hypothesis is trade openness has a positive relationship with economic growth.

Methodology

A well-defined methodology was used to explore the above objective. Secondary data is used for the study. The data are from various sources such as Central Bank of Sri Lanka and UNCTAD (United Nations Conference on Trade and Development) Reports. The time period is from 1977- 2015. Openness in trade refers to the degrees to which countries or economies permit or engage in trade with other countries or economies. These trading activities include import and export, borrowing and lending, and repatriation of funds abroad. It is measured as follows:

$$Openness = \frac{Export + Import}{GDP}$$

In this study, the dependent variable is Gross Domestic Product. Trade openness, gross capital formation and inflation are used as independent variables. Data is analysed using E-views 7 where the causality between dependent and independent variables are analysed for the period concerned. In this study, the unit root test (the Augmented Dickey – Fuller Test (ADF)) was used, and the long run appearance of the selective stationary variables estimates is from the Johansen Co- integration test. Granger Causality is used to find the causality among variables. Ordinary Least Square method (OLS) is used to estimate and explain the regression model of the study. This method is used to estimate and explain the regression model of the study.

Discussion and Findings

All the variables are stationary at first difference form.

Co – integration Test

Following is the result of Johansen Co- integration test.

Table 1: Unrestricted Co integration Rank Test (Trace)

Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.553305	55.20527	47.85613	0.0088
At most 1	0.416235	26.19364	29.79707	0.1230
At most 2	0.122681	6.816408	15.49471	0.5991
At most 3	0.056784	2.104549	3.841466	0.1469

Table 2: Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.553305	29.01164	27.58434	0.0326
At most 1	0.416235	19.37723	21.13162	0.0864
At most 2	0.122681	4.711859	14.26460	0.7777
At most 3	0.056784	2.104549	3.841466	0.1469

Source: *views7*

These results reject the ‘none’ and interpret that there is a long run relationship among these variables at the 0.05 level.

Ordinary Least Square Method

According to the research, the equation can be rewritten as:

$$GDP = \alpha_0 + \beta_1 OPN + \beta_2 GFCF + \beta_3 INF + \varepsilon$$

$$GDP = 6.633565 + 0.182056(LOPN) + 0.778408(LGFCF) - 0.005508(LINF)$$

SE (0.771282) (0.157017) (0.037752) (0.003845)

source: *views7*

In this equation gross domestic production is the dependent variable while trade openness, gross fixed capital formation, and inflation are considered independent variables.

Trade openness positively relates to GDP but is not statistically significant. If trade openness increases with 100% GDP will increase by 18.20%. It may also conclude that trade openness is a significant variable for the interpretation of GDP growth. The β_2 value of the GFCF, 0.7784 suggests that there is a positive relationship between GDP and Sri Lankan capital formation. When gross capital formation increases by 100%, as a result GDP growth increases by 77.8%. Inflation and GDP have a negative relationship as mentioned in the equation. The coefficient of inflation is -0.0055. If inflation decreases by 100%, GDP will increase by 0.5%. Higher inflation must be a significant cause for the GDP decrease in the long run. In this model, R square is 0.96 (96%), and shows that model is accurate. These variables explain the 98% of the variation in GDP with this model. The conclusion therefore is that this model is an appropriate model for the investigation of GDP growth in Sri Lanka

Table 3: Granger causality Test

Direction of the causality	Probability	Lags	Decision	Outcome
OPN → GDP	0.0502	1	Reject null	OPN causes GDP
GDP → OPN	0.3947	1	Don't reject null	GDP does not causes OPN
GFCF → GDP	0.8103	1	Don't reject null	GFCF does not causes GDP
GDP → GFCF	0.0014	1	Reject null	GDP causes GFCF
INF → GDP	0.4788	1	Don't reject null	INF does not causes GDP
GDP → INF	0.0517	1	Reject null	GDP causes INF
GFCF → OPN	0.0721	1	Don't reject null	GFCF does not causes OPN
OPN → GFCF	0.3143	1	Don't reject null	OPN does not causes GFCF
INF → OPN	0.1166	1	Don't reject null	INF does not causes OPN
OPN → INF	0.3431	1	Don't reject null	OPN does not causes INF
INF → GFCF	0.4648	1	Don't reject null	INF does not causes GFCF
GFCF → INF	0.0971	1	Don't reject null	GFCF does not causes INF

Source: eviews7

Above results indicate that trade openness cause an increase in GDP while GDP is does not cause a country's trade openness. It emphasises that trade openness is imperative to the GDP of Sri Lanka.

Conclusion

Many researchers who engage in the area of international trade area have had an inadequate debate regarding the impact of trade openness on economic growth of a host economy. These findings reveal that trade openness has a positive impact on economic growth while some studies conclude the opposite.

This study implies that trade openness has a positive impact on economic growth in Sri Lanka. But it is not statistically significant. The study highlights the need to elimination of trade barriers such as import and export tariffs, technical barriers which upturn the benefits of trade openness in Sri Lanka. In order to achieve a positive balance of trade, Sri Lanka must focus on expanding domestic production and enlarging export supply capacity in the country.

Key words; Exports, Economic Growth, Imports

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