The Impact of Trade Liberalization on Export: A Case Study of Sri Lanka

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Introduction

Trade liberalization is the removal or reduction of restrictions or barriers on the free exchange of goods between nations. This includes the removal or reduction of both duties and surcharges and non-tariff obstacles like licensing rule, quotas and other requirements (Hamad et al. 2014). Many high income countries follow the path of trade liberalization policy to protect their market, competitive with other countries and to achieve their goal fast (Jayatissa 1991).

Trade openness has been continuously increasing after trade liberalization policy introduced in Sri Lanka in 1977 and Sri Lanka is the first country to open up the economy in South Asia. In addition to that Sri Lanka started to move forward in direction of intra-regional and international trade by liberalizing its trade policies to some extent. Many researchers (Manni and Afzal, 2017; Kassim and Lanre, 2013) have analyzed the relationship between trade liberalization and the economic growth all over the word, and some in Sri Lanka using different approaches. However the quantitative assessment of impact of trade liberalization on export in the context of Sri Lanka is limited. Therefore, this study attempts to fill this gap.

Objectives

The main Objective of this study is to examine the impact of trade liberalization on export of Sri Lanka since 1977.

Methodology

We used annual time series secondary data covering the period 1977-2015 to analyze the objective of this study. The data of export, foreign direct investment, nominal exchange rate, foreign income (America's GDP), openness and consumer price index (It is using for price of exports) were obtained from word development indicators data base on the World Bank. All the data was transformed in to natural logarithm form to reduce the heteroskedasticity

ADF, PP and KPSS unit root test is applied to check stationarity properties of the time series data. Akaike Information Criterion (AIC), Schwarz Information Criterion (SC), Sequential modified LR tests statistics are adapted to determine the optimal lag length. The number of co-integrating relationship is examined using Johansen co-integration approach which is described as below,

$$\mathrm{lnEX_t} = \alpha_0 + \alpha_1\mathrm{lnFDI_t} + \alpha_2\mathrm{lnOPENN_t} + \alpha_3\mathrm{lnCPI_t} + \alpha_4\mathrm{lnGDPus}_t + \alpha_5\mathrm{lnNER_t} + \mathrm{u_t} \qquad (1)$$

Where, lnEX: Export as a dependent variable in natural log, lnFDI: foreign direct investment in natural log, lnOPNN: openness in natural log, lnCPI: consumer price index in natural log, lnGDPus: foreign income in natural log, lnNER: nominal exchange rate in natural log and u is the white noise error and t refer the period of time. We used Error Correction Model (ECM) to identify the short run relationship as well as long run adjustment of the modelwhich is given below

$$\Delta\mathrm{lnZ_t} = \alpha_0 + \Pi\mathrm{Z_{t-1}} + \sum_{i=1}^{p-1} \Phi_i^* \Delta\mathrm{lnZ_{t-i}} + \varepsilon_t \qquad (2)$$

Where, $\Pi=\alpha\beta'$. α : is the (6×1) vector of speed of adjustment co-efficient, β': (1×6) vector of co-integrating coefficients, $Z_t=[EX_t, FDI_t, OPENN_t, CPI_t, GDPus_t, NER_t]'$ vector of dependent variables, Z_{t-i} : lagged value of Z_t and ε_t: white noise error term. We used STATA software to analysis the model.

Results and Discussion

According to the unit root test results, all three unit root tests confirmed that all variables are stationary at their first difference. Sequential modified LR tests statistics is suggested to use one lag as optimal lag length. The Trace Statistic of Johansen co-integration technique detected one co-integrating relation in the system of equation at 5 % level of significance. Following equation shows the long run relationship of Model.

$$\ln\widehat{EX} = 45.135 - 0.393\ln FDI - 1.812\ln ER + 2.948\ln CPI - 0.745\ln GDP_{us} + 0.991\ln OPENN \quad (3)$$

This results shows that FDI,CPI and OPENN has a significant effect on EX at 1 % significance level and ER and GDP_{us} does not has a significant effect on EX at any significant level. FDI has negative and significant long run relationship with EX and CPI ad OPENN have positive and significant long run relationship with EX. Many research support to our results (Onafowora and Owoye, 1998; Santos-Paulino, 2002)].

Table 1: ECM results of the long run adjustment

Error Correction:	D(lnEX)	D(lnCPI)	D(lnER)	D(lnGDPus)	D(lnFDI)	D(lnOPPEN)
CointEq1	-0.07425	0.04787	0.08485	0.03803	-2.26808	-0.05998
	[-0.8070]	[1.0095]	[2.1989]	[1.8795]	[-5.1969]	[-0.9048]

Note: t-statistics are given the brackets

Table 1 shows the results of long run adjustment of the Error Correction Model. According to the results of the coefficient of speed of adjustment of our dependent variable export is negative as expected but which is not statistically significant. It means that the external shock do not bring the model to the steady state line significantly in the long run. Because there are many countries trying to catch the world market so, if Sri Lankas' exports affect by external shock, other country will catch the Sri Lankas' place. Therefore, external shock does not bring the model to the steady state line significantly in the long run.

Table 2: Short run relationship results between the variables

Variables	D(LNEX)	D(LNCPI)	D(LNER)	D(LNGDPUS)	D(LNFDI)	D(LNOPPEN)
D(LNEX(-1))	0.0672	-0.0656	-0.0969	-0.0532	-1.4976	0.368**
	[0.266]	[-0.505]	[-0.915]	[-0.960]	[-1.251]	[2.028]
C	0.0948	0.0733**	0.060*	0.0430*	-0.686*	-0.0289
	[1.736]	[2.605]	[2.655]	[3.580]	[-2.650]	[-0.735]

Note: t-statistics are given the brackets

Table 2 shows the results of short run relationship between the variables. According to the results the value of intercept 0.094 shows that the export value when the other variables are constant. There is no any short run relationship is identified between export and last year value of the variables.

$$\mathrm{Dln}\widehat{\mathrm{EX}} = 0.094 + 0.067\mathrm{DlnEX}_{t-1} - 0.512\mathrm{DlnCPI}_{t-1} + 0.283\mathrm{DlnER}_{t-1} + 0.054\mathrm{DInGDPus}_{t-1} + 0.029\mathrm{DlnFDI}_{t-1} - 0.234\mathrm{DlnOPENN}_{t-1} \quad (4)$$

Conclusion and Policy Implications

This study examines the impact of trade liberalization on export in Sri Lanka. The all three unit root test results confirmed that all the variables are stationary at their first difference of logarithm. Sequential modified LR tests statistics is suggested one lag as optimal lag length. Johansen co-integration technique detected one co-integrating relationship between the variables which is used in this study. The co-integration results confirmed that EX has positive and significant relationship with CPI and OPENN while negative and significant relationship with FDI in the long run. According to the co-integration model long run relationship if openness increase by one percentage

Export will increase by 0.99 percentage. Based on the findings, trade openness has significant and positive effect on export of Sri Lanka so, if Sri Lanka wants to increase the export Sri Lankan government should use openness as a policy tool.

References

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