

Impact of external and domestic demands on economic growth of Sri Lanka

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Introduction

The main intention of this study is to analyze the external and domestic demands on economic growth of Sri Lanka. For this purpose, variables household consumption, government consumption and investment were selected as domestic variables whereas variables import and export were selected as external demand.

Economic growth implies an upturn in the production of commercial merchandises and services over time. Gross Domestic Product (GDP) is the most excellent way to assess economic growth [1]. According to the growth theories, various macroeconomic variables influence economic growth. The Keynesian model considers growth a demand-led process that includes both external and internal demand [2]. Domestic demand represents an investment, household consumption expenditure, and government consumption expenditure [3], and external demand represents export and import [4]. Many national and international economists have researched economic growth utilizing cointegrated and causality approaches and the effect of various factors on economic growth. The domestic demand and economic growth impact each other, but export and economic growth have no impact [3]. Significant evidence of the import-led growth hypothesis in cooperation the short and long run, showing that imports had a considerable influence on economic growth; nevertheless, the export-led growth hypothesis occurred only in the short run [5]. Therefore, factors are distinct, whether in terms of nation, historical period, sample size, or variable choice.

No research has been conducted to evaluate the influence of external and local demand on economic progress in Sri Lanka, using current data encompassing the COVID-19 period. As a result, this study addresses that gap since it is essential to understand what happens to Sri

Lanka's economic growth in conjunction with the Covid-19 data. This research aims to evaluate the influence of domestic and external demand on economic growth in Sri Lanka and provide policymakers with a comprehensive prediction.

Methodology

Household consumption, government consumption, and investment represented domestic demand, while import and export represented external demand. Annual time series data for all the variables were accumulated from the World Development Indicator from 1960 to 2020. Gross fixed capital formation was used as a proxy variable for investment and GDP was employed as an indication of economic growth. All variables were designed in real terms using the GDP deflator for 2010 (= 100) and converted to a natural logarithmic form. Eviews software (version 9) was used to analyse the data.

Time series plots and the Augmented-Dickey-Fuller (ADF) approach examined the stationary patterns and stationarity order, respectively. Regression analysis and stationarity of residuals were used to check the spurious issues. The optimal lag length was determined utilizing the Vector Autoregression (VAR) lag length criterion. Johanson Cointegration test was proposed to estimate the number of cointegrated equations that exist in the model. Then, the VECM was utilized to investigate the short and long run association between variables. The model appropriation was then tested using a diagonality test. Finally, the Granger causality was used to determine causation across economic growth and other factors. Furthermore, the fitted model was cross validated.

Results and Discussion

The visual depiction of the plotted predictors in Figure 1 demonstrates that all the predictors (Natural logarithm of real GDP (LRGDP), natural logarithm of real government consumption (LRGC), natural logarithmic of real household consumption (LRHC), natural logarithm of real investment (LRI), natural logarithm of real imports (LRM), natural logarithm of real exports (LRX)) are non-stationary in levels. All variables show an upward trend indicating that mean, variance, and covariance are not constant.

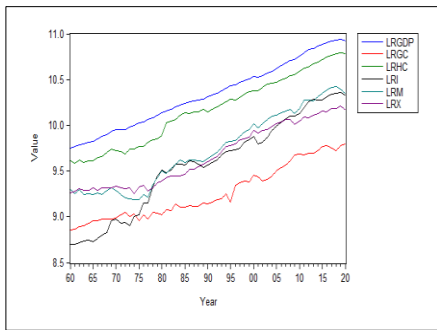


Figure 1. Trends in variables from 1960-2020.

According to the unit root test, all variables are stationary at the first difference (ADF test). Using VAR lag order selection condition, Lag 1 was determined to be the optimum lag order. The trace test in Johansen cointegration shows

evidence of two cointegrating vectors, whereas the maximum eigenvalue test shows one cointegrating vector. The existence of cointegration indicates that GDP and the other variables have a long run relationship. In the long run (Table 1), government consumption, private consumption, and export positively impact economic growth, while investment and import negatively affect economic growth. The absolute t-statistic for the independent variables are greater than two, indicating that those variables are significant except export. Therefore, only domestic demand except investment possesses a positive impact on GDP. In general, active and persistent economic growth entails an increase in domestic demand. This result is reliable with studies conducted in North Sumatra [3] and Ethiopia [2].

Table 1. Co-integration model estimates of first difference of the log variables.

Variable	Coefficie nt	Standard Error	t- statistics
LRGDP(-1)	1.0000	-	-
LRGC(-1)	0.6383	0.0709	-9.0075
LRI(-1)	0.1432	0.0635	2.2572
LRM(-1)	0.5912	0.0963	6.1399
LRHC(-1)	1.1519	0.1323	-8.7040
LRX(-1)	0.1339	0.1098	-1.2196
C	1.4544	-	-

Table 2. Error correction model estimates.

	Coefficient	Std. Error	t-Statistic	Prob.
ECT(-1)	-0.033110	0.037668	-0.879004	0.3835
D(LRGDP(-1))	0.319781	0.187794	1.702831	0.0947
D(LRGC(-1))	-0.000145	0.032014	-0.004529	0.9964
D(LRI(-1))	-0.011014	0.041844	-0.263212	0.7934
D(LRM(-1))	0.103836	0.051525	2.015265	0.0492
D(LRHC(-1))	-0.009339	0.055339	-0.168755	0.8667
D(LRX(-1))	-0.121131	0.051094	-2.370733	0.0216
C	0.013600	0.003327	4.088428	0.0002

The Error Correction Term (ECT) coefficient is -0.0331 (Table 2), which demonstrates a speed of 3% of balance adjustment. Even if the sign is negative and the coefficient is between 0 and -1, the probability value is insignificant. It shows that external shocks do not materially balance the model in the long run. The short run

causality finding indicates a short run causality link between export and import to GDP. Table 3 depicts the direction of causation across factors, and it shows a unidirectional causality between government consumption and investment with GDP, import and export to GDP, and household

consumption. Import and export show a bidirectional causality.

Table 3. Granger causality test results.

Null Hypothesis:	Chi-sq	Prob.
D(LRGDP) does not Granger Cause D(LRGC)	6.998244	0.0082
D(LRGDP) does not Granger Cause D(LRI)	4.530577	0.0333
D(LRM) does not Granger Cause D(LRGDP)	4.061293	0.0439
D(LRX) does not Granger Cause D(LRGDP)	5.620376	0.0178
D(LRI) does not Granger Cause D(LRGC)	4.696939	0.0302
D(LRGC) does not Granger Cause D(LRI)	6.300321	0.0121
D(LRX) does not Granger Cause D(LRHC)	3.994599	0.0456

Conclusion

The study proposed that in the long run, only domestic demand, excluding investment, positively influences economic growth, whereas imports negatively impact economic growth. In the short run, only external demand has a causal effect on economic growth. Furthermore, unidirectional causation flows from economic growth to government consumption and investment, export and import to economic growth, export to household consumption, and bidirectional causation between investment and government consumption. Thus, well management of domestic and external demand will lead to robust economic growth.

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