An Empirical Analysis of Current Account Determinants in Sri Lanka

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Introduction

The current account balance of a country is considered as one of the primary determinants of the future development of the economy. The behaviour of the current account balance represents important information about economic performance. Increasing current account imbalances negatively influence economic performance and a current account surplus positively influences economic performance. The current account balance is influenced by various factors such as economic growth, budget deficit, exchange rate, foreign direct investment, trade openness, inflation rate etc. Sri Lanka's current account has posted a continuous deficit over past periods. In 2018, it recorded a value of -2,813 million US dollars. It has also fluctuated substantially in recent years. Sri Lanka got affected badly after the global financial crisis due to the widening trade deficit and sharp fall in remittances inflows.

In the literature, several studies give different predictions about the elements determining the current account balance and the sign and magnitude of the relationships between current account fluctuations and its determinants. The current account balance can be affected by the domestic output level. According to the elasticity approach, there is a positive association of domestic output with the capital account and a negative link with the current account. The absorption approach states that there is a positive link of domestic output with the current account. Net foreign assets can influence current account balance in two ways. From the saving-investment perspective, an increase in the foreign income flow has a positive effect on

current account balance. In a flexible exchange rate regime, the sum of the current account and capital account must be equal to zero as an economy can afford a higher trade deficit up to an extended period with a high level of net foreign assets and remain solvent. This leads to a negative relationship between net foreign assets and the current account.

Trade openness is likely to be negatively related to the current account, because an economy open to more international trade with less trade restrictions, tends to attract more foreign capital. There are two ways in which the exchange rate can affect the current account. One is the saving-investment perspective that relates it negatively to the current account balance of an economy and other one is the consumption-smoothing hypothesis that relates positively to the current account balance. According to the study of Fayaz and Sandeep (2016), the application of the Johansen Cointegration test indicates the existence of a long-run equilibrium relationship between the current account and gross domestic product, net foreign assets, real effective exchange rate, trade openness and wholesale price index, implying that India's current account is influenced by these factors. The study concluded that net foreign assets and wholesale price index have a positive significant relationship with the current account balance, while trade openness and real exchange rate have a negative relationship with the current account balance in the long run. The results of VECM indicate that only the real effective exchange rate and gross domestic product have a statistically significantly impact on current account balance. However, there is no study that examines the main determinants of Sri Lanka's current account balance using recent data and advanced econometric techniques. Thus, this study tries to bridge this gap.

Objectives

The objective of this paper is to examine both long-run and short-run impacts of various economic determinants on Sri Lanka's current account balance.

Methodology

This study is based on secondary sources of data from Central Bank of Sri Lankan annual reports and World Development Indicator of the World Bank data base for the period 1991 to 2018. The regression model was constructed

using some selected variables following the study conducted by Fayaz and Sandeep (2016), and i as follows:

$$CAB_t = \beta_0 + \beta_1 RGDP_t + \beta_2 EXR_t + \beta_3 NFA_t + \beta_4 TO_t + \beta_5 WPI_t + u_t \quad (1)$$

Where, CAB: Current Account Balance (dependent variable); independent variables are RGDP: Real Gross Domestic Product; EXR: Exchange Rate; NFA: Net Foreign Assets; TO: Trade Openness[1] and WPI: Wholesale Price Index. u is the white noise error term and the subscript t indicates time.

As the first step of the estimation procedure, the study employed Augmented Dickey-Fuller (ADF) unit root test technique to check the stationarity of variables and Akaike Information Criteria (AIC) to select an optimum number of lags. Once we confirmed the order of integration, the Autoregressive Distributed Lag (ARDL) Bound testing approach was used to determine cointegration and the long - run relationship between variables. Error correction version of the ARDL model was employed to examine the short run relationship between variables and long run adjustment. In addition, diagnostic tests were conducted to check whether the results are robust and the CUSUM test was conducted to check the stability of the model.

Results and Discussion

The results of the ADF test (see Table 1 in Appendix) revealed that variables are stationary at combination of I(0) and I(1). Akaike Information Criteria (AIC) advocate the use of ARDL (1, 1, 0, 0, 0, 1) model for this analysis. The results of ARDL Bounds test (see Table 2 in Appendix) confirmed the existence of cointegrating relationship between variables, which suggest there should be long run relationship among the variables included in this study.

Table 1: Results of Long- run Relationships (Dependent variable: CAB)

Constant	RGDP	TO	WPI	NFA	EXR
-40.56	5.67E-8	-25.78	-0.37	3.63E-12	0.41
(0.09)*	(0.04)**	(0.02)**	(0.01)**	(0.31)	(0.01)**

[1] TO measured as the summation of import and export of total goods and services divided by gross domestic product.

Note: Probability values are given in parenthesis. *, **, and *** indicate variables are significant at 1%, 5% and 10% level of significance respectively.

According to the long-run coefficients, real gross domestic product (RGDP) has a positive and statistically significant relationship with the current account balance, indicating that an increase in RGDP can improve the current account balance (i.e., will decrease the deficit). The absorption approach states that a favourable or unfavourable balance in the current account depends on the absorption level when the growth of output is faster than that of domestic absorption, then the economy exports to the other countries. This situation creates a positive relationship between RGDP and current account balance. The exchange rate has a positive and statistically significant impact on current account balance, which is inconsistent with the common finding in the empirical literature. This could be explained by the smooth consumption hypothesis. In response to an increased exchange rate, an open economy would prefer to run a current account surplus and invest abroad rather than allow consumption to increase (Fayaz and Sandeep 2016). Coefficient of net foreign asset variable is positive but insignificant. It indicates that net foreign assets cannot significantly explain the variation in current account balance. Trade openness has a negative and statistically significant impact on current account balance. This conclusion is similar to the findings of Sarkar (1994) and Chinn & Prasad (2003). Further, wholesale price index affects CAB negatively and significantly in the long run.

Table 2: Results of Error Correction Representation of ARDL Model

Panel A: Short-run Coefficients						
Lag	ΔCAB	ΔRGDP	ΔTO	ΔWPI	ΔNFA	ΔEXR
0		-3.28E-08	-23.3805	-0.3251	4.75E-12	-0.0448
		(0.191)	(0.003)*	(0.002)***	(0.059)*	(0.731)
1	0.2108	7.13E-08				0.3785
	(0.215)	(0.036)**				(0.038)**
Panel B: Error Correction Representation						
ECT(-1)= -0.7901(0.008)*						

Note: Probability values are given in parenthesis. *, **, and *** indicate variables are significant at 10%, 5% and 1% level of significance respectively.

The above results explain that the previous year's real GDP has a positive and statistically significant impact on current account balance, indicating that an increase in last year's real GDP can improve the current account balance.

Trade openness, wholesale price index and exchange rate have negative and significant effects on the current account balance. However, a prior period net foreign asset has a positive and significant impact on the current account balance while the previous year' exchange rate affects negatively on it in the short run. From the saving-investment perspective, an increase in the foreign income flow has a positive effect on current account balance. This conclusion is similar to Fayaz and Sandeep's (2016) findings. The coefficient of error correction term is negative and significant implying that the current account balance model can get back to the long-run steady state line at the speed of 79.01 % one period after the exogenous shock.

Table 3: Results of Diagnostic Tests

Types of Test	Probability value
Serial correlation (BG LM Test)	0.3437
Functional Form (Ramsey's RESET test)	0.5174
Normality (Jarque-Bera)	0.9439
Heteroscedasticity (BPG test)	0.9837

Results of diagnostic tests confirm that the model is free from serial correlation and heteroscedasticity. Moreover, the functional form is correct and stochastic residuals are normally distributed. The recursive estimates, Cumulative Sum (CUSUM) and CUSUM of square plots lie within the upper and lower critical bounds at 5% significance level, which implies that the selected model is stable.

Conclusion

The results explain that real gross domestic product can increase the current account balance both in the long-run and in the short-run. The exchange rate can increase the current account balance as per the smooth consumption hypothesis and trade openness is negatively related to the current account balance both in the long-run and in the short-run, because an economy, opened more to international trade with less trade restrictions, tends to be more attractive to foreign capital and thus causes a decrease in current account balance. From the saving-investment perspective, an increase in the foreign income flow has a positive effect on the current account balance in short-run but net foreign assets cannot significantly explain the variation in current account balance in the long-run. The study suggests that in order to

reduce the deficit in the current account, foreign dependency should be reduced and the exports of goods and services as well as domestic savings, increased.

References

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Appendix

Table1: ADF Unit-root Test

Variables	Level		1st Difference		Order of integration
	Intercept	Trends & Intercept	Intercept	Trends & Intercept	
CAB	-4.4237***	-4.5438***	-5.2419***	-5.1172***	I(0) I(1)
GDP	-1.0473	-1.2787	-4.2014***	-4.2775***	I(1)
EXR	0.8077	-1.9254	-5.3221***	-5.3971***	I(1)
TO	-0.6016	-2.3101	-4.6113***	-4.6870***	I(1)
NFA	-2.3564	-2.3825	-5.6544***	-5.5579***	I(1)
WPI	1.7916	-1.6218	-2.7497**	-5.0035***	I(1)

Notes: ADF test statistics are given in table. *, **and *** denote the statistical significance at the 10%, 5% and 1% level respectively and

Table 2: Results of F- Bounds Test

F-Bond test	95% Level of Confidence		90% Level of Confidence	
F- Statistics	Lower Bound	Upper Bound	Lower Bound	Upper Bound
7.1417	2.39	3.38	2.08	3

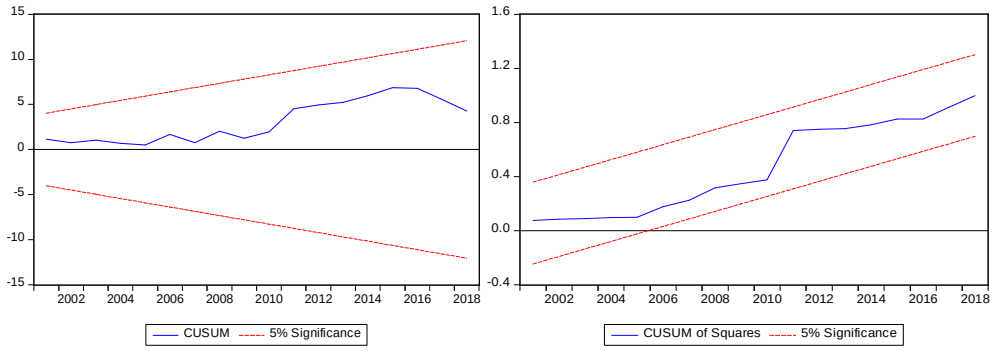

Figure 1: (CUSUM) and CUSUM of Square Plots