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RESERVE ASSETS, MONEY SUPPLY AND BALANCE OF PAYMENTS: AN EMPIRICAL INVESTIGATION FROM SRI LANKA

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ABSTRACT

Balance of Payments (BOP) deficit has been negatively influencing the external economic stability of Sri Lanka. This study was designed to focus on macroeconomic determinants influencing the disequilibrium of BOP in comparison to Reserve Assets (RA) and Money Supply (MS). Theoretically, this study was based on the Monetary Approach for balance of payments that emphasizes the balance of payments difficulties as a monetary phenomenon. This study covered the period from 1990 to 2018 and it was based on time series secondary data from the Central Bank of Sri Lanka. Augmented Dickey Fuller (ADF) unit root method has been adopted in this research to test the order of integration of variables. Akaike Information Criterion has been used to determine the optimal lag length of each series. The Johansen Co-integration method has been adopted to investigate the relationships between variables and the effects of macroeconomic determinants on the Balance of Payment disequilibrium. Vector Error Correction Model (VECM) has been employed to determine the short run dynamics and long-run adjustments of the variables. These tests were conducted using STATA econometric software. The findings of the study revealed the long-run causality running from Reserve Assets and Money Supply to Balance of Payment disequilibrium of Sri Lanka. Furthermore, there is a significant short-run relationship between Reserve Assets and BOP disequilibrium. This study recommends policy makers and monetary authorities to implement effective reserve management framework for Sri Lanka. Furthermore, research emphasizes the importance of facilitating export oriented industrialization in the country.

INTRODUCTION

The Balance of Payments (BOP) is a statement of all transactions made between entities in one country and the rest of the world over a defined period of time, such as a quarter or a year (Kenton, 2020). The concept of balance of payments is an enhancement of Keynesian ideas about the income determination. It was discussed during 1960s and 1970s. Robert A. Mundell in 1961, Marcus Fleming and Harry G. Johnson in 1972 made further discussion pertaining to this concept (Rabin & Yeager, 1982). A comprehensive study of the BOP in a country is vital due to several reasons. First, it provides more information about money demand and supply. Secondly, it delivers signals for international business partners of the country. Third, the data of balance of payments can be used to analyze the behavior of a country in the international competitive economy (Bain & Howells, 2003).

The Balance of Payments of an economy can be analyzed based on several theories such as, Absorption Approach and Monetary Approach. Absorption approach to the Balance of Payments states that a country's balance of trade will only improve if the country's output of goods and services increases by more than its absorption, where the term 'absorption' means expenditure by domestic residents on goods and services (Vines, 2008). Yet, the central idea of the monetary approach for balance of payments is that balance of payments deficits or surpluses reflect stock disequilibrium between demand and supply in the market for money (Johnson, 1976). Further, the theory explains that balance of payments disequilibrium must be considered as the outcome of stock disequilibrium

between the supply of and demand for money, since balance of payments difficulties are a monetary phenomenon which can be corrected by monetary adjustment (Thirlwall, 1980). Moreover, the theory emphasizes that the balance of payments disequilibrium is equivalent to a change in the level of international reserves of the country. Thus, the monetary approach for balance of payments establishes a link between foreign reserve assets and money supply (Victor, 2020).

Balance of payments disequilibrium may be a deficit or a surplus in the overall balance. Most of the balance of payments problems arise in connection with a deficit in the current account. Overvalued local currency, increasing economic growth, a decline in competitiveness, inflation, recession in other countries and borrowing money could be core motives for current account deficit. On the other hand, Balance of payment deficit implies an unbalanced and uncompetitive economy. If there is insufficient capital flows to finance the deficit, the economy will have to face for a risk of depreciation of exchange rate. Further, a very high balance of payments deficit may cause a loss of confidence by foreign investors. Therefore, a risk of capital flight can be accrued with balance of payments disequilibrium. Hence, balance of payments disequilibrium is an urgent issue that must be clearly answered. Identifying the linkages between core determinants of balance of payment disequilibrium could facilitate implementing effective policy adjustments. Thus, this research attempts to examine the relationships between macroeconomic variables influencing balance of payments disequilibrium.

LITERATURE REVIEW

There are several researches that empirically examined the macroeconomic determinants of the balance of payment disequilibrium. A study on the determinants of the balance of payments in Kenya has attempted to investigate the long run determinants of the balance of payments dynamics from 1963 to 2012. The methodology adopted for the study is error correction mechanism. The findings of that study have revealed the long run relationships of the level of trade balance, exchange rate movement and foreign direct investment inflows with balance of payment of Kenya (Osoro, 2013). Even though the foreign direct investment and exchange rate have been identified as the key determinants of the balance of payment, the influence of the money demand, money supply and the reserve assets have not been examined. Another research on the balance of payments in Kenya has examined the balance of payments determinants using time series data covering 38 years. Although it was based on the monetary approach for balance of payments, the long run and short run causalities running from the monetary variables and their influences have not been clearly defined. However, money supplies, openness of the economy, real interest rate, real exchange rate, gross capital formation and political stability have been identified as the influencing variables of the balance of payment in Kenya (Gureech, 2014).

There is a considerable amount of researches that examined the relationships between the balance of payments and the monetary variables in Nigeria. Tijani (2014) has revealed the direct relationship between balance of payments and domestic credit, exchange rate and balance of trade using OLS regression (Tijani, 2014). However, Bobai (2013) has investigated the role of excess money supply in the balance of payment disequilibrium. Johansen co-integration, vector error correction mechanism, impulse response function and variance decomposition have been employed in the methodology. The findings of that study have confirmed that Balance of payments in Nigeria is not a purely monetary phenomenon (Bobai, 2013).

Even though there are number of international evidences that confirm the relationships between monetary variables and the balance of payments, influence of monetary phenomenon on the balance of payment disequilibrium in Sri Lanka has not been noticeably examined. Alawattage (2000) has examined the performance of exchange rate, competitiveness and balance of payments. Findings of this study reveal the productivity of exchange rate policy to attain external competitiveness (Alawattage, 2019). However, it has not been examined the influence of exchange rate on balance of payment disequilibrium of Sri Lanka.

In sum, there are number of previous studies that have examined the relationships between the monetary variables and balance of payment. Yet, the studies which investigated the short run and long run relationships between the macroeconomic variables and balance of payment disequilibrium in Sri Lanka is less. Thus, this research contributes to filling the existing literature gap and will facilitate for effective policy implementation as well.

OBJECTIVES

The primary objective of this study was to examine the influence of macroeconomic variables on balance of payments disequilibrium of Sri Lanka in comparison to reserve assets (RA) and Money Supply (MS). Based on the findings, research attempted to suggest effective policy solutions that may direct to overcome the prevailing difficulties in the balance of payments of the country.

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METHODOLOGY

This study covered the period from 1990 to 2018 and it was based on time series secondary data extracted from the Central Bank of Sri Lanka. Money Supply (MS) and the Reserve Assets (RA) were the selected macroeconomic (independent) variables and the balance of payment disequilibrium (BOP) was the dependent variable. The theoretical form of the functional econometric model of this study is given below;

$$BOP_t = \beta_0 + \beta_1 RA + \beta_2 MS + \cup_t$$

Where,β_0, ……,β_2 are coefficients of determinant variables; $\cup_t$ is error term and t is time factor. The study has adopted Augmented Dickey Fuller (ADF) unit root method to test the order of integration of variables and Akaike Information Criterion (AIC) has been adopted to determine the optimal lag length of each series. The Johansen co-integration method has been employed to investigate the relationships between the variables and the effect of macroeconomic determinants on balance of payments disequilibrium of Sri Lanka. Furthermore, Vector Error Correction Model has been used to determine the short run dynamics and long run adjustments of variables. These tests have been employed using STATA econometric software.

RESULTS AND DISCUSSION

Table 01 projects the results of the Augmented Dickey Fuller unit root test (ADF). It was confirmed that all the variables are stationary in their first difference I(1). Since all the variables are integrated in a same order, the Johansen test for co-integration has been employed.

Table 01: Augmented Dickey Fuller Unit Root Method

Level			*First Difference*	
Variable	t static	P value	t static	P value
BOP	-1.130	0.9240	-4.433	0.0019
RA	-0.067	0.9935	-5.524	0.000
MS	2.458	1.0000	-6.616	0.000

Table 02 depicts the results of the Johansen Test for co-integration. The trace and maximum eigenvalues indicate co-integrating relationships revealing the existence of long run relationship among the variables BOP, RA and MS.

Table 02: Johansen Test for Co-integration

Maximum Rank	Eigenvalue	Trace statistic	5% Critical Value
0	-	39.0726	29.681
1	0.57667	16.7228	15.41
2	0.47437	0.0005*	3.76
3	0.00002		

This study has employed a Vector Error Correction Model (VECM) due to the presence of co-integration. Table 03 indicates the VECM outputs that projects the speed of adjustment to long run equilibrium. Significant and negative error correction term reveals the existence of long run causality running from Reserve Assets and Money Supply to balance of payment disequilibrium of Sri Lanka.

Table 03: Vector Error Correction Mechanism

Variable	Coefficient	Std. Error	t statistic	P value
ECM (-1)	-1.839835	.3504647	-5.25	0.000

Furthermore, Table 04 specifies the short run relationships between the variables. It reveals the significant short run causality running from Reserve Assets to Balance of Payments disequilibrium. Most specially, Reserve Assets have influenced balance of payment disequilibrium negatively. Even though, Money Supply has influenced balance of payment disequilibrium positively, that impact is not significant.

Table 04: Results of the Short Run Relationships

Variables	Coefficient	Std. Error	t statistic	P Value
D (RA)	-1.125402	.245934	-4.58	0.000
D (MS)	554.6338	300.6022	1.85	0.065

When taking these main findings to the discussion, initial understanding about the usual balance of payment disequilibrium of Sri Lanka is a must. The deficit of overall balance has severely influenced the balance of payment disequilibrium of the country. Moreover, a vast deficit has being continuously recorded in the current account as well. Thus, the findings of the study have to be discussed based on this context. One major finding of the study was the significant short run causality running from reserve assets to balance of payment disequilibrium. Reserve Assets include currencies, commodities or other financial capital held by monetary authorities to finance trade imbalances. Furthermore, it can also be used to restore the confidence in financial market. As a consequence of that, existing enormous deficit in the current account can be smoothened. Therefore, both the short run and long run significant negative relationship between reserve assets and Balance of Payment disequilibrium can be accepted. Interestingly, an increase of reserve assets will be more likely to decrease the balance of payment deficit of the country. Thus, implementing effective policies to enhance the reserve assets would be an effective solution to manage the balance of payment disequilibrium of Sri Lanka.

Furthermore, this research revealed the short run and long run causality running from Money Supply to Balance of Payments disequilibrium. When taking this finding to the consideration, reviewing the fiscal and monetary policy adjustments of the country is essential. Targeting the economic growth, Sri Lanka tends to employ a monetary accommodation of expansionary fiscal policy that lead to enhance money supply of the country. The reality in the Sri Lankan economy is that the excess money supply provided is not much utilized to invest in export oriented industries. Mostly, excess money increases the consumption of imported goods and services that expand the existing deficit in the current account. Therefore, the positive relationship between the Money Supply and Balance of Payments disequilibrium can be accepted. Moreover, if the Money Supply is increased more and more without strategic planning to motivate and facilitate export oriented industries, the country will have to experience different kind of balance of payments difficulties.

CONCLUSIONS AND POLICY IMPLICATIONS

This study concludes that further enhancement of Reserve Assets facilitates to manage the balance of payments disequilibrium of the country. Moreover, it is concluded that the excess money supply should be effectively utilized to invest in export oriented industries. This research recommends policy makers to establish effective reserve management framework as well. It will facilitate Sri Lanka to meet its foreign obligations and be invested prudently to generate income. It is also crucial to preserve the external value and the stability of Sri Lankan currency. Most specially, this research emphasizes the necessity of promoting export oriented industrialization which is the most suitable alternative trade strategy for economic development. Because, focuses on exporting primary products and enhancing its productivity will lead to decline price in the world market further. Sri Lanka cannot attempt to raise the world prices of primary products, since it is a small country that has a comparatively slight market. As a consequence of that, the country will not be able to expand its export income. Most specially, facilitating import substitution industrialization which protect and encourage new industries that produce products to be sold in the local market will not be more effective. Since it promotes import restrictions and limits the consumer satisfaction on high quality products. It may causes to decline the competiveness and innovation as well. Thus, facilitating export oriented industrialization will boost the export income of the country while managing the short term fluctuations and long term deficit in terms of trade of Sri Lanka.

REFERENCES

1. *Alawattage, U. (2019). Exchange Rate, Competitiveness and Balance of Payments Performance. Central Bank of Sri Lanka, Staff Studies.*
2. *Bain, K., & Howells, P. (2003). Monetary Economics: Policy and its Theretical Basis. Hampshire: Palgrave Macmillan.*
3. *Bobai, F. (2013). An Empirical Analysis of Balance of Payments as a Monetary Phenomenon: Nigeria's experience . Journal of Emerging issues in Economics, Finance and Banking.*
4. *Gureech, M. (2014). The Determinants of Balance of Payments Performance in Kenya.*
5. *Johnson, H. (1976). The Monetary Approach to the Balance of Payments. Toronto: University of Toronto Press.*
6. *Kenton, W. (2020, April 23). Investopedia. Retrieved from https://www.investopedia.com/terms/b/bop.asp*
7. *Osoro, K. (2013). Determinants of Balance of Payments in Kenya. Europian Scientific Journal.*
8. *Rabin, A., & Yeager, L. (1982). Monetary Approaches to the Balance of Payments and Exchange Rates. Essays in Inernational Finance.*
9. *Thirlwall, A. (1980). Balance of Payments Theory and the United Kingdom Experience. London: Palgrave.*
10. *Tijani, J. (2014). Empirical Analysis of Baance of Payments adjustment mechanisms: Monetary channel in Nigeria . Mediterranean Journal of Social Sciences, 67-76.*

11. *Victor, A. N. (2020). Macroeconometric Assessment of Monetary Approach to Balance of Payments in a Small Open Economy: The Nigeria Experience. International Journal of Economics and Financial Research, 41-50.*
12. *Vines, D. (2008). Absorption Approach to the Balance of Payments. London: Palgrave Macmillan*