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THEORETICAL COMPLIANCE OF MONEY DEMAND FUNCTION OF SRI LANKA

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Abstract

This paper derives the monetarist version of broad money demand function for Sri Lankan economy using the quarterly data for the period from 1988: Q1 to 2012: Q4. This study employs both Johansen and Juselius (1990) multivariate method and Granger's (1987) two-step method for co-integration to obtain structural values of the long-run money demand function: The stability of the model is tested using recursive coefficients and cumulative sum of squared residuals (CUSUM) tests. Results obtained from both co-integration testes suggest that the income elasticity of broad money demand is equal to one. Hence, it would provide an important guidance for the monetary authorities to regulate money supply as the intermediate target in order to achieve the final goal/goals of economic and price stability via the monetary transmission mechanism. This study concludes that growth of money over and above the real GDP growth will result inflation. The structural estimate received for inflation is higher than that of the real Treasury bill rate. Both the estimates are in theoretically expected signs and are also statistically significant. It means that public in Sri Lanka tend to substitute money for more real assets than the alternative financial assets during the time of higher inflation. Our tests on the stability of the broad money demand function confirmed that it is stable over time.

Key Words: *Co-integration, Broad money, Money demand function, Quantity theory of money, Stability test, Sri Lanka*

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INTRODUCTION

In practice, clear understanding about the characteristics of the money market, including the money demand function is essential for effectiveness of monetary policy in a country. An optimal monetary policy is hard to be formulated without identifying stable estimates of money demand relation, and other relationships connected to money demand. In Sri Lanka, the monetary policy framework, unfortunately, has not been focused on collecting information on the money demand function. For example, monetary decision very often seems to have manipulated for budgetary support i.e. keeping low Treasury bill rate in order to obtain low cost funds for budgetary needs.

The income and interest rate elasticities of money demand are predominant in most the basic macroeconomic models such as the IS-LM model where the effectiveness of monetary policy depends on the elasticity of money demand. A stable money demand function is a prerequisite to conduct an effective monetary policy in an economy where the monetary aggregate is the target variable. It helps the policy makers to identify the proper and efficient policy instruments to achieve the final economic goals through appropriate intermediate targets.

Further, a stable money demand function helps the policy makers to understand the behaviour of the monetary transmission mechanism, through which the monetary influences are transmitted to the other sectors of the economy, particularly to both financial and commodity markets. Furthermore, the structural coefficients of the demand for money function also provide important policy guidelines to the policy makers. For example, in the quantity theory of money (QTM), income elasticity of money is predicted to be unity, given the constant velocity which is a key assumption of the monetarist view. QTM suggests that the excess money supply can operate the expenditure mechanism enabling economy to increase real output. However, it should be emphasized that although the income elasticity equals unity, it is not a necessary condition for the velocity to be constant over time. The objectives of this study are three folds:

1. To investigate monetarist version of unitary income elasticity of money demand
2. To examine into the stability of Sri Lankan money demand function.
3. To assess the consistency velocity of money in Sri Lanka

In order to achieve those objectives, this study concentrates on the following three issues.

(i). Is the income elasticity of money demand unitary in terms of broad money (m_2) demand relationship?

(ii). Is the inverse velocity constant over time in relation to broad money?

(iii). Is the broad money demand function stable over time?

It is noteworthy that the Sri Lanka's monetary authority has currently focused on the interest rate channel than the channel that suggested in the Quantity Theory Mechanism. The researchers are of the view that it needs be done only after a careful investigation into the Monetary Transmission Mechanism (MTM) through an insightful comparison between alternative channels since another viable channels such as the credit availability mechanism are working in the economy. It means that the monetary authorities have to investigate which monetary influences (i.e. change in money supply or any action to change interest rate) are quickly transmitting into the final goals of monetary policy (i.e. higher economic growth or lower inflation). In this context, this paper attempts to investigate the MTM in terms of the QTM channel by testing whether income elasticity of demand for money is unitary for both narrow and broad money supply.

A BRIEF LITERATURE REVIEW

Derivations of money demand functions are extensively explored in empirical researches however the studies so far done in the Sri Lankan context are limited in number. Haroon, *et all* (2013) examined the stability of money demand function in Pakistan for 1972-2007. The study found that broad money (M2) was the proper aggregate, which provided stable money demand function for Pakistan. The real GDP was positively related to the demand for real balances, while the opportunity cost of money was negatively related. The study found that the role of financial innovation, in explaining the demand for money warrants attention in formulating monetary policy.

Among the studies done in Sri Lankan context, Dheerasinghe (1990) used error correction approach (Engle - Granger (1987) two step method) to the money demand modelling in Sri Lanka based on quarterly data from 1971-1985. Other studies related to money demand functions in Sri Lanka have been limited to identify the factors that determine money demand. These studies include Jayatissa (1984)**,** Ranaweera (1971) Weliwita and Ekanayake (1998), and Wijewardena (1985). However, these papers do not discuss on the important issues that are directly related to the monetarist arguments. Weliwita and Ekanayake (1998) investigated the long-run demand for money and short-run dynamics of the money demand function for Sri Lanka during

the post-1977 period. The study found that M1 is co-integrated with real income, nominal interest rate, short-term foreign interest rate, and real effective exchange rate, whereas M2 was not. This led to the conclusion that monetary authorities should emphasize the narrow definition of money for monetary control. Although the inflation rate is not co-integrated with M1, it seems to be an important determinant of the demand for M1 in the short-run. Results also suggest that the short-term foreign interest rate and the exchange rate can have important implications for the effectiveness of domestic monetary policy.

Mallikahewa and De Silva (2013) empirically investigated the transaction (income elasticity) and speculative motives (interest rate elasticity) of the demand for money in the Sri Lanka employing a co-integration test to the annual data over the 1977 to 2009. The study revealed that money demand function is stable in Sri Lanka for the sample period and the income is the most significant factor influencing the demand for money. Transaction money demand is greater than the speculative money demand in Sri Lankan context.

Dharmaratne (2009) estimated a long run money demand function using quarterly data from 1978-2003 whilst the short run dynamics of the long run money demand has been investigated using an error correction model. The findings of his research revealed that the narrow money demand (M1) is co-integrated with the real income and the nominal interest rate whereas the broad money demand (M2) is not co-integrated with any of the above independent variables. Therefore, author recommends to use narrow money rather than the broad money supply which is not co-integrated with any variables in monetary policy formulation in the country. The study, further found that the one-year term-deposit rate of commercial banks was the best fit for the model used when compared to alternative interest rates such as the 3-month Treasury bill rate, the 12- month Treasury bill rate and the repo rate, implying that the 1-year term deposit rate is the opportunity cost of holding money. Gunasinghe (2006) identified two long run relationships in both narrow and broad money demand models based on multivariate co-integration approach using annual data from 1970 to 2004. First relationship was the long run money demand nexus while next was the inflation output-gap relationship. Furthermore, the author has investigated the applicability of unitary income elasticity in the Sri Lankan context using both money demand models. He found that unitary income elasticity hypothesis is valid only in broad money demand but not in the case of narrow money demand. This may be as a result of presence of rapid technological developments in the narrow money market. The present study differs from the study done by Gunasinghe (2006) in three aspects; first, instead of annual data the present study uses quarterly data from 1988:Q1 to 2012:Q4 which are more appropriate; secondly, the present study concerns

only one co-integration relationship in the broad money demand; and finally, the present study estimates four models pertaining to the broad money demand using both Johansen and Juselius (1990) multivariate method and Engle and Granger (1987) two-step method for co-integration.

A number of studies related to the estimation of money demand functions using multivariate co-integration technique and Engle and Granger (1987) two-step method for co-integration are available in global context too. All these studies more or less concerned only in investigating some common issues in the field such as identifying determinants of money demand and stability of the demand function etc. In contrast this paper works on testing some theoretical prepositions which were first introduced by monetarists on the demand for money function.

METHODOLOGY

In this study, the demand for money refers to the aggregate demand by the public for broad money (M_2). Here the term public is broadly defined as all the economic agents other than the Central Government, the Central Bank and the commercial banks.

Milton Friedman (--) has identified and included three major determinants in his money demand function. (Froyen, 1986). These include total wealth (Wt), expected alternative rate of return on money (R_{bt}), and expected rate of return on other assets (inf^e).

Hence, $\mathbf{m_{2t} = f\ (Wt, R_{bt}, inf^e)}$

Since the wealth and income seem to be co-integrated with each other, both can be represented by the income variable (y) in the demand for money function. It is also worthy to note that if the rate of return on non-money financial assets (Yields on Treasury bills, bonds ...etc.) are co-integrated with one another, these two variables also can be integrated into one variable in the money demand function. The study uses 91 days Treasury bill rate being the representative interest rate for alternative rate of return on money (R_{bt}). In the case of the expected rate of return on other assets it is very important to introduce expected inflation (inf^e) that captures the expected changes of price of goods. Simultaneously it represents the expected rate of return on real assets. In developing countries like Sri Lanka, it can be seen that people more likely to substitute between money and real physical assets rather than money and financial assets e.i investing in housing, and land, purchasing durable consumer and capital goods... etc. Due to the underdevelopment nature of the

financial market (both the money and capital markets) and non-market determined interest rate (regulated interest rate) exist, physical assets may represent one of the major hedges against inflation (Nachega, 2001). Hence a higher degree of inflation elasticity can be generally expected in Sri Lankan context as the range of financial instruments other than money are somewhat limited and the real assets represent a substantial part of the individual investment portfolios.

Accordingly, the broad money demand can be specified as follows;

$$m_{2t} = \beta_1 y_t + \beta_2 inf^e + \beta_3 R91TBt + \varepsilon_t \quad \text{.....(1)}$$

Here all the variables are in real terms except inflation. Income and money supply are in natural logarithms except the three-month real Treasury bill rate ***(R91TB$_t$).*** The unobservable expected inflation, ***inf^e,*** is replaced by an observable ***inf$_t$*** since $et = inf - inf^e$, $et \sim I(0)$. Hence the final set of equations takes the following form;

$$m_{2t} = \beta_1 yt + \beta_2 inf_t + \beta_3 R91TB_t + u_t \quad \text{.....(2)}$$

where,

$$u_t = \varepsilon_t - \beta_2 e_t \sim IDD\ (0, \Omega)$$

Based on equation 2, four extended models can be developed as follows.

$$m_{2t} = \beta_1 yt + u_t \quad \text{..... (Model -1)}$$
$$m_{2t} = \beta_1 yt + \beta_3 R91TB_t + u_t \quad \text{..... (Model -2)}$$
$$m_{2t} = \beta_1 yt + \beta_2 inf_t + \beta_0 + u_t \quad \text{..... (Model -3)}$$

A time variable, t, is included in the fourth model to capture the growth of input and technological progress in the financial market (Hendry and Mizon 1993) as follows.

$$m_{2t} = \beta_1 yt + \beta_2 inf_t + \beta_3 R91TB_t + \beta t + u_t \quad \text{.....(Model-4)}$$

Finally, all four models developed above are estimated based on following test equation;

$$\Delta X_t = \Pi X_{t-1} + \sum_{i=1}^{p-1} \Gamma_i \Delta X_{t-i} + \mu + \varepsilon_t \quad \text{..... .... (3)}$$

where,

$X_t = (m_{2t}, yt, inf, R91TB_t, t)'$ *and t runs from 1 to T.* μ *is a 4 x 1* matrix of unknown

Coefficients. $\Gamma_i = -\sum_{j=i+1}^{p-1} \phi_j$ for $i = 1, 2, p-1$ (ϕ denotes parameters of VAR model comprising 4 × 4 matrices). $\varepsilon_t \sim (0, \Sigma)$ *and* $\Pi = \alpha\beta^{/}$ is a 4× 4 matrix whose rank determines the number of co-integration vectors among four variables in vector, X_t. α *and* $\beta^{/}$ are 4 × r and r × 4 matrices respectively. *r* is the number of co-integration vectors to be determined by Max and Trace testes.

THE SAMPLE AND DATA

The sample period of the study ranges from 1998: Q1 to 2012:Q4. Quarterly data were derived from annual observations for relevant variables using the method proposed by Goldstein and Khan (1976). GDP deflator (1996=100) was used as the general price index to convert nominal variables into real variables and to measure the rate of inflation of the economy. Following are the variables used in the study:

LRM2t = Logged values of real broad money supply (M2) defined as the sum of cash held by public, demand, times and savings deposits held by public at commercial banks.

LRGDPt = Logged values of real gross domestic product (or logged of real income)

R91DTBt = 91 day real treasury bill rate (alternative rate of return of money)

LINFt = inflation rate $(\ln(GDP\ def._t / GDP\ def._{t-1})$

Time series properties of data: Augmented Dickey Fuller (ADF) test

$$\Delta y_t = \mu_0 + \gamma y_{t-1} + \sum_{i=1}^{p-1} \beta_i \Delta y_{t-i} + \beta t + \varepsilon_t$$

$H0: \gamma = 0$ (*the series underconsideration has a unit root*)

$Ha: \gamma < 0$ (*the series underconsideration does not have a unit root*)

RESULTS AND DISCUSSION

If the calculated ADF value is less than the ADF critical value in absolute terms at 5% significant level in general, the null hypothesis (Ho) is not rejected and the series concerned does have a unit root or vice versa. Hence, such a series is said to be integrated of order one I (1) and it qualifies to a possible test of co- integration with a set of variables which have the same time series properties.

Table 1: Augmented Dickey Fuller Test for Unit Roots.

Variables in level form	D.W Value	ADF Test statistic	Critical and Probability values				Nature of integration
			01%	05%	10%	Pro.	
LRM2t	2.11	-2.44	-4.05	-3.45	-3.15	0.357	I (1)
LRGDPt	1.89	-1.88	-4.05	-3.45	-3.15	0.656	I (1)
R91DTBt	1.65	-3.31	-4.05	-3.46	-3.16	0.072	I (1)
LINFt	2.09	-2.69	-3.50	-2.89	-2.58	0.081	I (1)
	Variables in differenced form						
DLRM2t	2.04	-3.50	-3.50	-2.89	-2.58	0.012	I (0)
DLRGDPt	1.90	-4.43	-4.50	-2.89	-2.58	0.000	I (0)
DR91DTBt	1.67	-3.37	-3.50	-2.89	-2.58	0.015	I (0)
DINFt	2.09	-2.69	-3.50	-2.89	-2.58	0.081	I (0)

Source: Authors' calculation using Eviews version 5

The results in Table 1 confirm that all the variables in the study are I (1) in levels and I (0) in their first difference. It implies that all the variables in the study are integrated of order one meaning that each variable has a unit root at levels. This is further confirmed by rejecting the null hypothesis that the first differenced value of each variable has a unit root, meaning that they are integrated of order zero at the first difference. Hence, these variables qualify to be used in testing for a co-integration relationship(s) using either Johansen and Juselius (1990) or Engle and Granger (1987) method.

Table 2: Co-integration Results for Real Broad Money Demand (LRM_2) for Model 4

$\lambda_{trace} = LR(H_r / H_p) = -T\sum_{i=r+1}^{p}\ln(1-\lambda_i)$					$\lambda_{\max} = LR(H_r / H_{r+1}) = -T\ln(1-\lambda_{r+1})$				
Ho:	Ha:	Statistic	Critical and Probability values		Ho:	Ha:	Statistic		Critical and Probability values
r^1		λ_{trace}	0.05	Pro.	r^1		$\lambda_{\max}$	0.05	Pro.
r = 0	r>=1	82.098	63.876	0.0007	r = 0	r =1	38.078	32.118	0.0083
r<=1	r>=2	44.020	42.915	0.0386	r<=1	r = 2	20.951	25.823	0.1932
r<=2	r>=3	23.070	25.872	0.1074	r<=2	r =3	14.167	19.387	0.2431
r<=3	r>=4	8.903	12.518	0.1864	r<=3	r= 4	8.903	12.518	0.1864

Source: Authors' calculations based on Eviews version 5,
Note: r^1= number of co-integration vectors

Table 2 represents only the results of Johansen's co-integration test related to model 4. Data in Table 2 shows that the null hypothesis of no co-integration is rejected at 5% significant level under max and trace statistics for the broad money demand. However, the null hypothesis of the existence of one co-integration relationship is not rejected at 5% significant level under max test whereas it is rejected at the same significant level under trace test (likelihood ratio test). This means that the broad money demand model exhibits a one long run relationship under max test while it shows two long run relationships under trace test. This result is similar to findings in Gunasinghe (2006) where he derived two long run relationships in broad money demand model. However, our main concern is to derive only one relationship and to test the validity of monetarists' prepositions related to broad money demand. Regarding other three models, both max and trace tests (not shown here) of Johansen's co-integration test confirmed a long run relationship in each models. However, these results are entirely contrast to the findings in Dharmarane's (2009) study where he found that the broad money demand (M2) is not cointegrated with any of the selected independent variables such as real income and interest rate.

Table 3: Estimation Results Obtained Using Johansen's Multivariate Method

Dependent variable: Logged of real broad money (LRM2t)				
Independent Variables	Model-1	Model -2	Model-3	Model-4
LRGDP	1.02 (36.00)	0.97 (32.00)	1.00 (52.36)	0.86 (4.56)
LINF	-	-	-0.07 (-5.57)	-0.061 (7.15)
R91TB	-	-0.017 (-1.16)	-	-0.027 (3.29)
Constant	-	-	-1.10 (-4.55)	-
Trend	-	-	-	0.0016 (0.6)
Method: Johansen and Juselius (1990) multivariate co-integration technique t-values are given in parenthesis				

Source: Authors estimates based on Eviews version 5

The estimated results obtained using both Johansen's and Granger's methods for four models specified in section 2 are given in Table 3 and 4. The results of model 1, 2 and 3 given in Table 3 (first three columns) show that the estimates attached to the real income variable in the money demand function are not only exactly equal to one but also they are highly significant with the expected signs. The same estimate in model 4 is also converging to one with a very high t-value, meaning that real income is extremely a significant determinant in the money demand function. It implies that when the real GDP increases by 1% per a quarter the demand for real broad money also increases by the same percentage per a quarter. These findings support the monetarist's claim that the income elasticity of broad money demand is equal to one. According to the quantity theory of money (QTM) this unitary income elasticity property is a necessary but not a sufficient condition for a constant velocity, which is in turn necessary to operate money expenditure multiplier process in the economy. On the other hand, unitary income elasticity is also important to regulate money supply as an intermediate target to achieve the final goal/goals (i.e. economic and price stability) via the monetary transmission mechanism.

The estimates pertaining to inflation and 91 days real Treasury bill rate (R91TB) in model 2 and 4 appear in theoretically expected signs and also they are statistically significant except the estimate of R91TB in model 2. For example, when the inflation increases by 1% per a quarter, the demand for real broad money decreases by 0.06%. It suggests that when the inflation goes

up people in Sri Lanka tend to substitute money for more real assets than the alternative financial assets. Furthermore, 1% increase in R91TB in model 4 causes to decrease real board money demand by 0.03% per a quarter in the long run.

Table 4: Estimation Results Obtained Using Granger's (1987) Two-step Method

Dependent variable: Logged of real broad money (LRM2t)				
Method: Engle and Granger (1987) two-step method for co-integration				
t-values are given in parenthesis				
Independent variables	Model-1	Model -2	Model-3	Model-4
LRGDP	1.06 (90.30)	1.05 (80.32)	1.05 (91.86)	0.90 (626.65)
LINF	-	-	-0.013 (-2.97)	-0.012 (-2.63)
R91TB	-	-0.0095 (-1.99)	-	-0.0068 (-1.46)
Constant	-1.86 (-12.30)	-1.70 (-10.39)	-1.76 (-12.20)	-
Trend	-	-	-	0.002 (10.07)
Error term in Granger's method:	I(0)	I(0)	I(0)	I(0)
Conclusion	Variables are co-integrated in levels in four models			

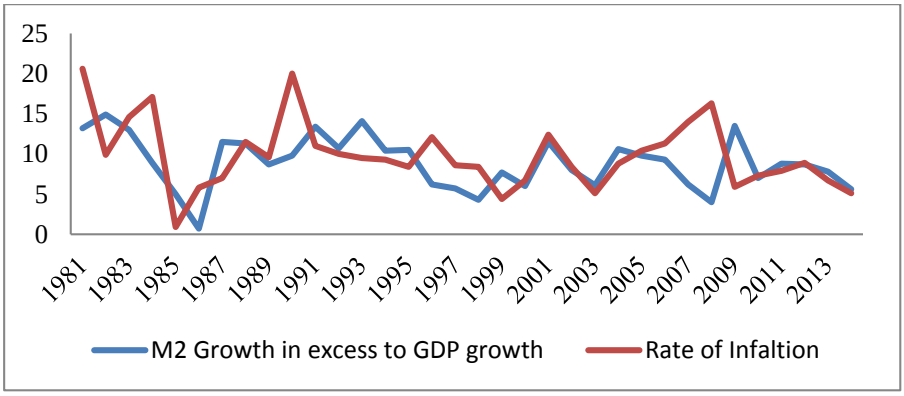
Source: Authors estimates based on Eviews version 5

The results obtained by employing Granger's method for the four above models are given in Table 4. It is worthy to note that results in Table 4 are almost compliance to those appearing in Table 3. Furthermore, it has been proven that when variables in levels are co-integrated in Engle and Granger (1987) method, the OLS estimates become super consistent. Therefore, as variables in all four models mentioned below are co-integrated, their estimates are super-consistent.

Estimated results in Table 4 confirm again the strong acceptance of the monetarists' argument that income elasticity with respect to broad money demand is equal to one.

In policy making point of view, it suggests that Central Bank should pay it attention to keep growth of money supply at a rate equal to real GDP growth rate to maintain the target of price stability. Excess growth of money supply relative to real GDP growth would result inflation in the economy. This follows the idea that the rate of inflation and the excess money growth over the real GDP growth must follow the same time path. This theoretical conclusion is true for Sri Lanka in most of the years during the study period except for the abnormal years where Sri Lankan economy was severely affected by global external shocks such as those were in 1989 and 2008. (See figure- 01).

Figure 1: Excess Money Growth over the Real GDP and the Rate of Inflation -1981-2014



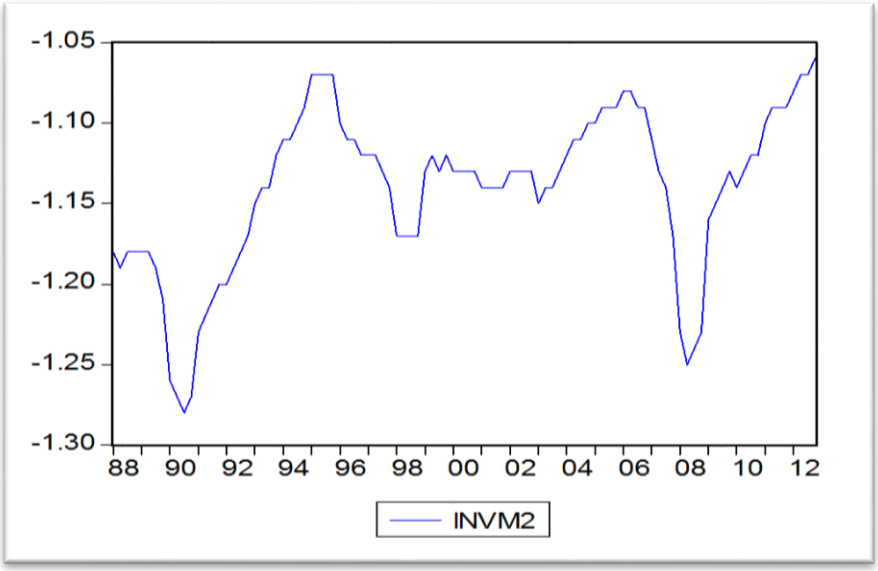
Source: Central Bank Annual Reports (Various years)

Over the recent past, the Central Bank of Sri Lanka continued to ease monetary policy package. The REPO and ReREPO rates, which are the main policy instrumental rates of the Central Bank, were gradually brought down to its historic lowest rate at 6.5 and 8.5 percent respectively. The SRR too reduced to 6 percent, which is the lowest ever recorded. As it can be seen from figure 1, an easy monetary policy has been implemented during the period from 2010-2013 and it caused to increase M2 growth, resulting nominal GDP to follow same path though at a lower rate.

Now, it is possible to test whether the inverse velocity of broad money is constant over time in the Sri Lankan context. This can be tested using the ADF procedure outlined before. To begin, it is useful to explore that the trend and behaviour in velocity of broad money supply in the study period concerned. Figure 1 presents the behaviour of inverse velocity of broad

money supply in Sri Lanka in the period from 1988: Q1 to 2012: Q4. It is very clear that although the inverse velocity of broad money supply fluctuates between -1.3 and -1.05, it shows a stationary time path over the period concerned. It means that the inverse velocity of broad money supply seems to be constant in the Sri Lankan country context. However, this needs to be statistically confirmed through an ADF test.

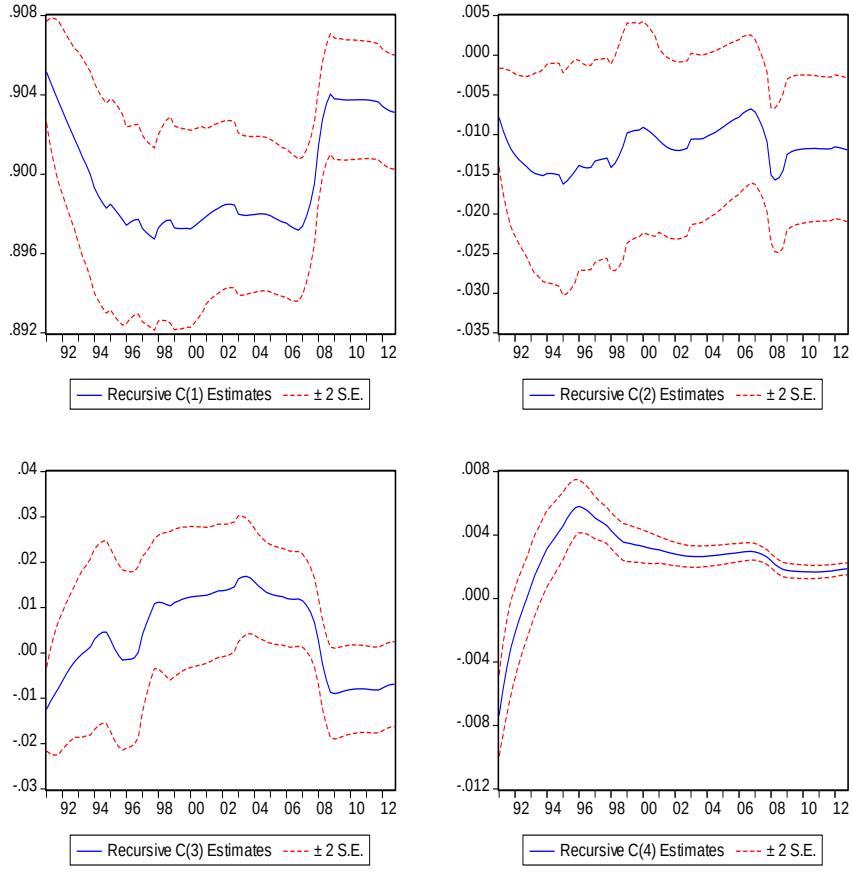
Figure 2: Inverse Velocity (LRM2-LRGDP) of Broad Money Supply (1988: Q1-2012: Q4) of Sri Lanka



Source: Authors' creation based on Central Bank data (various years)

The result of ADF test carried out on inverse velocity of broad money supply confirms that the null hypothesis of having a unit root is strongly rejected as calculated ADF value (-3.46) is greater than the ADF value at 5% significant level (-2.89). This means that the inverse velocity of broad money supply (hence velocity) of Sri Lanka is constant over the period concerned. Therefore, the monetarists' argument that the velocity of money needs to constant for the effective function of MTM is true with regard to the broad money supply in Sri Lanka.

Figure 3: Testing Stability of Broad Money Demand Function (Model 4) Based on Recursive Coefficients

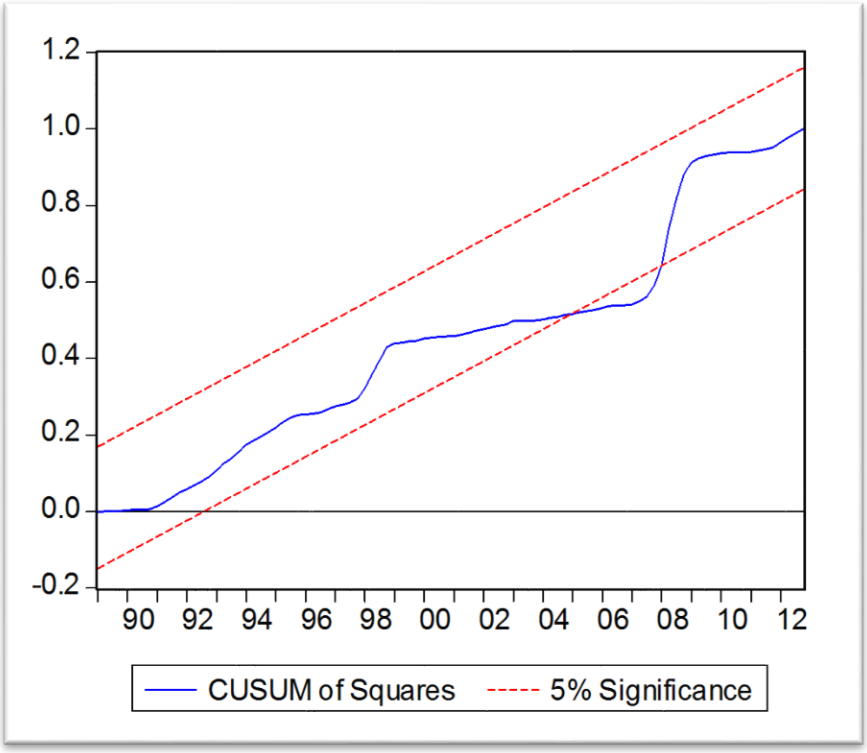


Source: Authors' creations based on Eviews version 5

The stability of the money demand function, which is a crucial requirement to make correct and reliable policy forecasts, is tested based on recursive coefficients and cumulative sum of squared residuals (CUSUM) of model 4 which was estimated using Granger's two-step approach to co-integration. Accordingly, the graph (a) in Figure 3 plots the recursive estimates of real income variable (β_1) from 1991: Q1 to 2012: Q4 while graphs (b) and (c) plots the recursive estimates attached to inflation (β_2) and 91 days real Treasury bill rate (β_3) for the same period respectively. Graph (d) in Figure 3 shows the plots of recursive estimates of trend variable. As only the third decimal value of all four recursive estimates have changed very marginally

and as all the estimated recursive coefficients in model 4 appear to lie within 2 standard error band over the whole sample period considered, it is possible to conclude that the broad money demand function (Model 4) holds the stability properties. Figure 4 shows the results function (Model 4) holds the stability properties. Figure 4 shows the results obtained in testing the stability of estimates attached to each variable included in broad money demand function based on recursive coefficients test.

Figure 4: Testing Stability of Broad Money Demand Function (Model 4) Based on Cumulative Sum of Squared Recursive (CUSUM) Residuals



Source: Authors' creations based on Eviews version 5

The Figure 4 depicts the plots of cumulative sum of squared recursive (CUSUM) residuals of model 4 and it also confirms the same result. Interestingly, as shown in Figure 2 the sudden change in the inverse velocity of broad money in the period from 2006 to 2008 is reflecting the temporary movement of CUSUM residuals out of the 5% significance band for the same period. This result shows a strong correlation between the velocity of money and the stability of money demand function.

CONCLUSIONS

This paper examined the validity of the monetarist version of money demand function for Sri Lanka using Johansen and Juselius (1990) Multivariate and Engle and Granger (1987) two-step methods for co-integration. The study found that the broad money demand in Sri Lanka is unitary income elastic and hence coincides with monetarists' version of money demand function. It reveals that the real demand for broad money decreases when the inflation rate increases. Similarly, increase in Treasury bill rate leads decrease in broad money demand. This implies that public in Sri Lanka tend to substitute money for real assets more than for the alternative financial assets during the high inflation. These findings are novel to the literature in Sri Lanka country context and thus will bring useful insight for monetary policy formulation. The study provides further evidence that the broad money demand function is stable with the constant income velocity over time. However, these results are completely opposed to the findings in Dharmarane's (2009) study where he established the notion that broad money demand (M2) is co-integrated with neither real income nor the interest rate.

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